SUBURBAN RAIL LOOP EAST

SRL East Draft Structure Plan

Urban Design Report

Attachment A - Supporting Research

More Homes For Victorians

VICTORIA State Government

SRL East Draft Structure Plan

Urban Design Report

Attachment A: Supporting Research

Technical Report R.1

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aurecon | Jacobs | MOTT MACDONALD

SUBURBAN RAIL LOOP

AJM Joint Venture

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

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Contents

Report Purpose

This report summarises research relating to urban development, public realm and overshadowing which informs the SRL East Draft Structure Plan Urban Design Reports. The report has three parts as outlined below:

- **Part 1: Urban Development Typologies** - This section identifies relevant case studies which are appropriate contemporary medium to high-density development typologies. This section also tests a range of typologies across a range of lot sizes common to the SRL East Draft Structure Plan Areas to identify built form parameters and estimate the level of density expected from each typology
- **Part 2: Public Realm Typologies** - This section outlines research into relevant case studies and identification of their success factors, and groups the case studies into a range of typical public realm typologies. A typical cross-section is presented for each typology which reflects the identified success factors and aligns to the SRL urban design principles and objectives.

Part 1
Urban development typologies

1. Introduction

1.1 Purpose

This report summarises research undertaken to identify and evaluate national and international best-practice forms of urban development.

This research informed the urban development types proposed for the SRL East Draft Structure Plan Areas (see Urban Form in the SRL East Draft Structure Plan - Urban Design Reports).

1.2 Research methodology

STEP 1: CASE STUDIES

A number of buildings were identified as relevant case studies recognised as appropriate contemporary medium to high-density development typologies. Their merits were assessed against an urban form evaluation tool as explained on the following page. Not all case studies represent 'best practice' but rather contemporary examples of a relevant typology. They were included in the assessment to inform key learnings for the built form testing. They accommodate a range of uses including residential, commercial, industrial, research & development, advanced manufacturing and mixed-use.

Case studies were drawn from a Victorian, Australian and international context. The case studies located outside Victoria were delivered through different building codes and planning systems than what applies in a Victorian context. However, they were specifically included to expand our benchmark understanding of high quality urban development and to understand how high quality urban development is achieved using different planning systems.

The following data was collected for each case study:

- Lot size
- Site coverage
- Building height
- Development density
- Use mix
- Plan drawing
- Eye-level photos.

This data was used to categorise and evaluate the case studies and the data is presented in the format shown in Figure 1-1.

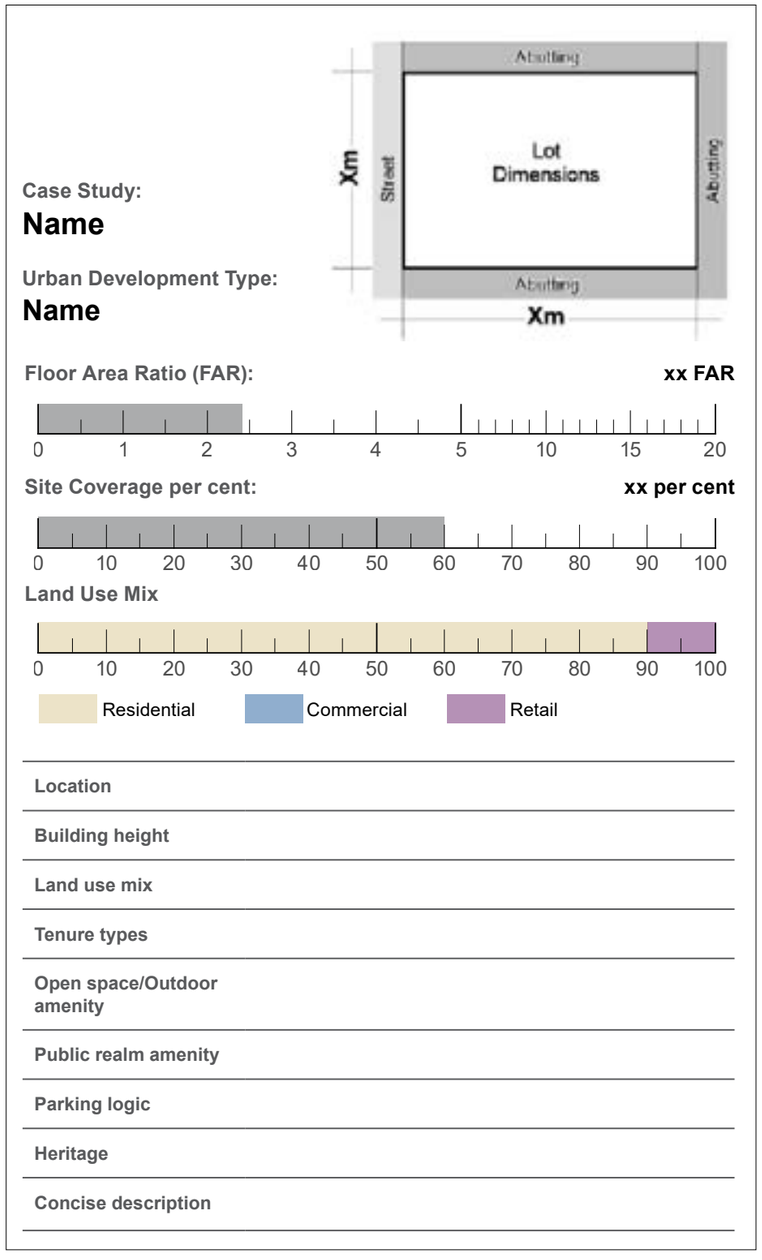


Figure 1-1 Case-study data template

STEP 2: TYPES

The case studies were categorised into urban development types according to defining characteristics such as:

- Street interface
- Setbacks
- Floor plan layouts and circulation
- Building heights
- Open space location
- Building use suitability.

The urban development types are arranged according to the density range delivered by the case study examples for each building type in the following table below:

Urban development type	Density (FAR)						
	0-1	1-2	2-3	3-4	4-5	5-6	6+
Podium-tower							■
Mid-rise podium-tower					■	■	■
Large freestanding building				■	■	■	■
Hybrid Perimeter				■	■	■	■
Urban Infill			■	■	■	■	
Shoptop Infill			■	■			
Pavilion Block			■				
Hybrid Employment		■	■				
Garden Apartment		■	■				
Terrace	■	■					

Figure 1-2 Urban Development Type overview

STEP 3: EVALUATION

Using the SRL Urban Design Framework Principles and Objectives, a series of urban development criteria were established specifically for this research to identify the preferred urban development types.

Each case study was assessed against the urban development criteria and summarised in a visual overview that enables easy comparison of their merit ‘at a glance’.

Following the evaluation, the Pavilion Block and Terrace Housing were eliminated from further analysis due to their relatively poor performance against the project’s principles and objectives.

The case studies that:

- Perform well have predominantly green criteria
- Perform moderately well have predominantly amber criteria; and
- Perform poorly have predominantly red criteria

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Figure 1-3 Example of assessment of case study against the Urban Development Criteria

URBAN DEVELOPMENT CRITERIA

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

1. Density
Maximum development intensity within the limits of other criteria

2. Implementability
Ease of development

3. Adaptability
Ability for buildings to change in function

4. Equitable development
Equitable opportunities for neighbouring development

5. Environmental sustainability
Energy use in construction and operation

6. Personalisation
Ease of additions and renovations

Principle 2 — Diverse:
Places that are inclusive and offer a diverse range of experiences

7. Mixed-use
Ability for buildings to accommodate multiple uses

8. Built form diversity
A varied and memorable visual experience

9. Accommodation diversity
Buildings which cater for a wide range of household and business types

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

10. Permeability
Inclusion of additional publicly-accessible pedestrian routes where appropriate

11. Legibility
Built form that reinforces the urban structure and contributes to intuitive way-finding

12. Vegetation
Retention and inclusion of trees, other vegetation and deep soil planting

Principle 4 —Accessible:
Places that are socially connected, enjoyable and easy to walk and wheel around

13. Safety
Passive surveillance of the public realm and communal spaces

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

14. Natural context
Buildings that respond positively to natural conditions and features

15. Heritage
Building form and design that respects heritage fabric

16. Character
Building form and design that complements the character of valued existing and neighbouring development

17. Community
Support for social interaction within developments

18. Design excellence
High standards of design

Principle 6 —Liveable:
Places that are comfortable and welcoming

19. Human scale
Built form that enhances the pedestrian scale of streets and places

20. Public realm amenity
Contribution to an inviting public realm in terms of its spatial experience and access to sun and daylight

21. Internal amenity
High amenity accommodation, circulation and communal open space for living and working

22. Public realm interface
Contribution to a comfortable, engaging and active pedestrian environment

Figure 1-4 Urban Development Criteria developed using SRL Urban Design Framework Principles and Objectives.

STEP 4: TESTING

Extensive testing of the urban development types was conducted to understand their potential feasibility and density within the SRL East Draft Structure Plan Areas.

This work was undertaken in parallel with the development of Urban Form proposals for each precinct and inputs into the capacity modeling. The urban development typologies and testing informed the future character of urban form areas within each SRL East Structure Plan Area. Subsequent further refinement of the urban form proposals during the development of the Draft Structure Plan Urban Design Reports has resulted in some minor discrepancies between built form controls in this supporting research document and the Urban Design Reports. (Please refer to Draft Structure Plan Urban Design Reports - Sections 5 and 6).

Each of the selected urban development types was tested on typical lot sizes in each relevant urban form area assessing its design feasibility to determine the likely built form outcome and development capacity.

The urban development testing has taken into account the following aspirations consistent with the SRL urban design objectives and principles:

- Urban consolidation - to facilitate growth
- Orient dwellings to the street and rear - improving outlook and street interface
- Street wall and human scale - Well defined public domain to contribute to an inviting, visually interesting and vibrant public realm at walking pace
- Sunny streets and spaces - maintain solar access to main streets and urban spaces
- Sky views - maintain relatively open streetscape with some maintained sky view amenity
- Equitable development - consider development opportunities on adjacent properties
- High quality architecture - enable a high quality architectural response.

Design considerations:

- Lot size (with the requirement that the development be achievable on at least 70 per cent of lots within the relevant sub-precinct)
- Density range
- Height range
- Suitability for different household types and businesses
- Parking locations
- Appropriate ground floor and upper-level setbacks
- Building site coverage, garden areas and deep soil zones
- Sun impacts on adjacent buildings and private open spaces
- Sun impacts on adjacent streets and open spaces.

The development types were 3D modelled on typical lot sizes within the relevant urban form areas. The typical lot sizes tested represent the15th percentile and the 85th percentile dimensions for the urban form areas where the development type is proposed. This ensures the developability of at least 70 per cent of lots within each urban form areas (assuming amalgamation where noted).

Sunlight amenity

Sunlight impacts were tested by considering direct shadowing on the adjacent public realm, private open space and building facades. A solar plane was established for north-south orientation and east-west orientation, resulting in upper-level setbacks. The solar amenity requirements are listed in Table 1-1.

Assumptions

The development types were defined according to current best-practice and compatibility with Clause 58 of the Victorian Planning Provision (VPP) as a minimum standard.

Building floor-to-floor height	
Residential levels	3.2 metres
Commercial ground floor	4.5 metres
Commercial upper floor	3.8 metres (4 metres in purely commercial buildings)
Floor plates	
Residential max width, max length	20 metres, 45 metres
Residential building depth Residential minimum floor plate area:	10 metres single orientation 20 metres double loaded 16 metres for dual-orientation apartments 300 square metres
Commercial building depth Commercial minimum floor plate area:	Max. 30 metres Min. 700 square metres
Advanced manufacturing and industrial building depth	Maximum 40 metres
Building separation	
Minimum separation for privacy	9 metres
Sun Access	
Private open space	Minimum 3 hours between 9am and 3pm at September equinox for Key Movement Corridors, Urban Neighbourhoods place types. Minimum 4 hours between 9am and 3pm at September equinox for Residential Neighbourhoods place type. Minimum 5 hours between 9am and 3pm at September equinox for areas outside the Draft Structure Plan Area.
Street footpath (except in Central Core areas)	Equinox: 11am - 2 pm
Open space (plaza/green)	Varies according to the importance of the space and its context.

Table 1-1 Development type testing assumptions

STEP 5: CAPACITY CALCULATION

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 areas.

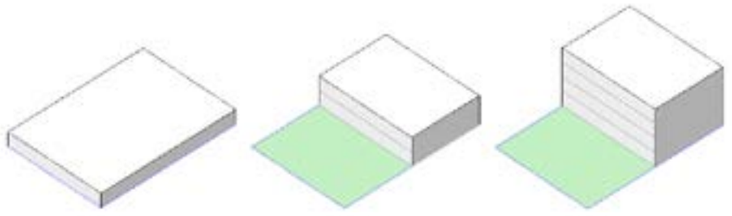
The FAR was determined by calculating the total Gross Floor Area of a building above ground level, measured from the outside of external walls, and includes all roofed areas (in accordance with GFA definition at Clause 73.01 of the VPP) divided by the area of the site.

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 eight as adjacent floors).

The envelope does not include:

- Basements
- Any uncovered communal outdoor areas.



FAR 1 FAR 1 FAR 2

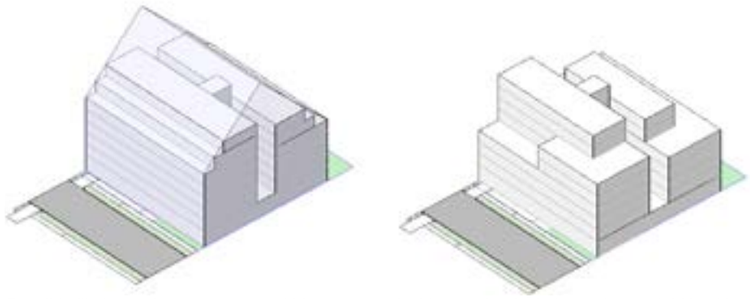
Figure 1-5 Floor area ratio (FAR) principle

Architectural articulation efficiency

A likely building volume was modelled within the maximum permissible envelope on each site based on our best practice assumptions in Table 1-1. 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.

Other factors that should be considered in determining the actual developable area include:

- Contamination
- Strata title
- Registered in Victoria Heritage Database (VHD)
- Environmental Audit Overlay
- Heritage Overlay
- Land subject to Inundation Overlay
- Special building Overlay
- Existing lot sizes and sizes of adjacent lots encourage amalgamation.



Possible likely maximum outcome within permissible building envelope

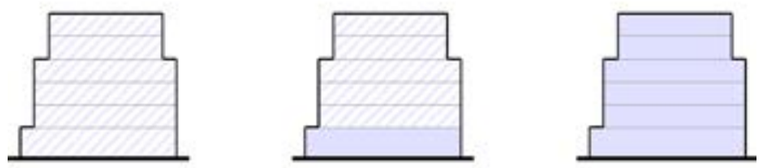
Architectural articulation reduces yield by 10 per cent

Figure 1-6 Architectural articulation principle

Land use mix

The urban development testing considers various uses as appropriate.

The land uses that were tested are identified for each urban form area and identified by the following icons:

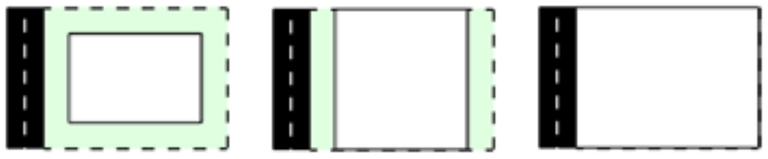


Residential *Mixed-use* *Commercial*

Figure 1-7 Use-mix principles

Interfaces

The built form response to site boundaries of the urban development types generally fall into three categories:



Building in landscape *Built to side boundaries* *Built to all boundaries*

Figure 1-8 Interface principles

1.3 Testing and capacity summary

The testing and capacity analysis established potential built form outcomes for each of the urban development types. Following the development of an Urban Form Framework and Future Urban Form Areas, the potential development capacity of each Draft Structure Plan Area was able to be anticipated based on the application of best-practice urban development types and outcomes.

The built form testing outcomes of each urban development type are summarised in Table 1-2.

The rationale for each urban development type is explained on the following pages.

Legend colour	Urban development type		Potential Use	Tree canopy cover	Location	Density	Building height
	Podium-Tower Active frontages at podium level with setback and separated towers above.		Mixed-use Commercial/ retail	0 per cent	Box hill	FAR 13	30 plus storeys
					Monash	FAR 11.5	25 storeys
					Glen Waverley/Clayton Core	FAR 8.5	20 storeys
					Cheltenham core	FAR 6.5	14 storeys
					Burwood core	FAR 5.5	6-14 storeys
	Mid-rise podium-tower Continuous street wall with setback built form to the rear. Side setbacks ensure solar amenity in public realm.		Mixed-use	5-10 per cent	20 metres plus Street width-deep lot	FAR 7	15 storeys
					15 metres street width - deep lot	FAR 6.5	14 storeys
					15 metres street width - shallow lot	FAR 5	11 storeys
					Rear residential interface	FAR 4	9 Storeys
	Shoptop Infill Articulated 2-3 storey street wall of existing retail streets with setback upper levels.		Mixed-use Retail/ Commercial	0 per cent	Near station	FAR 5	7 storeys
					Rear residential interface	FAR 4	7 storeys
					Far from station	FAR 3.5	5 storeys
	Urban Infill	**Urban Infill 1** Narrow front setback frames public realm while creating a continuous street wall edge with zero side setbacks. Rear setbacks ensure good solar amenity to adjacent buildings and open spaces.	Mixed-use Commercial	10-15 per cent	30 metres plus street width	FAR 4	9-10 storeys
					25 metres street width	FAR 3.5	8 storeys
					20 metres street width	FAR 3	6 storeys
		Urban Infill 2 Frames public realm with a continuous street wall edge with zero side setbacks and planted front setbacks. Rear and front setbacks ensure good solar amenity to adjacent buildings and open spaces.	Mixed-use Residential	10-15 per cent	15 metres &18 metres street widths	FAR 3	6-7 storeys
	Hybrid Perimeter Defined street edge created engaging public realm with central garden proving high standard of communal amenity and space for tree planting. Varied building types and heights for a range of uses and dwelling types.		Mixed-use	25 per cent	MSH-Student Quarter	FAR 2.9	4-12 storeys
					PMP printing BW-Mt Scopus college	FAR 2.2	4-8 Storeys
					BH -Former Brickworks Site BW-Aged Care	FAR 1.8	3-6 storeys
	Large Freestanding Building Large floor plates with moderate building height. Planted street setbacks with large canopy trees.		Commercial Education Advanced manufacturing Laboratories	25 per cent	MSH-Employment North	FAR 4,5	10 storeys
					Monash employment South	FAR 3.5	8 storeys
					Monash employment South Deakin University Holmsglen Institute	FAR 3.5	6 storeys
	Hybrid Employment Large floor plates for a wide range of employment and light industrial uses. Moderate landscaped setback to the street contribute to more inviting streetscape while loading and services are away from the street frontage.		Employment Commercial Light industrial uses	5 per cent	Cheltenham, Clayton, GlenWaverley & Burwood Industrial Areas	FAR 1	2-4 storey
	Garden Apartments Landscaped setbacks to all boundaries retaining leafy residential character. Setback upper levels ensures solar amenity on adjacent buildings.		Residential	35 per cent	No sensitive interfaces	FAR 2	4-6 storeys
					Overlay/sensitive areas	FAR 1.5	3-4 storeys
	Townhouses Development of single lots in residential neighbourhoods. Four townhouses with primary orientation to the street and rear. Generous landscaped setback to the street and rear retains the leafy residential character of these areas.		Residential	20-25 per cent	All residential neighbourhoods	FAR 1.2	2-3 storeys
	Pavilion Block		Residential	-	Not included in the SRL East precincts	-	-

Table 1-2 Development type testing summary

Urban Development Types Summary

A suite of best practice higher density urban development types that perform well against the SRL Objectives and Principles have been identified and are presented on the following pages.

Podium-Tower

Medium-high rise towers in the form of podium-tower buildings can deliver the significant 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 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.

Mid-rise podium-tower

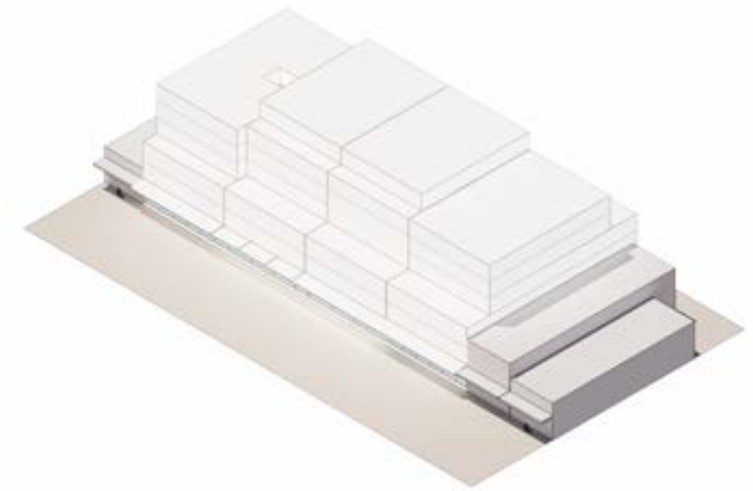
The mid-rise podium-tower delivers high-density whilst maintaining good solar provision to the public realm. This type typically requires a large lot or lot amalgamation.

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 rear boundary to provide space for tree planting. This typology provides a 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.

Shoptop Infill



Shoptop Infill development type provides for employment and housing growth and increased vibrancy, particularly outside retail hours, while complementing the existing character and providing a high level of pedestrian amenity.

It relies on the amalgamation of up to three typical lots, to create a feasible site width.

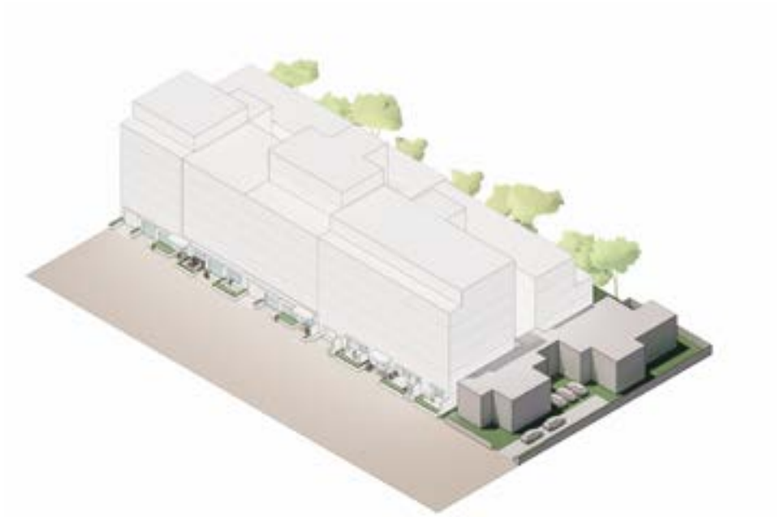
The proposed type incorporates a 2-3 storey street wall with a zero setback, boundary-to-boundary street wall that will complement the existing vibrant and memorable character created by low-rise, continuous, active streetscapes.

The street wall is articulated to reflect the existing fine-grain character and activated by commercial ground floor uses.

Above the street wall, upper levels are set back to ensure an appropriate balance between openness and enclosure in the street, along with good solar access.

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

Urban Infill 1



Urban Infill 2

Hybrid Perimeter

The Urban Infill 1 & 2 development types deliver highly adaptable buildings able to accommodate commercial and/or residential uses.

This development type delivers moderately high-density in accordance with Strategy UF3.1: Accessibility, without the adverse impacts of taller buildings. Importantly, it can be developed on the vast majority of the lots found in these urban form areas without the need for lot amalgamation.

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.

New Urban Infill development will represent a substantial change in character and its sheer on-boundary side walls will likely adversely affect the amenity of any neighbouring low-rise dwellings to the side, particularly any to the immediate south. The lack of side setbacks is necessary to enable viable development of appropriate density on single lots, and represents a trade-off for a generous rear setback. The rear setbacks will ultimately combine to form a large green space in the middle of the block.

The amenity impacts of high on-boundary side walls are considered to be part of the inevitable and reasonable cost associated with the transformation of the precinct. This is consistent with other transforming areas such as the Brunswick Activity Centre, Cremorne and Box Hill between Whitehorse Road and Box Hill Hospital. Low-rise dwellings will no longer represent the preferred character, and will increasingly become anomalies.

The building height and upper level street setbacks vary based on street width. The streetwall height is limited to a human scale to ensure an appropriate balance between openness and enclosure in the street, along with reasonable solar access.

This development type includes a landscaped front setback and generous rear setback, providing for canopy trees, good internal amenity and equitable development opportunities on neighbouring properties. The requirement for a generous rear setback will mitigate the impact of development on neighbouring rear gardens. This typology provides a 15 per cent deep soil area across the front and rear of the lot.

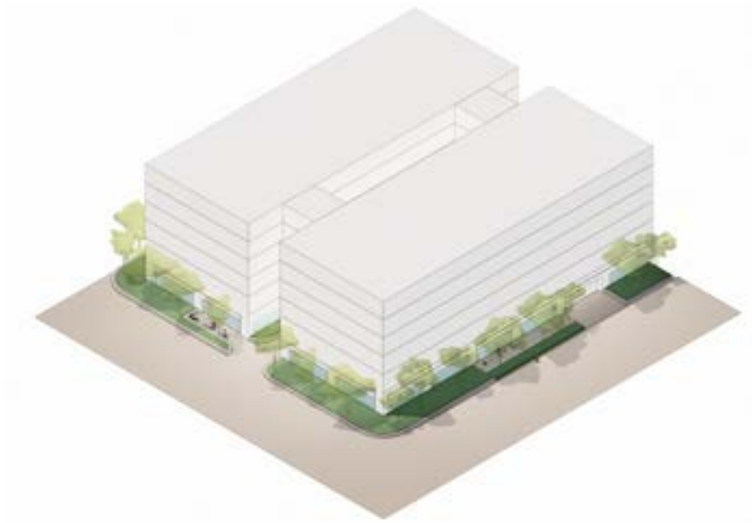
The proposed use-mix varies with the role and function of the urban form area.

Hybrid Perimeter development type provides an inviting public realm character, potential for varied visual experience, uses and housing choices, excellent communal amenity and plentiful space for tree canopy cover.

The arrangement of built form along the street edge provides a strongly-framed and engaging public realm. The central garden provides a high standard of communal amenity, and space for tree planting. This typology provides a 25 per cent deep soil area.

The format enables varied building types and heights, providing for a range of uses and household types including families.

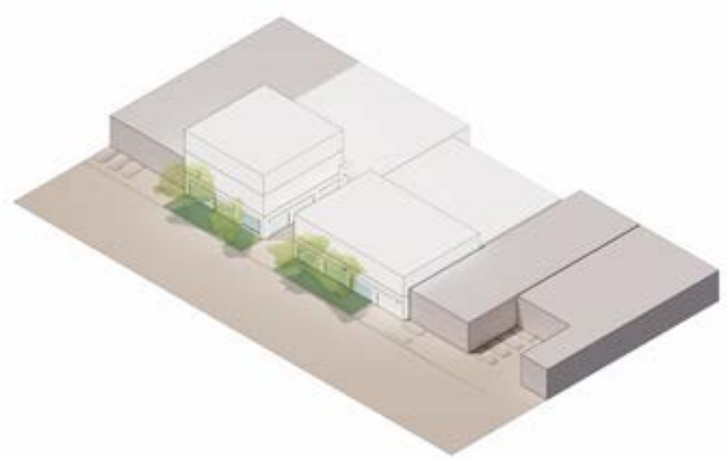
Large freestanding building



The ‘Large freestanding building’ development type provides the large floor plates typically required for education or employment uses. Its moderate building height contributes to memorable, well-framed spaces with good amenity.

The large area of these buildings provides opportunities for these larger footprint buildings and generous tree planting. This typology provides a 25 per cent deep soil area in the front setback and consolidated garden areas.

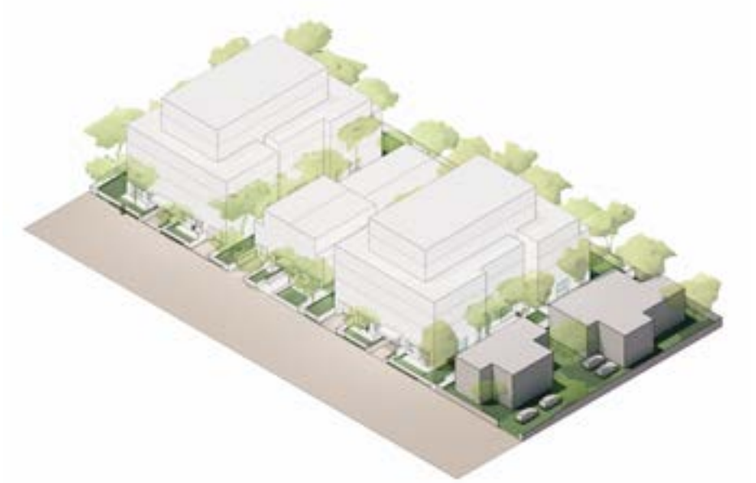
Hybrid Employment



The Hybrid Employment development type can host a wide range of employment uses. It can take the form of a freestanding building on larger or amalgamated lots, or a boundary-to-boundary infill building on narrower lots.

Importantly, the development type positions loading and servicing activities away from the street frontage, and instead addresses the street with its most active uses and incorporates a modest landscaped setback. This will contribute to a more inviting streetscape, attracting new businesses to the area. This typology provides a 5-10 per cent deep soil area at the front of the lot. This typology provides a 5 per cent deep soil area across the front of the lot.

Garden Apartments and Townhouses



Garden Apartment (amalgamated lots) and Townhouses (single lots) can host a range of residential unit types and densification of existing residential areas. .

The Garden Apartment development type incorporates landscaped setbacks from all boundaries, which will provide for the retention of the leafy character, high quality 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 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.

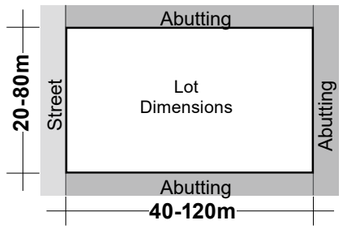
4-6 storey garden apartments rely on the amalgamation of two typical lots, which is necessary to deliver higher density while providing good quality internal amenity, avoiding unreasonable impacts on the amenity of neighbouring properties and providing a well-landscaped perimeter.

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. This typology provides a 15 per cent deep soil area across the front and rear of the lot.

2. Podium-Tower

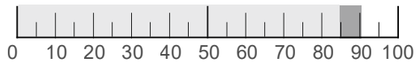
2.1 Podium-Tower Development Type

Lot dimension range



Floor Area Ratio (FAR): **8.3-10 FAR**

Site coverage per cent: **86-92 per cent**



Description	This type is typically used in high-density locations that require Mixed-uses. This type can deliver urban street wall definition and a “human-scale” at street level, while providing significant density set back from street level. Sleeving the podium levels in single-loaded apartments can contribute passive surveillance and activation to the streets.
Use mix potential	 Great for mixed-uses with high flexibility for commercial and retail in the podium levels
Interfaces	 Built to all boundaries - defining consistent street wall.
Accommodation types	Typically single level units in a range of sizes.
Open space amenity	Podium gardens.
Public realm amenity	Active street frontages.
Parking logic	Typically parking provided in podium or underground when a large amount of retail is needed.
Testing summary	This development type is appropriate in Central Core areas where density is a main priority and around significant transport amenity. Key learning from our assessment of case studies: • Performs well on delivering high-density and mixed-uses • Good street definition and opportunities for flexible and active uses on podium levels. • Publicly accessible ground floor uses can contribute to street amenity • Slender tower forms with appropriate tower separation increase solar amenity in public realm and outlook and privacy from buildings • Generally poor tree canopy cover • Generally poor flexibility in future use adaptation and dwelling personalisation • High embodied carbon in construction materials.

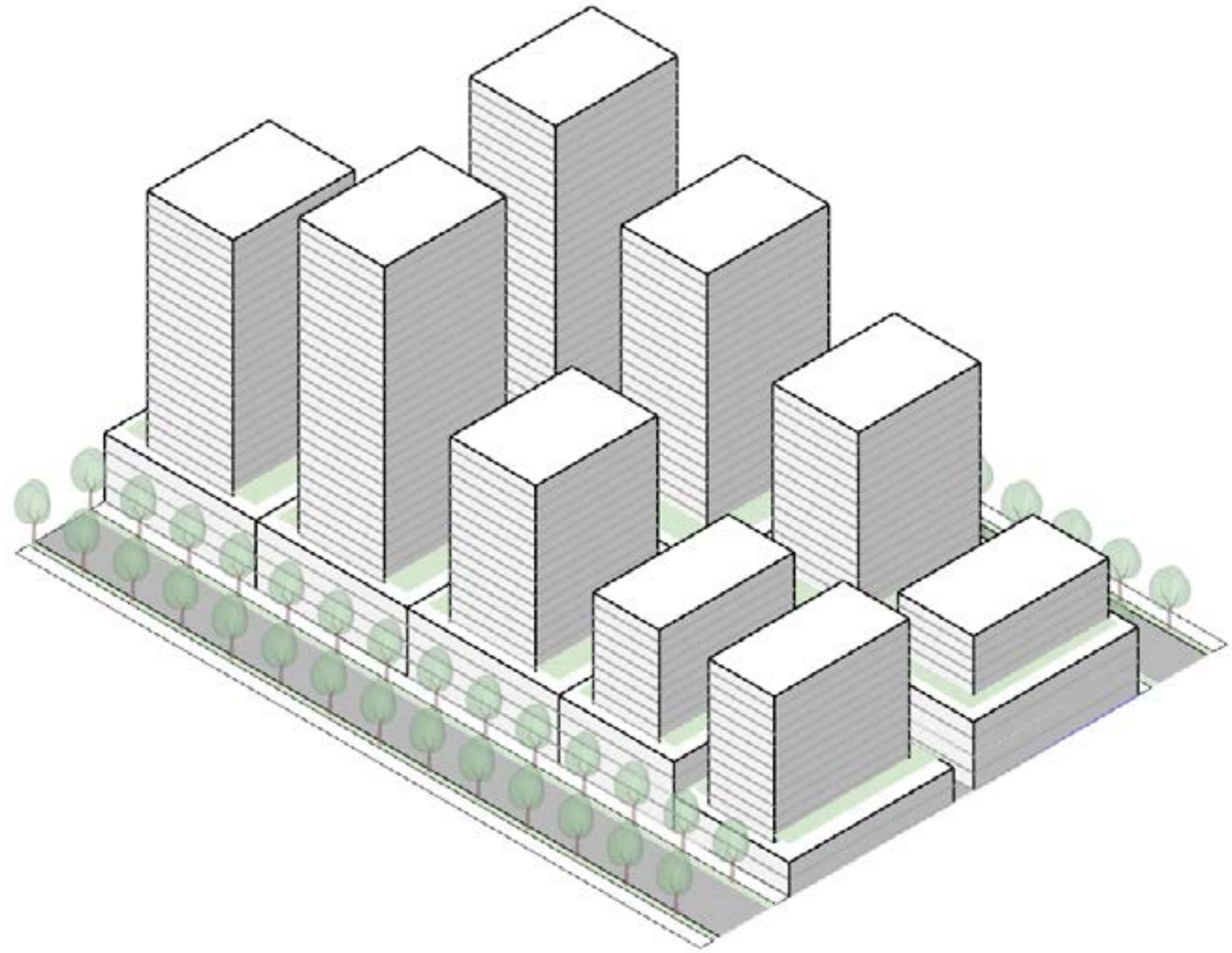


Figure 2-1 Indicative Podium-Tower development type

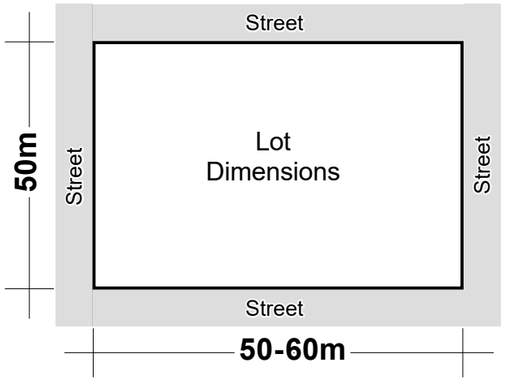
2.2 Podium-Tower case studies

Case Study:

Escala

Urban Development Type:

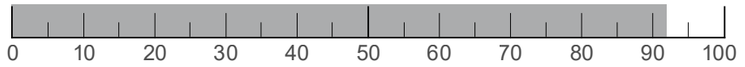
Podium-Tower



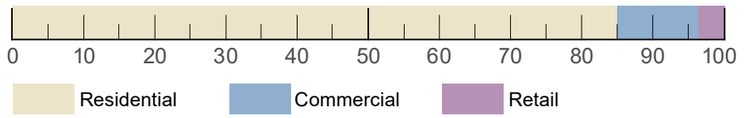
Location	Docklands, Melbourne
Architect/Developer	Six Degrees
Building height	20 storeys
Land use mix	Retail GF, Commercial, Residential
Tenure types	-
Open space amenity	Public courtyard, small public space on corner, private terrace, private rooftop garden
Public realm amenity	Highly Activated GF with through links, lots of concrete, not much vegetation
Parking logic	Podium
Heritage	-
Concise description	Podium tower complex comprised of 6 buildings designed to look separate, giving a sense of a block thats emerged from separate parts over time. Central to Escala's community life is a small square and lane way integrated into the ground plane. It's a natural meeting point and social springboard that launches an authentic neighbourhood vibe. As well as a gathering place, the square is a prominent forecourt and activated public realm with specialty retail and commercial tenancies that complement the residential tower. Escala's thickened edge to the north incorporates three boutique ground-floor commercial tenancies, a small piazza, and a pedestrian lane way that cuts through the block. Site: 2,400 square metres, 173 apartments, 2400 square metres commercial & Parking.

Floor Area Ratio (FAR) **10 FAR**

Site coverage per cent: **92 per cent**



Land Use Mix



Urban development-criteria:

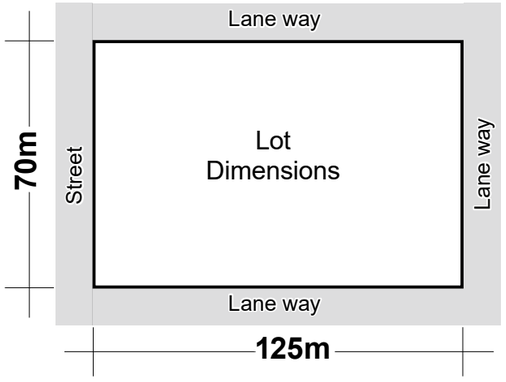
Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

AJM
Joint Venture

Case Study:
One40William

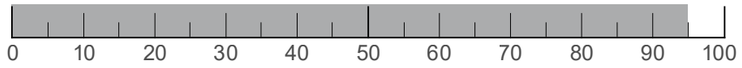
Urban Development Type:
Podium-Tower



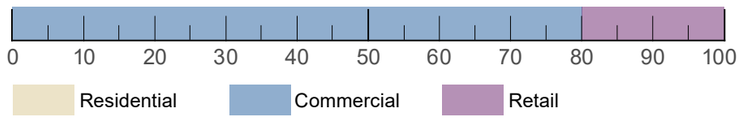
Location	140 William Street, Perth, WA
Architect/Developer	Hassell
Building height	23 storeys
Land use mix	Commercial, retail, rail station
Tenure types	Retail and commercial
Open space amenity	Roof top terraces for commercial tenants.
Public realm amenity	Publicly accessible retail ground floor/civic space. Active ground floor frontages.
Parking logic	Basement, street frontage loaded
Heritage	Maintained heritage listed building incorporated into the design
Concise description	Located directly above Perth underground railway station, the site context is unusual in that it includes historic building fabric, major street frontages and a pedestrian mall. The design celebrates heritage, promotes new linkages between workplace, retail and public transportation and creates a positive shared civic space. The built form is articulated in a composition of separate floating boxes intended to break down the volume to set better with surrounding finer grain context.

Floor Area Ratio (FAR) **6.3 FAR**

Site coverage per cent: **95 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

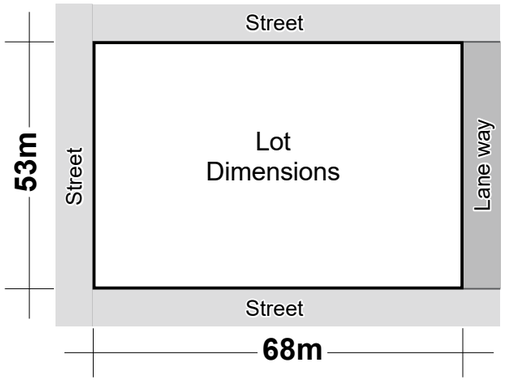
Where not relevant left blank

Case Study:

Zuidas 2 - Commercial Building

Urban Development Type:

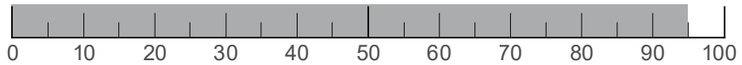
Podium Tower



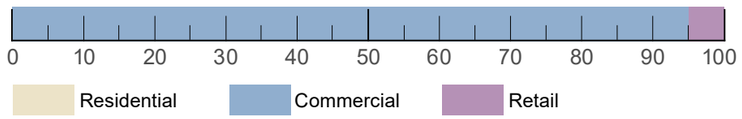
Location	Zuidas, Amsterdam, Netherlands
Building height	30 storeys
Land use mix	Commercial office
Tenure types	Multiple tenant
Open space amenity	Shared podium garden, roof top and green roofs.
Public realm amenity	Active ground floor retail and commercial
Parking logic	Basement parking
Heritage	
Concise description	Commercial perimeter block with an extruded tower along one side.

Floor Area Ratio (FAR) **21 FAR**

Site coverage per cent: **95 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

2.3 Podium-Tower testing

Urban Development Type:
Podium-Tower

Medium-high rise towers in the form of podium-tower buildings can deliver the significant 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 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.

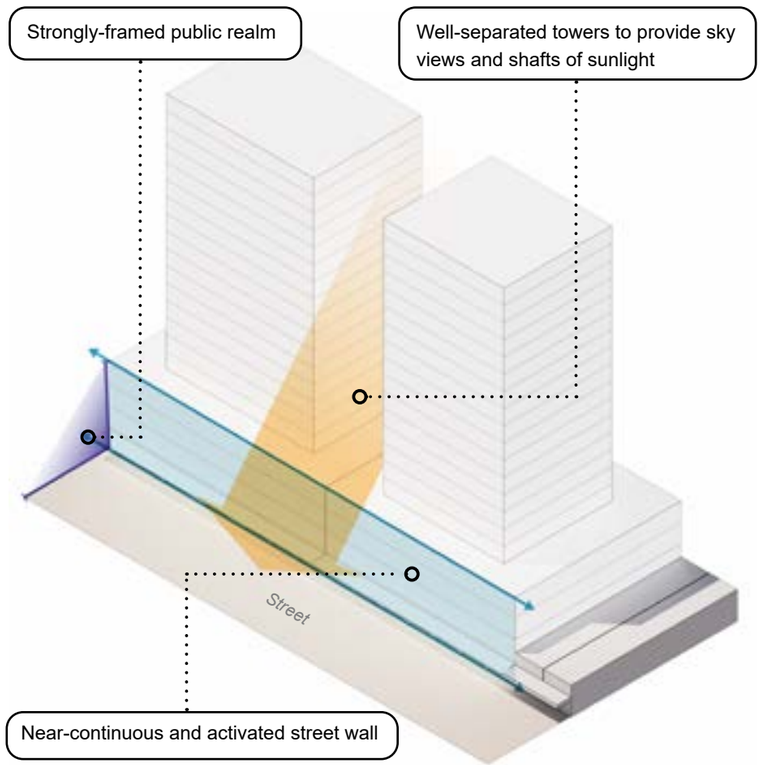


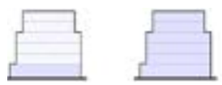
Figure 2-1 Typical massing volume

Description:

Existing place type	The commercial core of the activity centre and area immediately around the SRL station
Role and function rationale	Significant intensification of built form, delivering mixed-use neighbourhoods which provide space for jobs growth and local services
Future character drivers rationale	• Recognise existing moderate to high level of intensification • High level of activation to the street • Maintain solar amenity to key public spaces
Accommodation types	Great flexibility in podium level for retail, commercial floor plates or parking sleeved with residential. Residential dwellings typically single storey apartments with single or corner orientation in varying sizes. Apartments typically on single level with covered balconies within the building envelope.
Parking logic	Vehicular parking located in basement or podium levels sleeved by other active uses. Parking and service entrance from rear or side lane way.

Development properties:

Floor Area Ratio (FAR) range: **5.5-13 FAR**

Use mix		Great mixed-use potential. Retail or commercial use in podium level. Tower can accommodate residential or commercial uses.
Interfaces		Built to all side boundaries.
Building height		
Building height	10-30 storeys	Maintain adequate daylight and sunlight in street and rear-facing buildings.
Street wall height	11-24 metres (2-6 storeys)	To frame street. Upper level setback to improve micro-climatic conditions and avoid wind down wash to street level.
Open space		
Open space amenity	Communal	Located on podium level
Deep soil area	0 per cent	No deep soil area on lots in core areas.
Canopy cover area	0 per cent	

Precedent examples

Urban Development Type:
Podium-Tower

Setbacks		
Front setback	0 metres	Zero setback for urban character and active ground floors.
Front above street wall	3 metres	To mark consistent street wall and prevent wind down pour
Side and rear. One sheer building face. Setback determined by total building height. (not a tiered form)	4,5 metres	Above 11 metres
	6 metres	Above 27 metres
	7.5 metres	Above 40 metres
	10 metres	Above 66 metres
	12. 5 metres	Above 100 metres

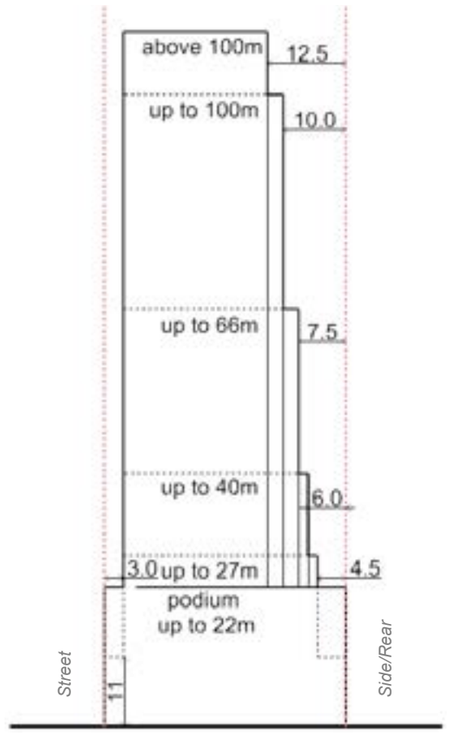
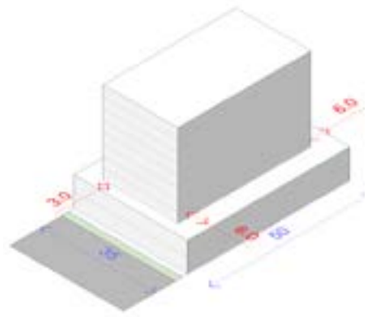
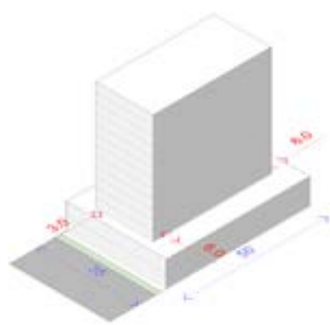
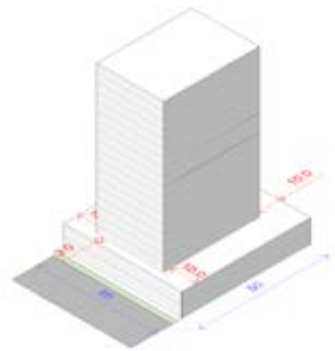


Figure 2-2 Podium-Tower Section setbacks sides and rear

Locations					
Burwood		**Cheltenham**		**Glen Waverley/Clayton**	
Area	1,750 square metres	Area	1,750 square metres	Area	2,300 square metres
Width	35 metres	Width	35 metres	Width	46 metres
Depth	50 metres	Depth	50 metres	Depth	50 metres

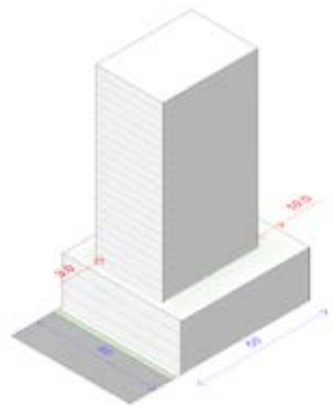


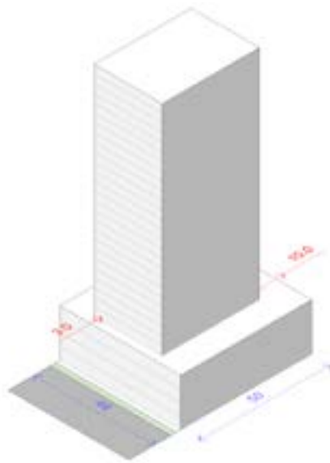




Height (storeys)	**10**	**Height (storeys)**	**14**	**Height (storeys)**	**20**
FAR	**5.6**	**FAR**	**6.6**	**FAR**	**8.5**

Monash		**Box Hill**	
Area	2,300 square metres	Area	2,300 square metres
Width	46 metres	Width	46 metres
Depth	50 metres	Depth	50 metres



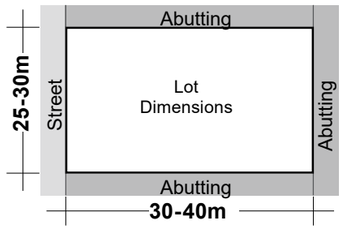


Height (storeys)	**25**	**Height (storeys)**	**30**
FAR	**11**	**FAR**	**13**

3. Mid-rise Podium-Tower

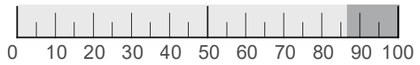
3.1 Mid-rise Podium-Tower Development Type

Lot dimension range



Floor Area Ratio (FAR): **4.3-6.4 FAR**

Site coverage per cent: **88-100 per cent**



Description	This type is typically used in high-density locations that require mixed-uses. This type can deliver urban street wall definition and a “human-scale” at street level, while providing significant density set back from street level. Sleeving the podium levels in single-loaded apartments can contribute passive surveillance and activation to the streets.
Use mix potential	 Mixed and commercial uses
Interfaces	 Narrow front and rear setbacks and to all boundaries.
Accommodation types	Typically single level units in a range of sizes.
Open space amenity	Communal open space on podium level or roof top. Large private terraces on setback levels.
Public realm amenity	Active street frontages and moderate ground floor setback for to contribute to street landscaping.
Parking logic	Rear or front-loaded vehicular entrance to parking located in basement or sleeved podium.
Testing summary	This development type is appropriate in central areas where density is a high priority balanced with public realm amenity outcomes. Key learning from our assessment of case studies: • Performs well on delivering high-density and mixed-uses at a human scale • Provide relatively high-density balanced with public realm amenity • Good opportunity for active ground floor uses • Tower form creates relatively high proportion of corner dwellings with dual orientation • Good private dwelling amenity with multiple setback levels allowing for large terraces • Relatively poor flexibility in future use adaptation and dwelling personalisation.

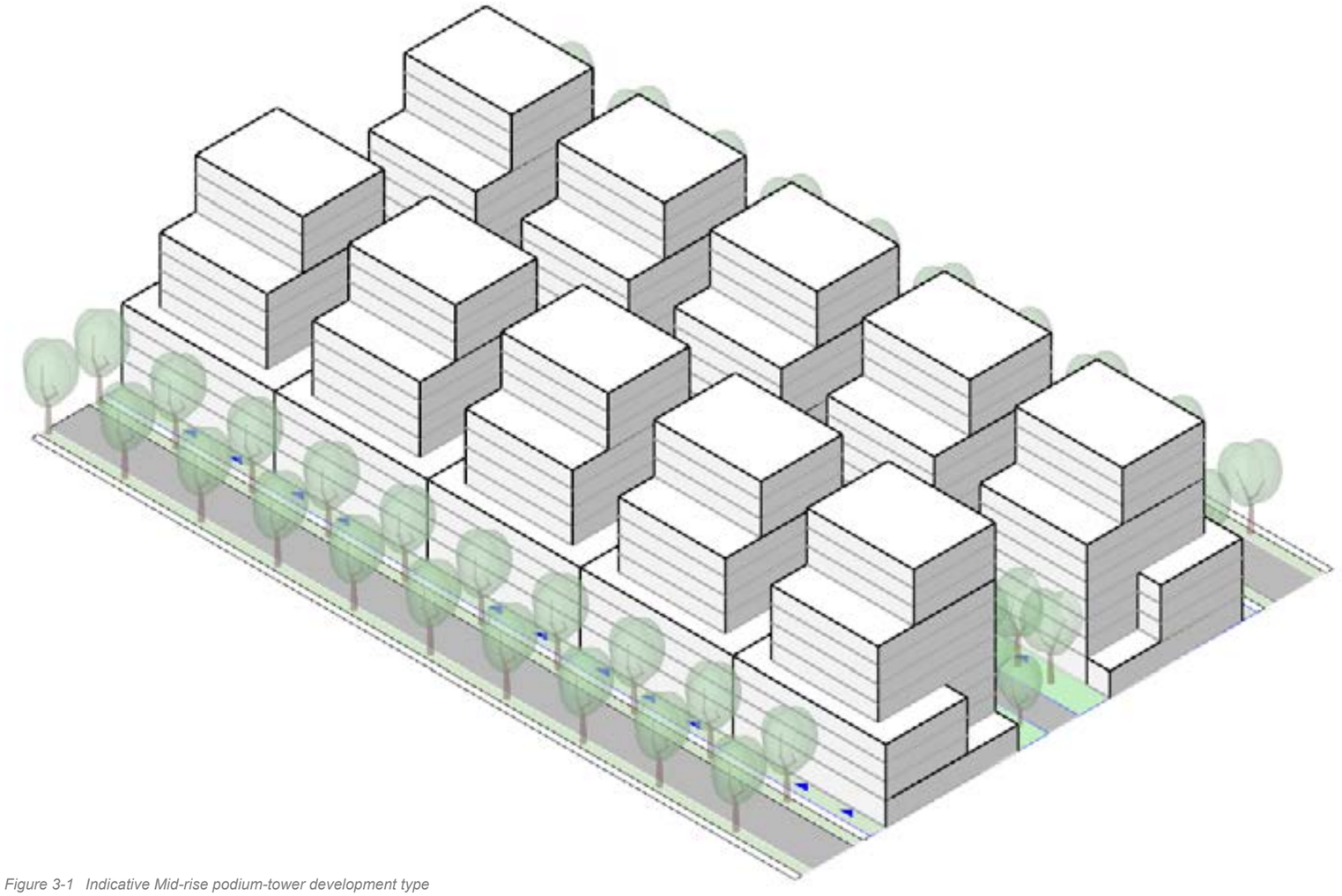


Figure 3-1 Indicative Mid-rise podium-tower development type

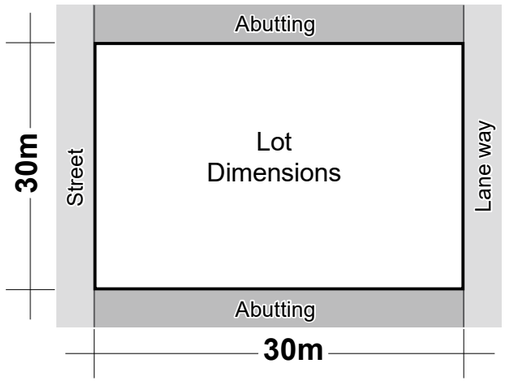
3.2 Mid-rise Podium-Tower case studies

Case Study:

‘The Parade’ Box Hill, VIC

Urban Development Type:

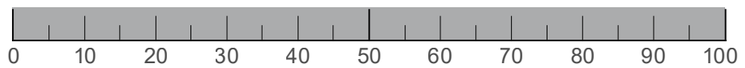
Mid-rise Podium-Tower



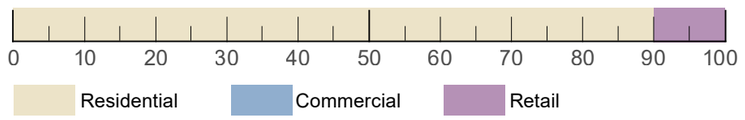
Location	9 Ellingworth Parade, Box Hill, Melbourne VIC
Architect/Developer	Hayball and Pomeroy Pacific
Building height	11 storeys
Land use mix	Residential, retail ground floor
Tenure types	Market apartments
Open space amenity	Private terraces
Public realm amenity	Active retail ground floor
Parking logic	Underground and podium parking entrance from Ellingworth Parade
Heritage	
Concise description	Mixed-use development with a 4-storey street wall with a step back residential tower perpendicular to the street. The tower chamfers to allow sunlight to the street level south of the development.

Floor Area Ratio (FAR) **6.4 FAR**

Site coverage per cent: **100 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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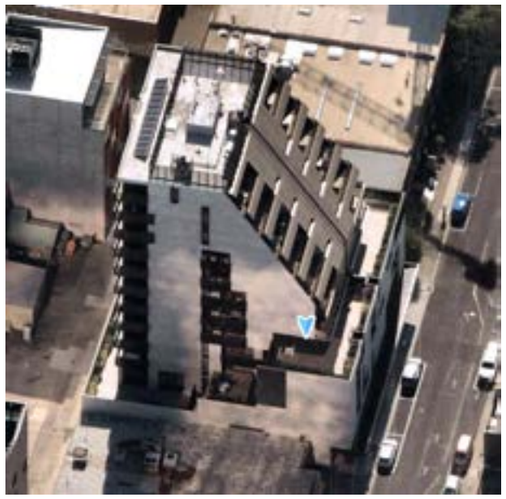
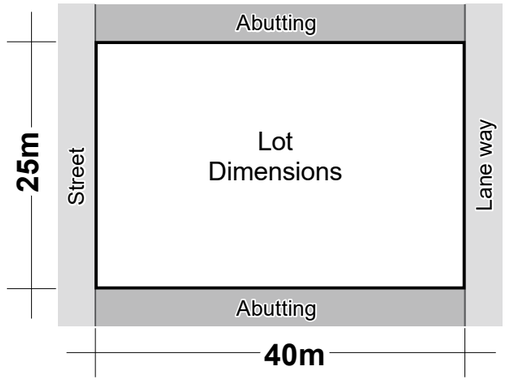


Case Study:

324 Centre Road

Urban Development Type:

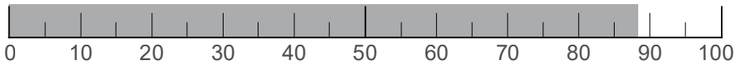
Mid-rise Podium-Tower



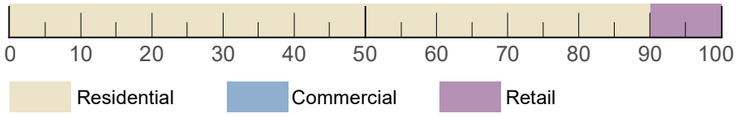
Location	324 Centre Rd Bentleigh, Melbourne VIC
Building height	8 storeys
Land use mix	Residential, retail ground floor
Tenure types	Market apartments
Open space amenity	Private terraces and shared roof top terrace
Public realm amenity	Active retail ground floor
Parking logic	Underground and podium parking
Heritage	-
Concise description	Mixed-use development along High Street with retail ground floor. A 3 storey street elevation runs the whole width of the site, creating a continuous street wall. A step-back residential tower extends up to 7 storeys creates courtyards along both side boundaries.

Floor Area Ratio (FAR) **4.7 FAR**

Site coverage per cent: **88 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

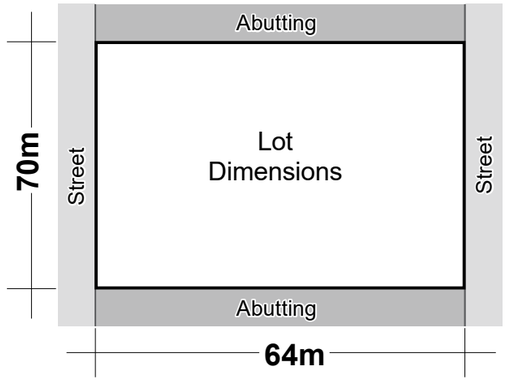
Where not relevant left blank

Case Study:

Oxley

Urban Development Type:

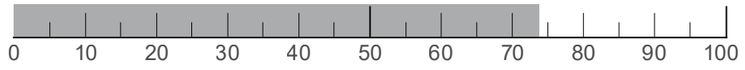
Mid-rise Podium-Tower



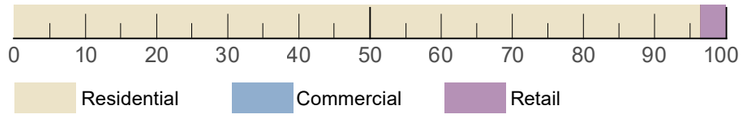
Location	46-74 Stanley Street, Collingwood, Melbourne VIC
Architect/Developer	Elenberg Fraser
Building height	8 storeys
Land use mix	Residential, retail ground floor
Tenure types	Market apartments
Open space amenity	Private terraces and shared roof top terrace
Public realm amenity	Active retail ground floor
Parking logic	Underground and podium parking
Heritage	-
Concise description	Mixed-use development with retail ground floor. A 4 storey street wall runs the whole width of the site, creating a continuous street wall with three towers extending perpendicular to the street. The development also includes a separate apartment building of double-loaded corridor to the rear facing Napoleon Street. The whole development shares a communal courtyard and podium swimming pool.

Floor Area Ratio (FAR) **4.3 FAR**

Site coverage per cent: **73 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

3.3 Mid-rise Podium-Tower testing

Urban Development Type:
Mid-rise Podium-Tower

The mid-rise podium-tower development type delivers high-density whilst 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 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.

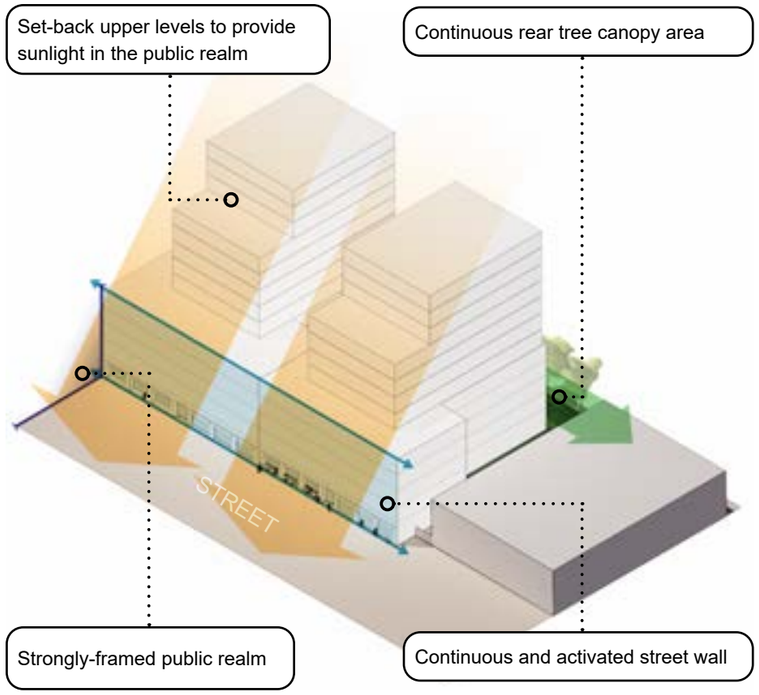


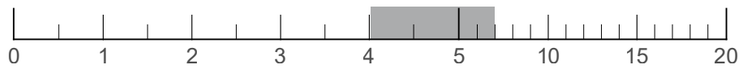
Figure 3-1 Typical Mid-rise podium-tower massing volume

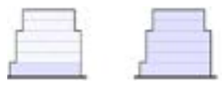
Description:

Existing place type	Activity centre (commercial area) beyond the Core
Role and function rationale	High intensification of built form providing space for jobs growth, local services and housing surrounding the core
Future Character drivers rationale	• High level of activation to the street • Maintain sunlight amenity to the public realm • Recognise existing moderate to high level of intensification.
Accommodation types	Residential dwellings typically single storey apartments with single or corner orientation in varying sizes. Apartments typically on single level. Private outdoor space on balconies or covered balconies within the building envelope.
Parking logic	Vehicular and service entrance from rear lane way. Parking located in basement or ground floor podium.

Development properties:

Floor Area Ratio (FAR) range: **4-7 FAR**



Use mix		Potential for mixed-use. Retail or small scale commercial at ground floor.
Interfaces		Built to side boundaries. Contribute to street green character, while retaining engaging interface with ground floor uses.
Building height		
Building height	9-15 storeys	Maintain adequate daylight and sunlight in street and rear-facing buildings.
Street wall height	4-6 storeys (15-22 metres)	Maintain human scale while creating enclosure of street approximately 1:1 balancing openness and enclosure of street.
Open space		
Deep soil area	5-10 per cent	Primarily rear of lot.
Canopy cover area	5-10 per cent	Canopy trees in rear deep soil zone and front garden setback.
Open space amenity	Communal	Rear garden and roof top
	Private	Balconies and terraces on setback levels

Precedent examples

Urban Development Type:
Mid-rise Podium-Tower

Setbacks		
Front setback	0 metres	On streets wider than 16 metres
	3 metres	On streets narrower than 16 metres
Front above street wall	3 metres	
	Equinox sun plane	From southern footpath when building is located on northern side of east/west going street.
Rear setback	6 metres	15 per cent of lot depth (which ever is greater) To provide deep soil zone minimum dimension 6m for large canopy trees.[1]
	Equinox sun plane	From top of rear fence of adjacent property if residential use.

1 In the urban form recommendations, the rear setback is rationalised to minimum 6 metres regardless of lot depth.

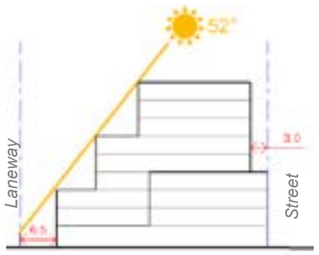


Figure 3-2 Section north of residential

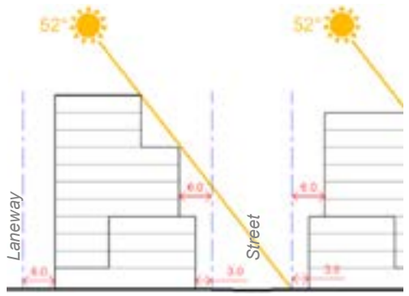
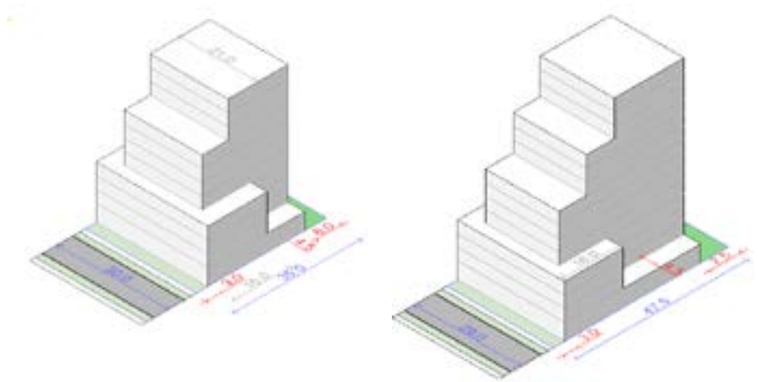


Figure 3-3 Section North of street

Location					
Clayton/Glen Waverley		**Box Hill 15th per centile**		**Box Hill 85th per centile**	
Lot sizes					
Area	1,320 square metres	Area	1,050 square metres	Area	1,377 square metres
Width	30 metres	Width	30 metres	Width	29 metres
Depth	44 metres	Depth	35 metres	Depth	47.5 metres
15m street width					



	Height (storeys)	**11**	**Height (storeys)**	**14**
	FAR	**5**	**FAR**	**6**
20m plus Street width				

Height (storeys)	**9**	**Height (storeys)**	**15**
FAR	**4**	**FAR**	**7**

3.4 Mid-rise Podium-Tower testing - Health and Education

Urban Development Type:
Mid-rise Podium-Tower (Health and Education)

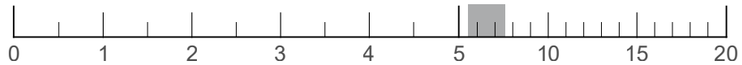
Further testing of mid-rise podium tower has been undertaken to determine the appropriteness of this urban develop type for health and education uses specifically in Box Hill.

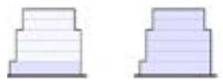
Description:

Existing place type	Activity centre (commercial area) beyond the Core
Role and function rationale	High intensification of built form providing space for jobs growth, local services and housing surrounding the core
Future Character drivers rationale	• High level of activation to the street • Maintain sunlight amenity to the public realm • Recognise existing moderate to high level of intensification.
Accommodation types	Residential dwellings typically single storey apartments with single or corner orientation in varying sizes. Apartments typically on single level. Private outdoor space on balconies or covered balconies within the building envelope.
Employment types	Health and education uses require the provision of large floor plates for efficient use of the building and accommodate technical and mechanical requirements.
Parking logic	Vehicular and service entrance from rear lane way. Parking located in basement or ground floor podium.

Development properties:

Floor Area Ratio (FAR) range: **5.5-7.5 FAR**



Use mix			Potential for mixed-use. Retail or small scale commercial at ground floor.
Interfaces			Built to side boundaries. Contribute to street green character, while retaining engaging interface with ground floor uses.
Building height			
Building height	11-13 storeys	Maintain adequate daylight and sunlight in street and rear-facing buildings.	
Street wall height	3-4 storeys (11-20 metres)	Maintain human scale while creating enclosure of street approximately 1:1 balancing openness and enclosure of street.	
Open space			
Deep soil area	5-10 per cent	Primarily rear of lot.	
Canopy cover area	5-10 per cent	Canopy trees in rear deep soil zone and front garden setback.	
Open space amenity	Communal	Rear garden and roof top	
	Private	Balconies and terraces on setback levels	

Precedent examples

Urban Development Type:

Mid-rise Podium-Tower (Health and Education)

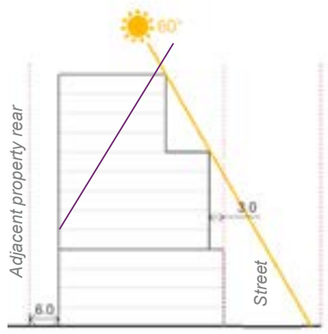


Figure 3-1 Section North/South street

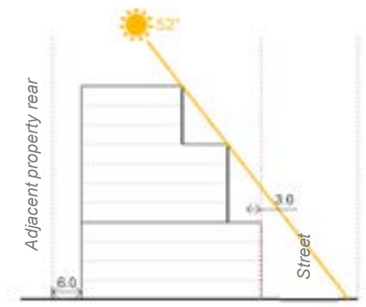


Figure 3-2 Section North of East/West street

Setbacks		
Front setback	0 metres	
Front above street wall	3 metres	
North/South going streets	60° sun plane	From opposite footpath to retain sun on opposite footpath between 10:30am and 1:30 pm.
East/West going streets	Equinox sun plane	When building is located on northern side of east/west going street. From southern footpath.
Rear setback	6 metres	To provide deep soil zone minimum dimension 6m for large canopy trees.
North/South going streets with rear residential interface	6 metres plus 0.6 metres per metre of height above 17 metres	

Health and Education in Box Hill

Location: North/South going streets

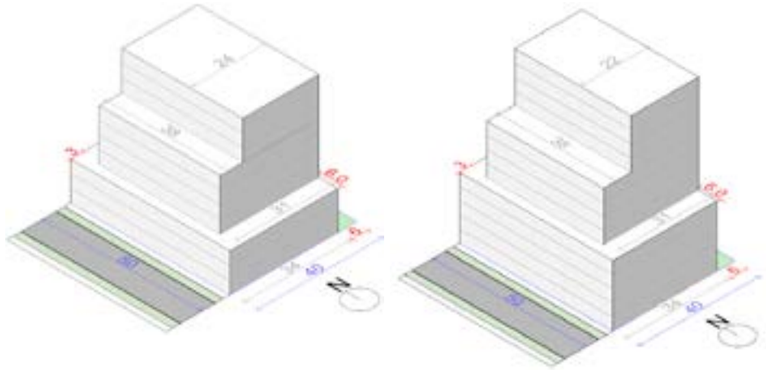
Lot sizes			
Area	1,170 square metres	Area	1,564 square metres
Width	30 metres	Width	34 metres
Depth	39 metres	Depth	46 metres
3 amalgamated residential lots		3 amalgamated residential lots	

15 metres wide street		20 metres wide street	
Height (storeys)	**10**	**Height (storeys)**	**13**
FAR	**6**	**FAR**	**7.5**

Location: East/West going streets

Lot sizes			
Area	1,170 square metres	Area	1,564 square metres
Width	30 metres	Width	34 metres
Depth	39 metres	Depth	46 metres
2 amalgamated lots		Existing Elgar Hill Medical suites	

South side of street (corner site)		North side of street (20 metres corner site)	
Height (storeys)	**11**	**Height (storeys)**	**11**
FAR	**6.5**	**FAR**	**7**

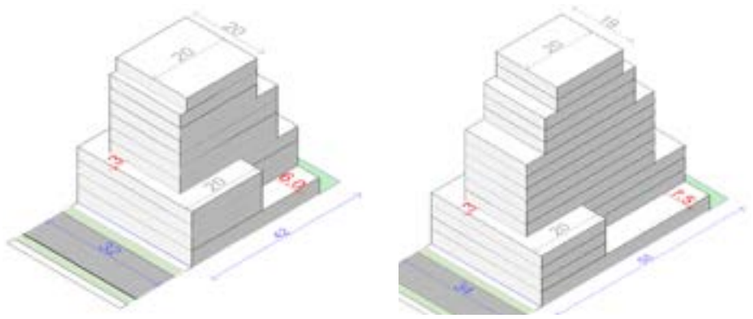


Clayton Road

Location: North/South going streets

Lot sizes			
Area	1,345 square metres	Area	1,980 square metres
Width	32 metres	Width	34 metres
Depth	42 metres	Depth	58 metres
2 amalgamated residential lots		2 amalgamated residential lots	

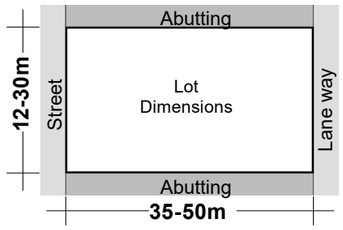
Narrow lots		Deep lots	
Height (storeys)	**11**	**Height (storeys)**	**15**
FAR	**5.5**	**FAR**	**6.5**



4. Shoptop Infill

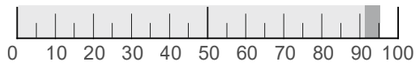
4.1 Shoptop Infill Development Type

Lot dimension range



Floor Area Ratio (FAR): **4-6 FAR**

Site coverage per cent: **92-95 per cent**



Description	Uplift of existing fine-grain retail streets with upper level extension. 2-3 storey street wall responding to context character and urban grain. This type increase housing growth and vibrancy outside retail hours.
Use mix potential	Non-residential uses. Light industrial and commercial uses.
Interfaces	 Front and rear landscaped setbacks
Accommodation types	Typically single level apartments with different layout configurations. Apartments oriented to front and rear. Occasionally, an internal light well enable cross-ventilated dwellings.
Open space amenity	Communal rooftop terrace and private balconies
Public realm amenity	Active retail street frontages
Parking logic	Basement parking with vehicular access from rear lane way
Testing summary	The Shoptop Infill type is appropriate along existing retail streets and high streets with existing fine-grain character. This development type is seen in many retail streets across Melbourne. Key learning from our assessment of case studies: • Performs well on delivering high-density and mixed-uses at a human scale • Provide good public realm amenity and interface while retain fine-grain shop front character • Increase density and diversity of uses along retail streets • Setback upper levels retain low street wall character.

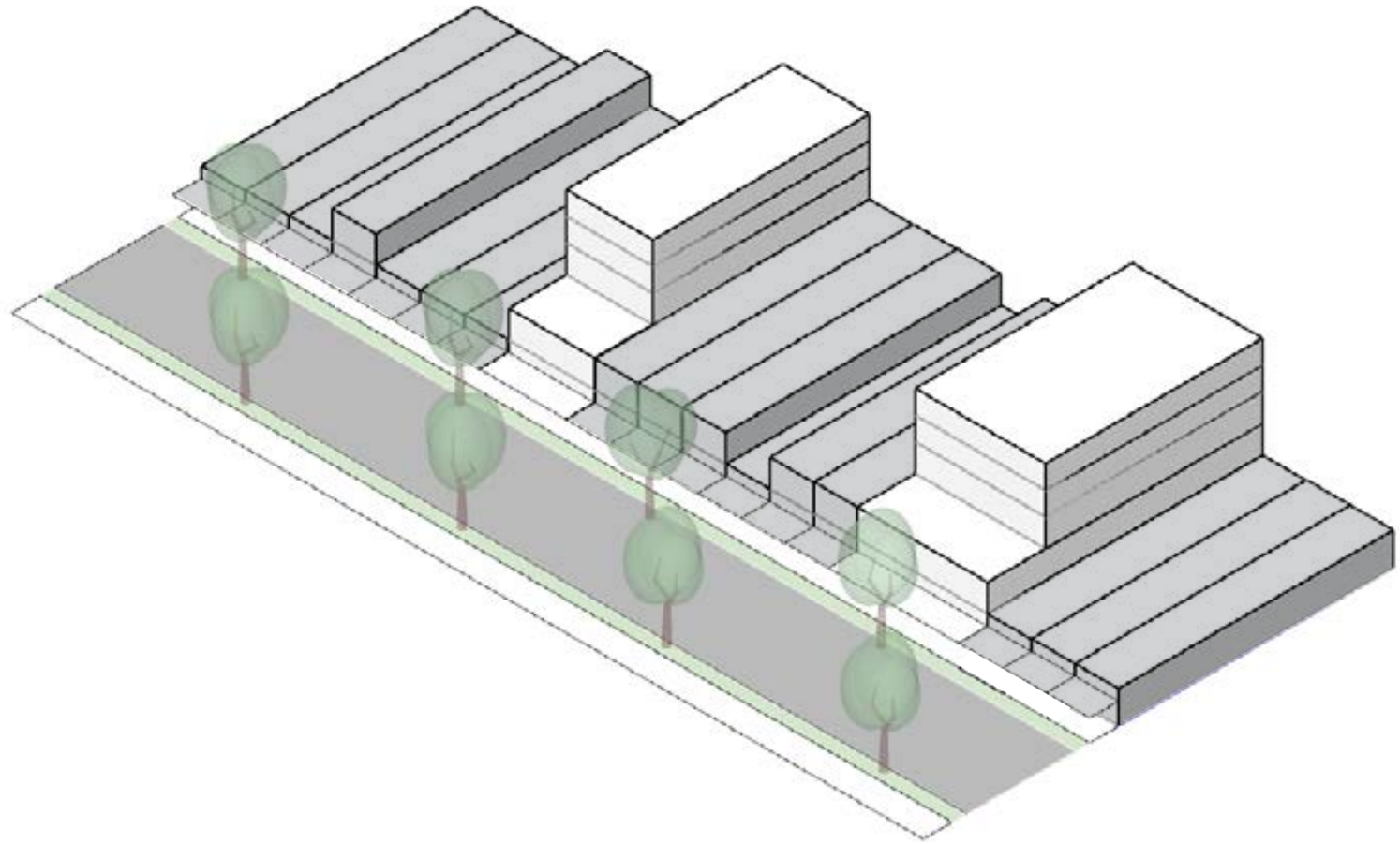


Figure 4-1 Indicative Shoptop Infill development type

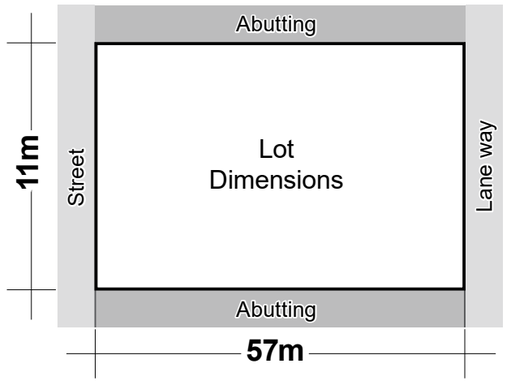
4.2 Shoptop Infill 1 case studies

Case Study:

Terrace House, Brunswick VIC

Urban Development Type:

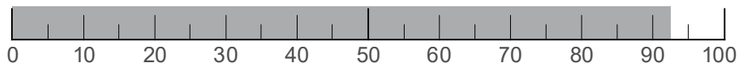
Shoptop Infill



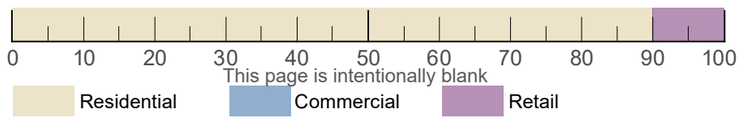
Location	209 Sydney Rd, Brunswick VIC 3056 Australia
Architect/Developer	Austin Maynard Architects
Building height	7 storeys
Land use mix	Mixed-use residential
Tenure types	Apartments (built -to-sell
Open space amenity	Communal roof top
Public realm amenity	Active ground floor interfaces
Parking logic	No car parking space provided
Heritage	-
Concise description	This scheme delivers dual/triple aspect apartments with a floor plan that resembles a classical Victorian cottage. The development sits on Sydney Road which is a busy retail street and provides two retail tenancies to the front and a small commercial tenancy to the rear. This scheme also includes communal facilities such as shared laundry, bike parking and roof top garden.

Floor Area Ratio (FAR) **5.5 FAR**

Site coverage per cent: **92 per cent**



Land Use Mix



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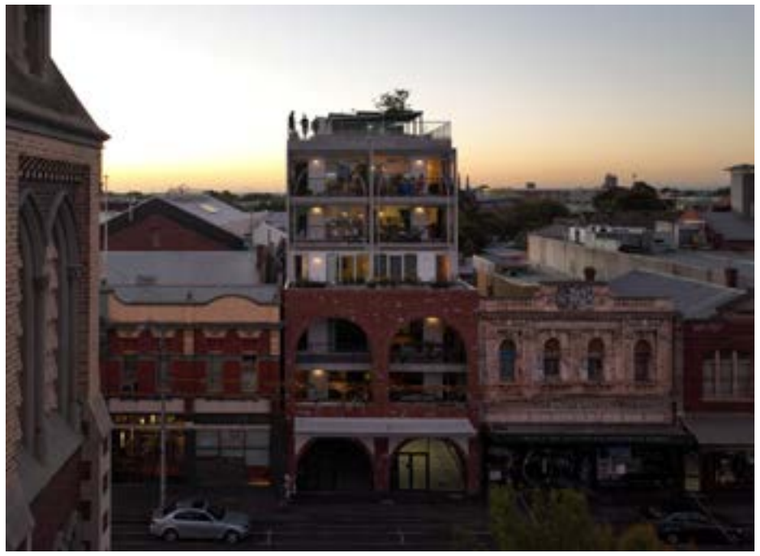
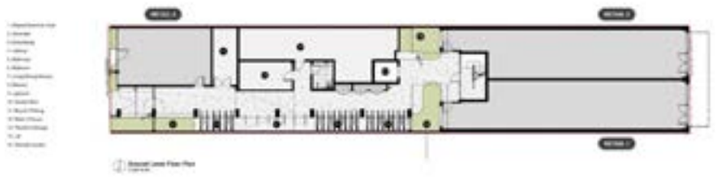
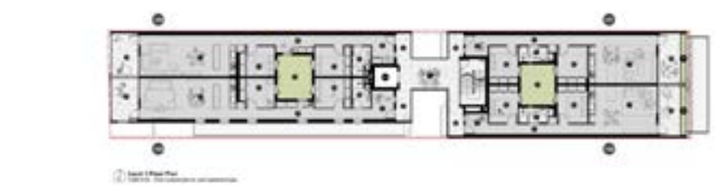
Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					





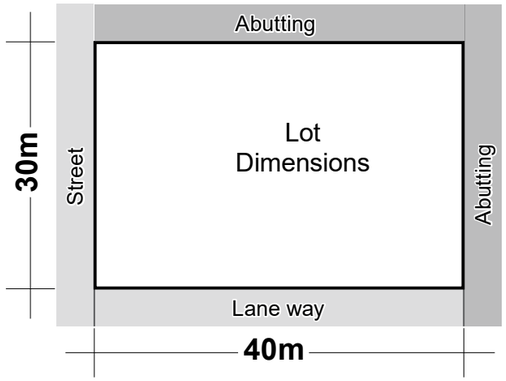


Case Study:

121 Lygon Street, Brunswick East VIC

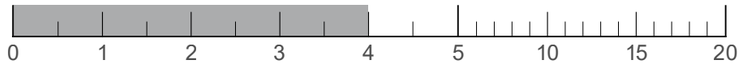
Urban Development Type:

Shoptop Infill

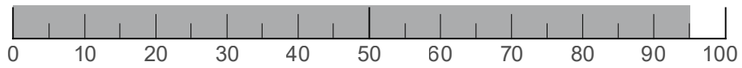


Location	121 Lygon Street , Brunswick East VIC 3056 Australia
Architect/Developer	Fieldwork Architects / Milieu
Building height	6 storeys
Land use mix	Mixed-use residential
Tenure types	Apartments (built -to-sell)
Open space amenity	Communal roof top
Public realm amenity	Active ground floor interfaces
Parking logic	Basement car parking with access through side laneway.
Heritage	-
Concise description	This scheme delivers ground floor retail along Lygon Street: a busy retail street in Brunswick East. Although a main retail street, the site does not have a rear laneway but in stead has car parking basement access from the side laneway. The residential apartments are entered around a central light well that also hosts an open staircase and lift for vertical circulation.

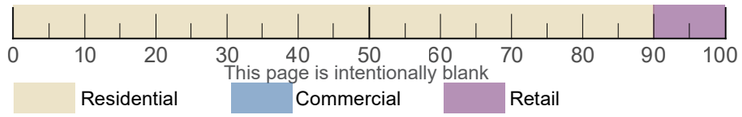
Floor Area Ratio (FAR) **4 FAR**



Site coverage per cent: **95 per cent**



Land Use Mix



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Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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4.3 Shoptop Infill testing

Urban Development Type:
Shoptop Infill

The Shoptop Infill development type provides for employment and housing growth and increased vibrancy, particularly outside retail hours, while complementing the existing character and providing a high level of pedestrian amenity.

It relies on the amalgamation of up to three typical lots, to create a feasible site width.

The proposed type incorporates a 2-3 storey, zero setback, boundary-to-boundary street wall that will complement the existing vibrant and memorable character created by low-rise, continuous, active streetscapes.

The street wall is articulated to reflect the existing fine-grain character and activated by commercial ground floor uses.

Above the street wall, upper levels are set back to ensure an appropriate balance between openness and enclosure in the street, along with good solar access.

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

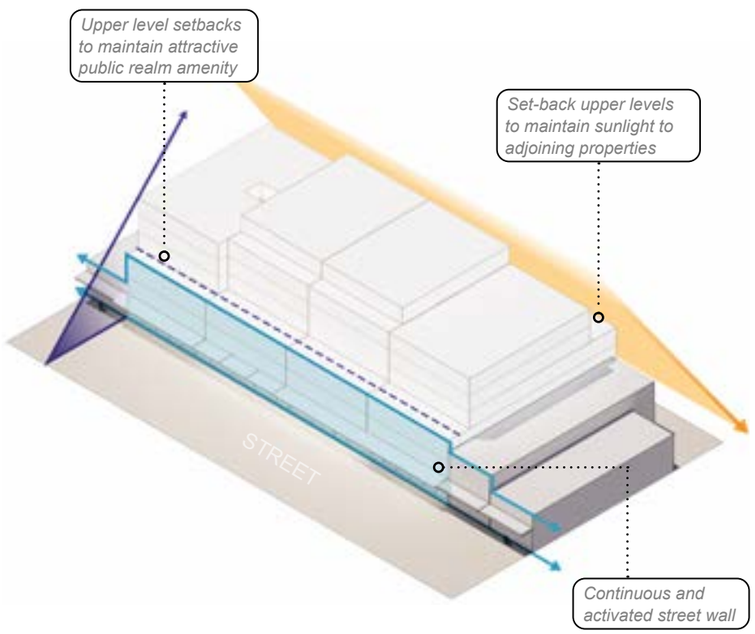


Figure 5.01: The diagram above shows the urban form outcomes for the Shoptop Infill typology.

Description:

Role and function rationale	Moderate intensification of built form providing space for more housing.
Future Character drivers rationale	• Balance between openness and enclosure of the street • Enhance landscape character and amenity within the street • Moderate level of activity to the street • Maintain sunlight amenity to the public realm.
Existing place type	• Areas immediately around the activity centre
Accommodation types	Great opportunity to provide wide range of accommodation types. This type can be configured with both single level apartments, duplexes, multi-storey townhouses and varying sizes appropriate for many household configurations including families.
Open space amenity	Great opportunity to leverage level ground floor access and roof top amenity for large proportion of dwellings. Communal open space often limited to side and larger rear setbacks, smaller communal courtyard, or shared rooftop garden.
Parking logic	In lots wider than approximately 18m, parking can be provided underground with vehicular access from rear laneway. No front vehicular entrances along mainstreets.

Development properties:

Floor Area Ratio (FAR) range: **3.5-5 FAR**

Use mix		Potential for mixed-use. Retail or small scale commercial at ground floor.
Interfaces		Built to side boundaries. Contribute to street green character, while retaining engaging interface with ground floor uses.

Building height		
Building height	6-7 storeys	Maintain adequate daylight and sunlight in street and rear-facing buildings.
Street wall height	2/4 storeys (8-14 metres)	Maintain human scale while creating enclosure of street approximately 1:1 balancing openness and enclosure of street.
Open space		
Deep soil area	0 per cent	-
Canopy cover area	0 per cent	-
Open space amenity	Communal	Roof top and podium level
	Private	Balconies and terraces on setback levels

Precedent examples

Urban Development Type:
Shoptop Infill

Setbacks		
Front setback	0 metres	Ground floor
	3 metres [1]	Above street wall to reduce perception of bulk and retain character
Side setback	0 metres	
Rear setback	0 metres	At ground level
	4.5 metres Equinox sun plane	From rear boundary or centre of rear laneway above ground level to ensure equitable development Further setback equal to equinox sun plane from top of rear fence of adjacent neighbours when located north of residential dwellings. No upper level setback to rear when adjacent to Core areas.

1 This has been refined to 3 metres plus 1 metre per metre of height above 21 metres during further testing

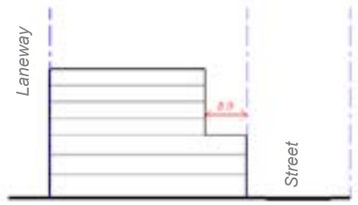


*Figure 4-1 Section - upper level setback**

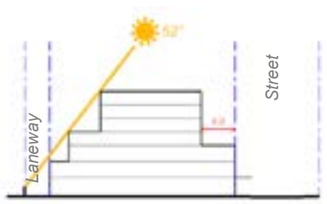
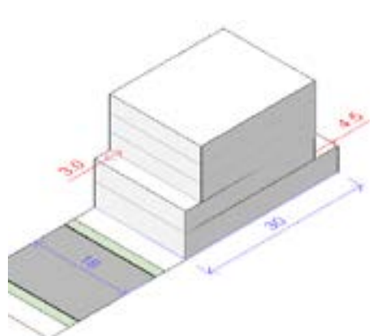


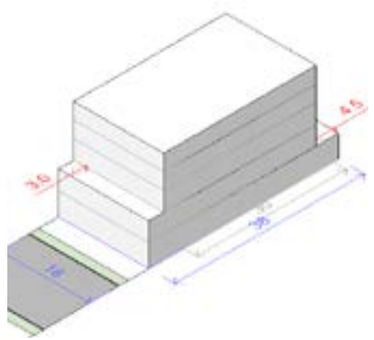
*Figure 4-2 Section - rear residential interface**

*Front upper level setback has since been refined to 3 metres plus 1 metres per metre of height above 21 metres during further testing

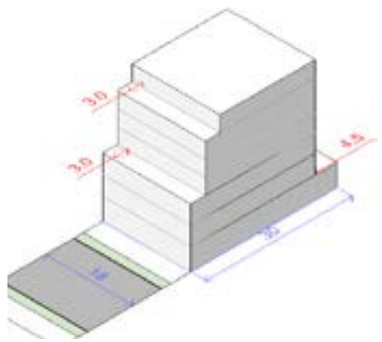
Lot sizes					
Shallow lots		**Median lots**		**Deep lots with rear sensitive interface**	
Lot sizes (consolidated 3 lots)					
Area	540 square metres	Area	684 square metres	Area	836 square metres
Width	18 metres	Width	19 metres	Width	19 metres
Depth	30 metres	Depth	38 metres	Depth	44 metres
5 Storeys					

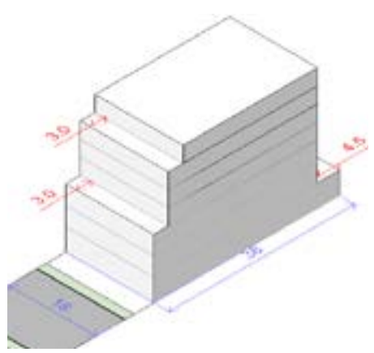
Five storey maximum height was not tested on deep lots with sensitive interfaces.

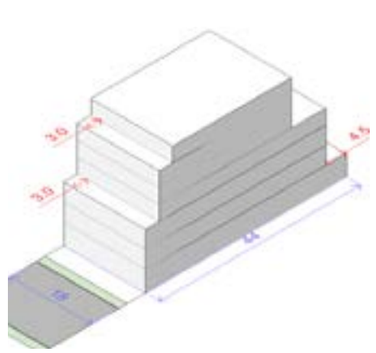




Height (storeys)	**5**	**Height (storeys)**	**5**		
FAR	**3.5**	**FAR**	**3.5**		
7 Storeys					





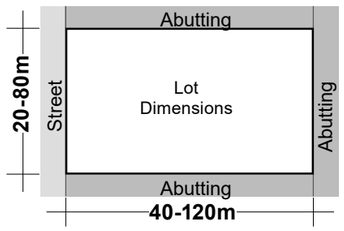


Height (storeys)	**7**	**Height (storeys)**	**7**	**Height (storeys)**	**7**
FAR	**5**	**FAR**	**5**	**FAR**	**4**

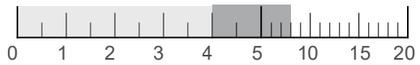
5. Urban Infill 1

5.1 Urban Infill 1 Development Type

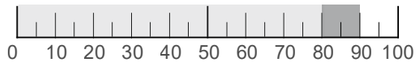
Lot dimension range



Floor Area Ratio (FAR): **4-8 FAR**



Site coverage per cent: **80-90 per cent**



Concise description	The urban infill type is highly adaptable to commercial and/or residential uses. the building is primarily oriented to the street and rear with zero side setbacks, creating a continuous urban form. This ultimately creates a closed perimetre block when deployed on all sites of an urban block. This is the best way to accommodate a diversity of building types and uses at a medium and high densities, while ensuring that building frontage relates positively to the public realm. The building type can have a different circulation logics: internal corridor, external corridor, or walk-ups with dual-aspect apartments.
Use mix potential	 Flexible mix of uses. Particularly suited to mixed-uses.
Interfaces	 Front and rear setback
Accommodation types	Flexible apartment layouts with good opportunity for dual aspect apartments. Ground floor units and roof tops has the opportunity for high amenity dwellings.
Open space amenity	Rear courtyard space that is spatially and acoustically separated from the street space.
Public realm amenity	Good urban edge and street definition. Building heights and setback retain a minimum 1:1 ratio of street to street wall height ensuring decent sun amenity in streets and public realm.
Parking logic	Basement or consolidated parking structure off-site
Testing summary	This type is suitable for significant built-form intensification densification in existing residential areas on larger single lots or lot amalgamation of just two lots along movement corridors. They offer high level of flexibility in use mix. This development type delivers moderately high-density without the adverse impacts of taller buildings. Importantly, it can be developed on the vast majority of the lots found in these urban form areas without the need for lot amalgamation. Key learning from our assessment of case studies: • Performs well on delivering high-density and mixed-uses at a human scale • Deliver amenity and landscaped areas • Opportunity for built form typologies suited to different uses • Defined and engaging public realm • Rear garden space creates spatially and acoustically separated open space amenity.

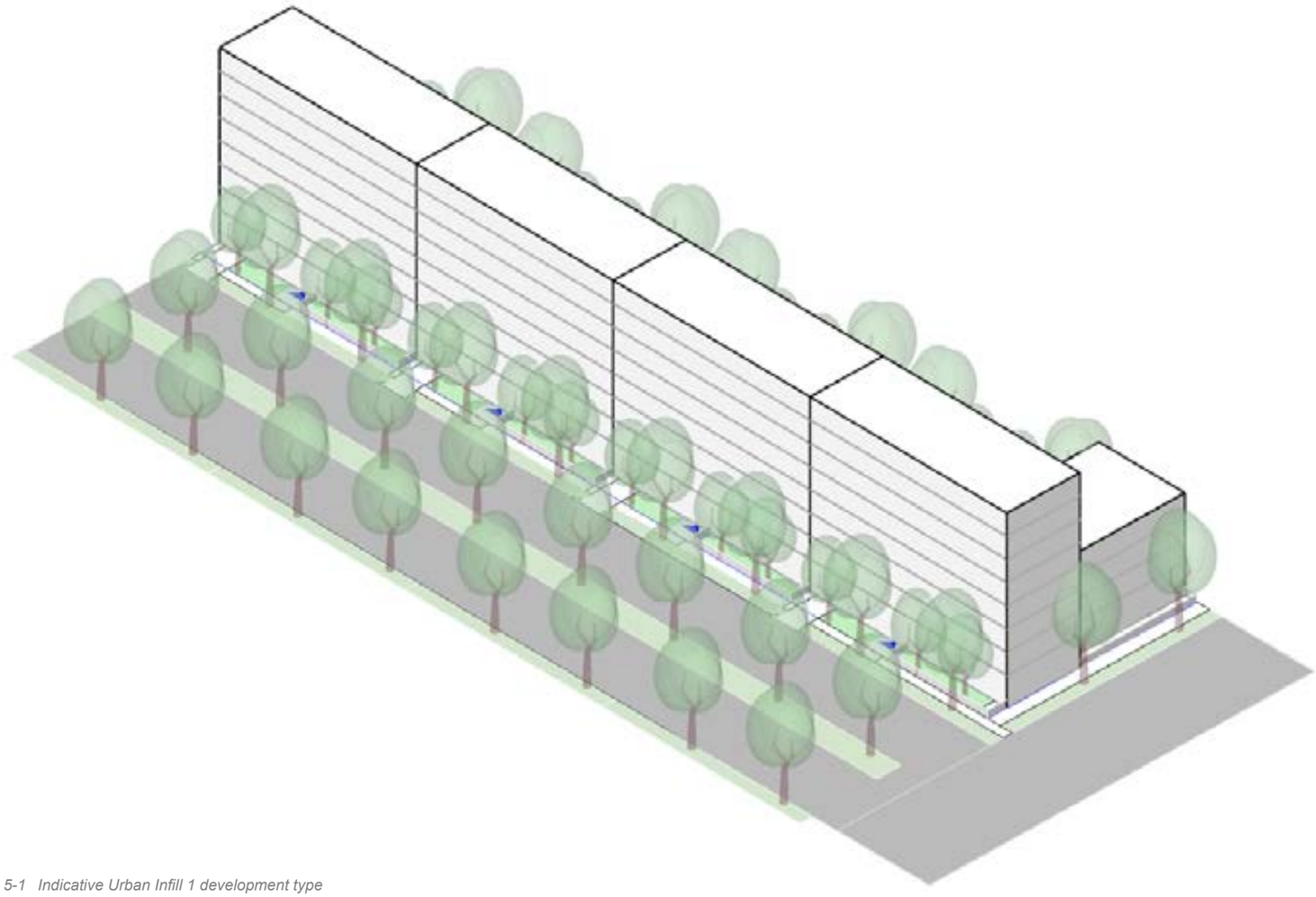


Figure 5-1 Indicative Urban Infill 1 development type

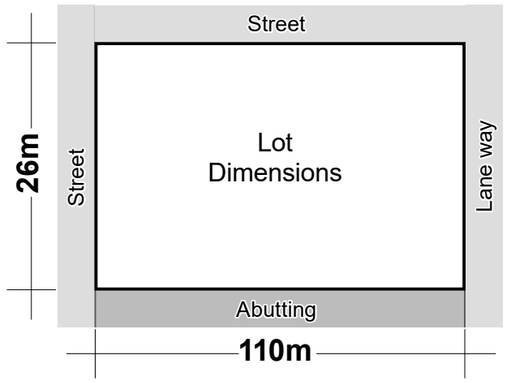
5.2 Urban Infill 1 case studies

Case Study:

Lumina Apartments, Sydney

Urban Development Type:

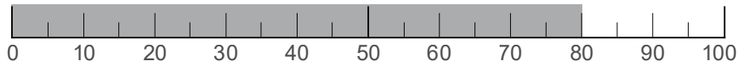
Urban Infill 1



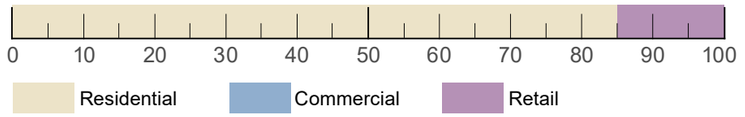
Location	210 Lord Sheffield Cct, Penrith NSW 2750, Australia
Architect/Developer	DKO Architecture
Building height	7-10 storeys
Land use mix	Mixed-use residential
Tenure types	Apartments (sell and built-to-rent)
Open space amenity	Communal roof tops
Public realm amenity	Active ground floor interfaces
Parking logic	Basement
Heritage	-
Concise description	Lumina is articulated in height, plan and facade to break down a single large building envelope into a collection of smaller buildings. It also serves the master plan requirement to mediate between the lower-density residential townhouses to the north of the site and the higher apartment developments to the south.

Floor Area Ratio (FAR) **4.4 FAR**

Site coverage per cent: **80 per cent**



Land Use Mix



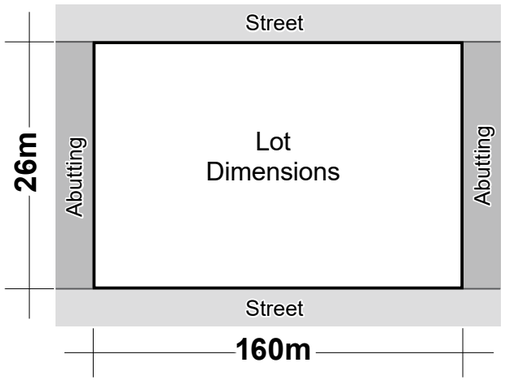
Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

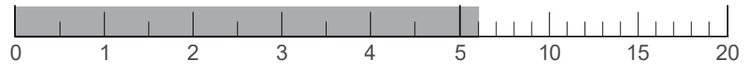
Case Study:
Victoria & Vine

Urban Development Type:
Urban Infill 1

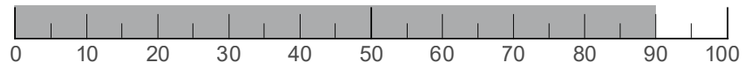


Location	Wellington Street, Collingwood VIC
Architect/Developer	COX for Gurner group
Building height	11 storeys
Land use mix	Residential units plus retail ground floor
Tenure types	Market apartments
Open space amenity	Balconies and roof tops
Public realm amenity	Active ground floor retail
Parking logic	Basement car parking
Heritage	Reference former warehouses on site
Concise description	This development is built as one cohesive building, but meant to look like multiple independent buildings to break down the built form scale and make it blend in better with the surrounding context of mixed urban grain. The building has no shared amenity at ground level and only provides shared open space on roof tops.

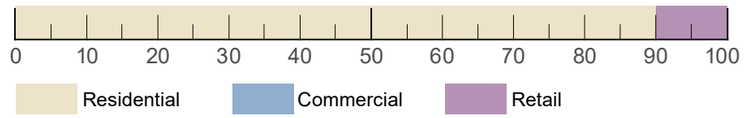
Floor Area Ratio (FAR) **6 FAR**



Site coverage per cent: **90 per cent**



Land Use Mix



Urban development assessment criteria:

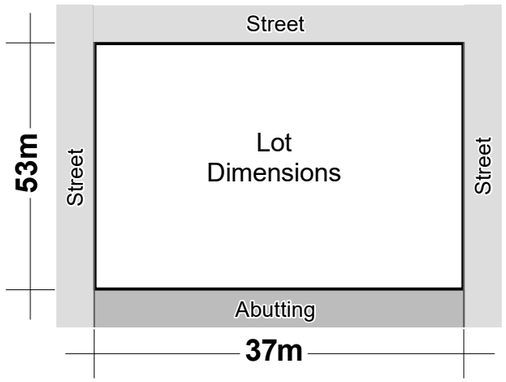
Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Case Study:

381 Cremorne

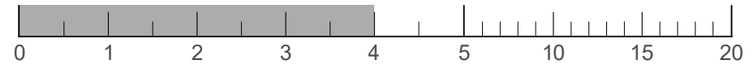
Urban Development Type:

Urban Infill 1

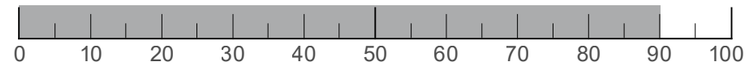


Location	Melbourne, Australia
Architect/Developer	A. Genser & Assoc.
Building height	6 storeys
Land use mix	Residential
Tenure types	-
Open space amenity	None
Public realm amenity	None
Parking logic	2 levels of basement parking
Heritage	-
Concise description	The 381 Cremorne addresses Punt Road (a busy movement corridor) with a single building volume of 6 storeys with a 7th storey invisible from the street. A secondary building volume consists of a row of townhouses along the rear lane way. The building ground floor interface is semi-active with slightly elevated ground level with limited active uses. The building establishes a defined street wall appropriate for the road scale and pace and diversity of dwelling types and built form.

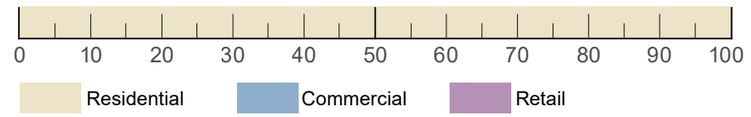
Floor Area Ratio (FAR) **4 FAR**



Site coverage per cent: **90 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed Use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

5.3 Urban Infill 1 testing

Urban Development Type:
Urban Infill 1

The Urban Infill 1 development types deliver highly adaptable buildings able to accommodate commercial and/or residential uses.

This development type delivers moderately high-density in accordance with Strategy UF3.1: Accessibility, without the adverse impacts of taller buildings. Importantly, it can be developed on the vast majority of the lots found in these urban form areas without the need for lot amalgamation.

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.

New Urban Infill development will represent a substantial change in character and its sheer on-boundary side walls will likely adversely affect the amenity of any neighbouring low-rise dwellings to the side, particularly any to the immediate south. The lack of side setbacks is necessary to enable viable development of appropriate density on single lots, and represents a trade-off for a generous rear setback. The rear setbacks will ultimately combine to form a large green space in the middle of the block.

The amenity impacts of high on-boundary side walls are considered to be part of the inevitable and reasonable cost associated with the transformation of the precinct. This is consistent with other transforming areas such as the Brunswick Activity Centre, Cremorne and Box Hill between Whitehorse Road and Box Hill Hospital. Low-rise dwellings will no longer represent the preferred character, and will increasingly become anomalies.

This development type includes a landscaped front setback and generous rear setback, providing for canopy trees, good internal amenity and equitable development opportunities on neighbouring properties. The requirement for a generous rear setback will mitigate the impact of development on neighbouring rear gardens. This typology provides a 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 areas.

Description:

Role and function rationale	Moderate intensification of built form providing space for more housing.
Future Character drivers rationale	• Balance between openness and enclosure of the street • Enhance landscape character and amenity within the street • Moderate level of activity to the street • Maintain sunlight amenity to the public realm.
Existing place type	• Areas immediately around the activity centre
Accommodation types	Great opportunity to provide wide range of accommodation types. This type can be configured with both single level apartments, duplexes, multi-storey townhouses and varying sizes appropriate for many household configurations including families.
Open space amenity	Great opportunity to leverage level ground floor access and roof top amenity for large proportion of dwellings. Communal open space often limited to side and larger rear setbacks, smaller communal courtyard, or shared rooftop garden.
Parking logic	In lots wider than approximately 18 metres, parking can be provided underground. Where possible, vehicular entrances should be located along side streets or rear of lots. Where not possible, vehicular enties are integrated into the built from from the front of the building.

Development properties:

Floor Area Ratio (FAR) range: **3-4.5 FAR**

Use mix		Potential for mixed-use. Retail or small scale commercial at ground floor.
Interfaces		Built to side boundaries. Contribute to street green character, while retaining engaging interface with ground floor uses.

Building height		
Building height	6-10 storeys	Maintain adequate daylight and sunlight in street and rear-facing buildings.
Street wall height	Minimum 4 storeys (14 metres) Maximum equal to width of the street.	Maintain human scale while creating enclosure of street approximately 1:1 balancing openness and enclosure of street.
Open space		
Deep soil area	10-15 per cent	Primarily rear of lot.
Canopy cover area	10-15 per cent	Canopy trees in rear deep soil zone and front garden setback.
Open space amenity	Communal	Rear garden and roof top
	Private	Balconies and terraces on setback levels

Precedent examples

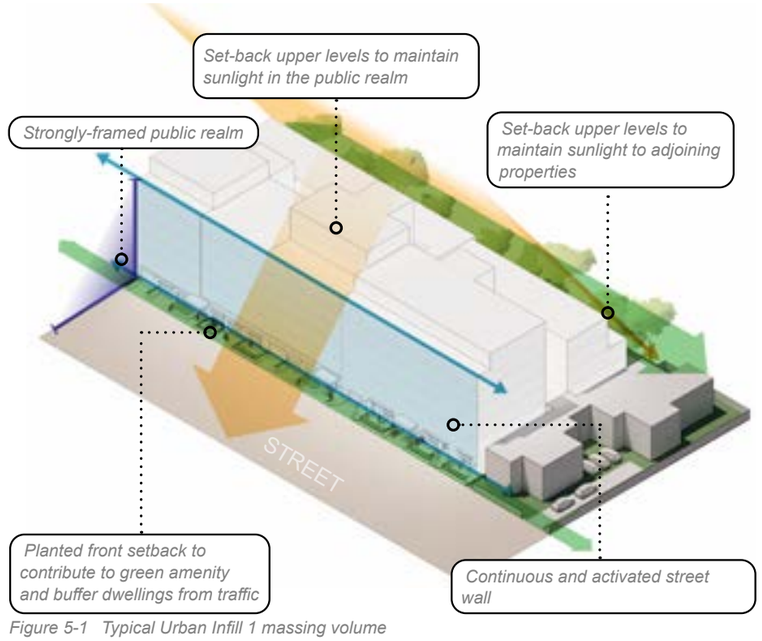


Figure 5-1 Typical Urban Infill 1 massing volume

Urban Development Type:
Urban Infill 1

Setbacks		
Front setback	3 metres	Ground floor to provide for landscaping in residential streets
Rear setback	6 metres	Or 15 per cent of lot depth (which ever is greater) To provide deep soil zone minimum dimension 6 metre for large canopy trees.[1]
	52° Equinox sun plane	From top of rear fence to protect solar amenity to adjacent neighbours plus rear setback where to the south of sensitive place.

1 This has been refined to minimum 6 metre during further application of the testing.

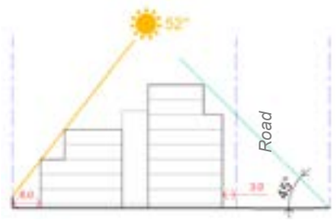


Figure 5-2 20 metre street width

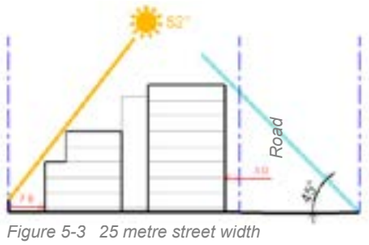


Figure 5-3 25 metre street width

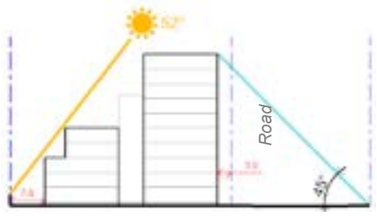
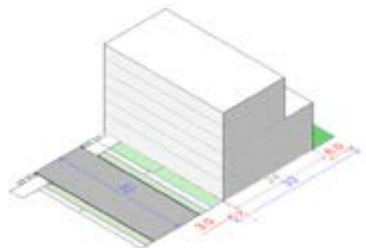
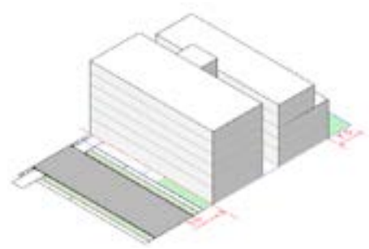


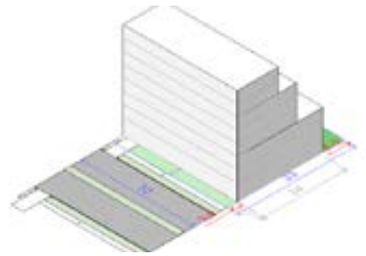
Figure 5-4 30 metre street width

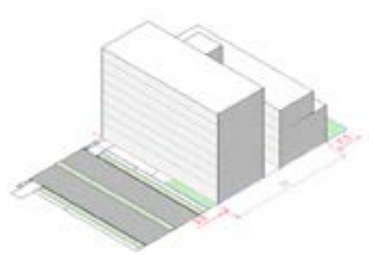
Lot sizes			
15th percentile lot size		**85th percentile lot size**	
Area	1,056 square metres	Area	1,920 square metres
Width	32 metres	Width	40 metres
Depth	33 metres	Depth	48 metres
2 small amalgamated lots		2 large amalgamated lots	
20 metre street width			
Height (storeys)	**6**	**Height (storeys)**	**6**
FAR	**3**	**FAR**	**3**



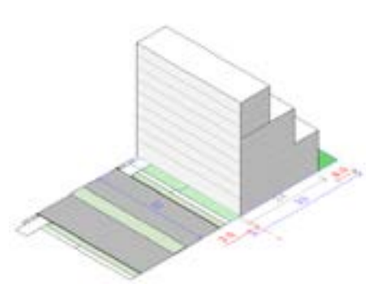


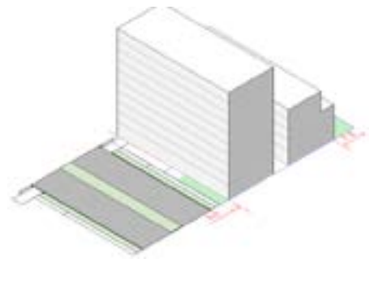
25 metre street width			
Height (storeys)	**8**	**Height (storeys)**	**8**
FAR	**3.5**	**FAR**	**3.5**





>30 metre street width			
Height (storeys)	**9**	**Height (storeys)**	**10**
FAR	**4**	**FAR**	**4.5**

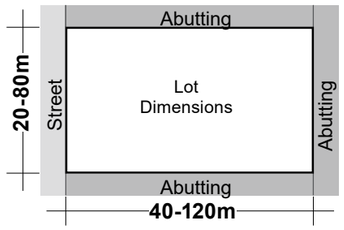




6. Urban Infill 2

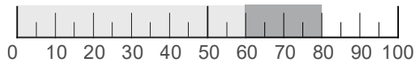
6.1 Urban Infill 2 Development Type

Lot dimension range



Floor Area Ratio (FAR): **2.6-5.5FAR**

Site coverage : per cent **60-80 per cent**



Description	The urban infill type is highly adaptable to commercial and/or residential uses. the building is primarily oriented to the street and rear with zero side setbacks, creating a continuous urban form. This ultimately creates a closed perimetre block when deployed on all sites of an urban block. This is the best way to accommodate a diversity of building types and uses at a medium and high densities, while ensuring that building frontage relates positively to the public realm. The building type can have different circulation logics: internal corridor, external corridor, or walk-ups with dual-aspect apartments.
Use mix potential	 Flexible mix of uses. Particularly suited to mixed-uses.
Interfaces	 Front and rear setback
Accommodation types	Flexible apartment layouts with good opportunity for dual aspect apartments. Ground floor units and roof tops provide the opportunity for high amenity dwellings.
Open space amenity	Rear courtyard space that is spatially and acoustically separated from the street space.
Public realm amenity	Good urban edge and street definition. Building heights and setback retain a minimum 1:1 ratio of street to street wall height ensuring decent sun amenity in streets and public realm.
Parking logic	Basement or consolidated parking structure off-site
Case study summary	This type is suitable for significant built-form intensification densification in existing residential areas on larger single lots or lot amalgamation of multiple lots. Key learning from our assessment of case studies: • Performs well on delivering high-density and mixed-uses at a human scale • Opportunity for built form typologies suited to different uses • Relatively high proportion of dwelling can have ground floor garden access and roof top access that contributes to dwelling diversity and quality • Defined and engaging public realm • Rear garden space creates spatially and acoustically separated open space amenity with areas for landscaping • Generous circulation areas with few apartments per floor creates meeting places for neighbours.

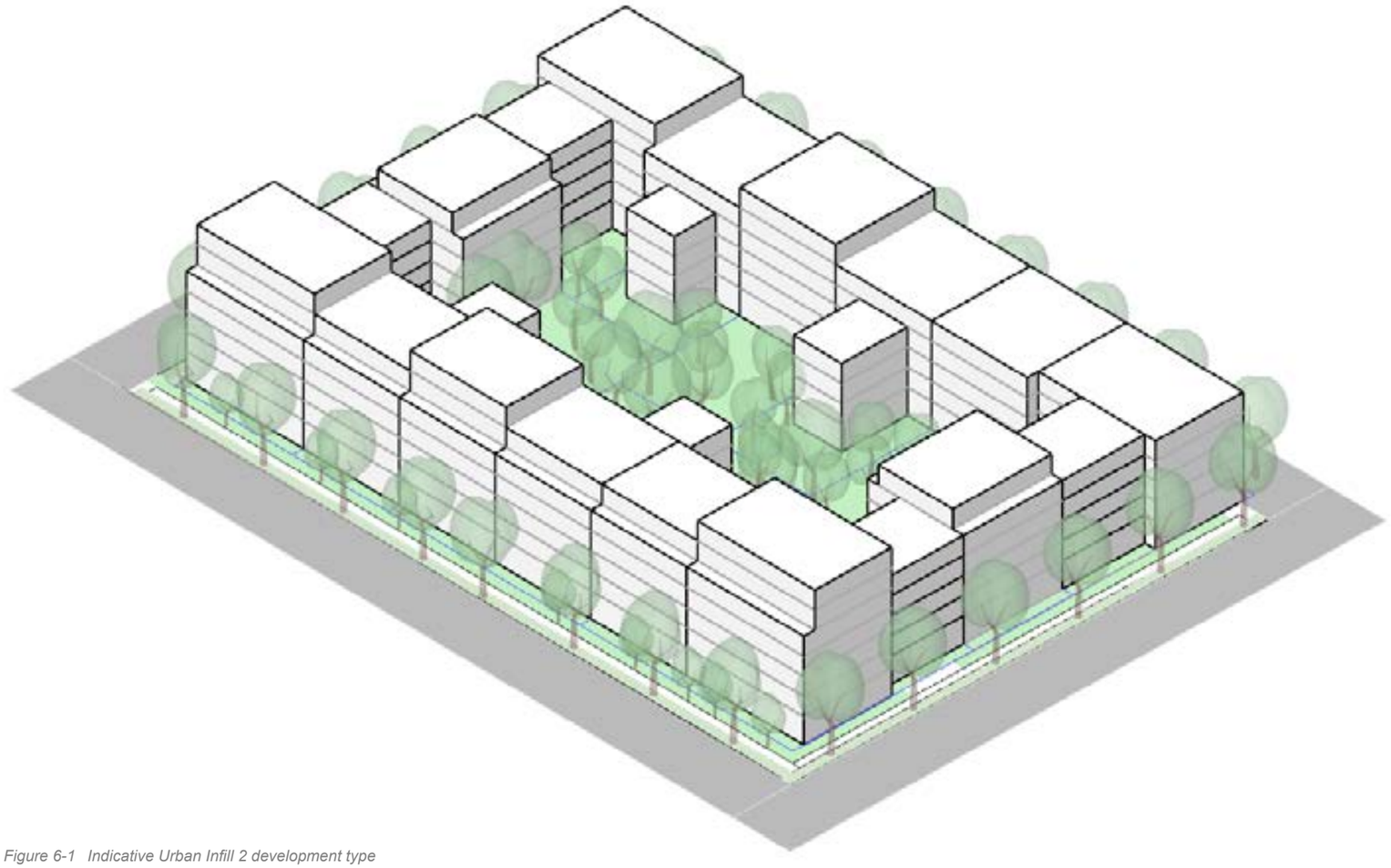


Figure 6-1 Indicative Urban Infill 2 development type

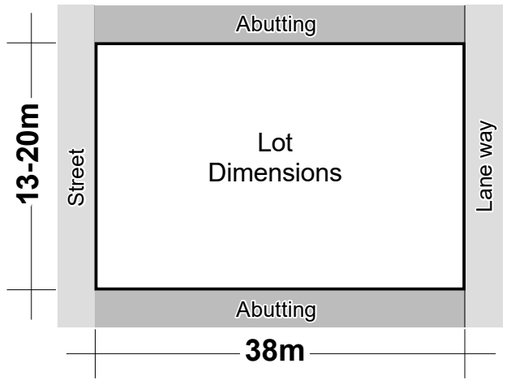
6.2 Urban Infill 2 Case studies

Case Study:

Nightingale Village

Urban Development Type:

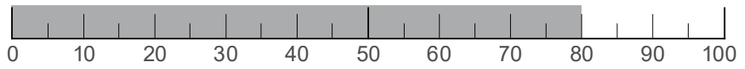
Urban Infill



Location	Melbourne, Australia
Architect/Developer	Hayball (Nightingale Village masterplan / collaboration), different architects for all 6 buildings
Building height	7-8 storeys
Land use mix	Residential with ground floor retail
Tenure types	Apartments
Open space amenity	Communal rooftop garden, semi-public mews, rooftop amphitheater
Public realm amenity	Defined street edge with ground floor active interface
Parking logic	Shared parking access
Heritage	-
Concise description	Built to foster community in and around its residences, this precinct in Melbourne's inner-north comprises six apartment buildings with diverse designs united by shared values. The site comprises 203 homes across six buildings, 27 of these dwellings are allocated to community housing providers Housing Choices Australia and Women's Property Initiatives.

Floor Area Ratio (FAR) **5.5 FAR**

Site coverage per cent: **80 per cent**



Land Use Mix

Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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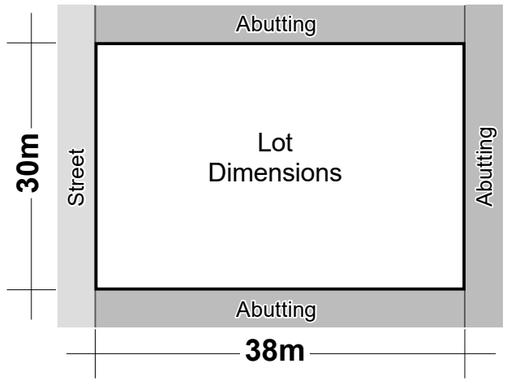
Case Study:

Berlin infill apartments

Urban Development Type:

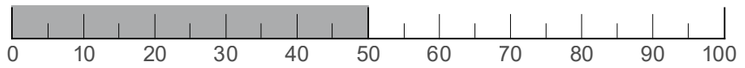
Urban Infill



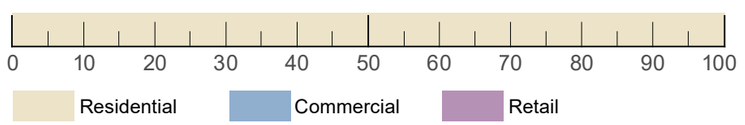
Location	Jablonskistraße Berlin
Building height	5 Storeys / 18 metres
Land use mix	Residential
Tenure types	Market apartments
Open space amenity	Shared green courtyard with play equipment and canopy trees
Public realm amenity	Defined street edge
Parking logic	On street parking
Heritage	-
Concise description	5 storey apartment building in T-shape plan. Some types have utilised the roof for a 6th residential storey. A small light well in the T-junction provides ventilation to the internal staircase and bath rooms.

Floor Area Ratio (FAR) **2.6 FAR**

Site coverage per cent: **50 per cent**



Land Use Mix



Urban development-criteria:

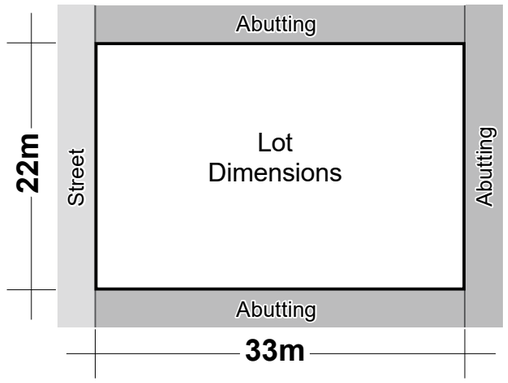
Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Case Study:

Fit Out House

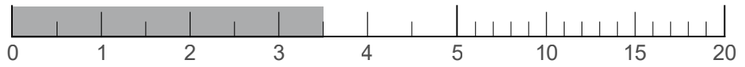
Urban Development Type:

Urban Infill

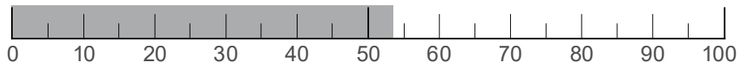


Location	Gotenstraße 44, 10829 Berlin, Germany
Architect/Developer	Praeger Richter Architekten
Building height	7 storeys
Land use mix	Residential, social housing and “neighbourhood living room”
Tenure types	Built for sell and social housing
Open space amenity	Communal roof top, communal “neighbourhood living room” and communal garden.
Public realm amenity	Active ground floor
Parking logic	Provided off site
Heritage	-
Concise description	An attached apartment building that forms part of a perimeter block. The central core and staircase enables flexible layout between 2, 3 and 4 units per floor units, enabling dual aspect apartments facing both the street and rear garden. The ground floor neighbourhood living room features a mezzanine space and enables future adaptive ground floor uses. Sustainable cross-laminated timber panel construction.

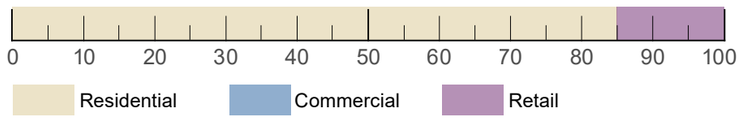
Floor Area Ratio (FAR) **3.5 FAR**



Site coverage per cent: **53 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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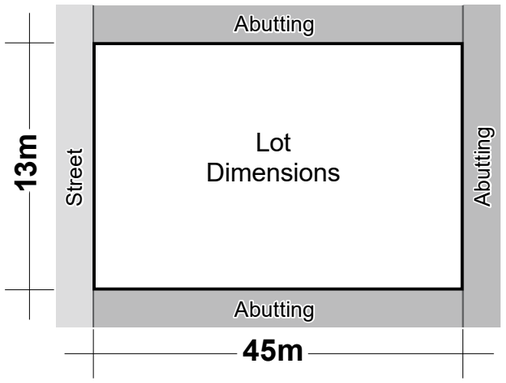
Case Study:

Eixample, Barcelona

Urban Development Type:

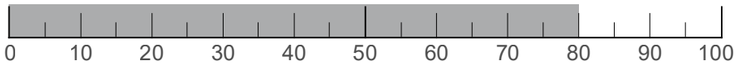
Urban Infill



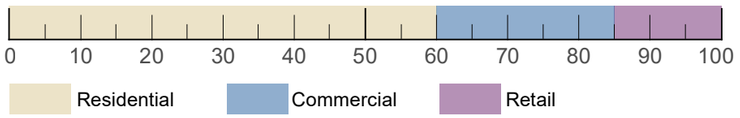
Location	Barcelona, Spain
Architect/Developer	Praeger Richter Architekten
Building height	6-9 storeys
Land use mix	Residential, commercial, retail
Tenure types	Mixed
Open space amenity	Internal residential courtyard with public access
Public realm amenity	Defined street edge with ground floor interface
Parking logic	Shared centralised above ground car park
Heritage	Integrated heritage buildings into perimeter blocks
Concise description	The urban block consists of smaller developments on individual lots with 15-40m street frontage. The building depth of more than 20 metres necessitates the use of up to three light shafts either in the middle parts of the house, attached to the staircase, peripheral towards the part walls or centrally shared with the neighbouring apartment.

Floor Area Ratio (FAR) **4.7 FAR**

Site coverage per cent: **80 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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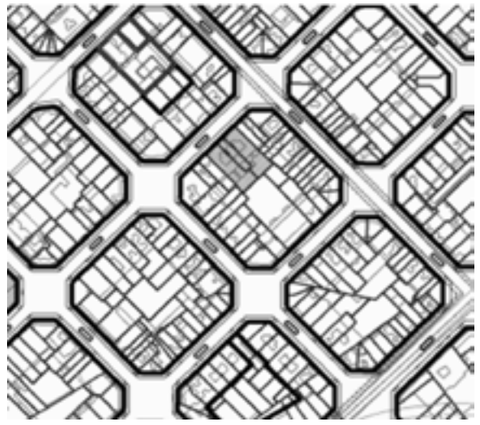

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6.3 Urban Infill 2 testing

Urban Development Type:
Urban Infill 2

The Urban Infill 2 development types deliver highly adaptable buildings able to accommodate commercial and/or residential uses.

This development type delivers moderately high-density in accordance with Strategy UF3.1: Accessibility, without the adverse impacts of taller buildings. Importantly, it can be developed on the vast majority of the lots found in these urban form areas without the need for lot amalgamation.

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.

New Urban Infill development will represent a substantial change in character and its sheer on-boundary side walls will likely adversely affect the amenity of any neighbouring low-rise dwellings to the side, particularly any to the immediate south. The lack of side setbacks is necessary to enable viable development of appropriate density on single lots, and represents a trade-off for a generous rear setback. The rear setbacks will ultimately combine to form a large green space in the middle of the block.

The amenity impacts of high on-boundary side walls are considered to be part of the inevitable and reasonable cost associated with the transformation of the precinct. This is consistent with other transforming areas such as the Brunswick Activity Centre, Cremorne and Box Hill between Whitehorse Road and Box Hill Hospital. Low-rise dwellings will no longer represent the preferred character, and will increasingly become anomalies.

This development type includes a landscaped front setback and generous rear setback, providing for canopy trees, good internal amenity and equitable development opportunities on neighbouring properties. The requirement for a generous rear setback will mitigate the impact of development on neighbouring rear gardens. This typology provides a 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 areas.

Description:

Role and function rationale	Moderate intensification of built form providing space for more housing.
Future Character drivers rationale	• Balance between openness and enclosure of the street • Enhance landscape character and amenity within the street • Moderate level of activity to the street • Maintain sunlight amenity to the public realm.
Existing place type	Areas immediately around the activity centre
Accommodation types	Great opportunity to provide wide range of accommodation types. This type can be configured with both single level apartments, duplexes, multi-storey townhouses and varying sizes appropriate for many household configurations including families. Narrower building volumes with external circulation areas enables apartments with dual orientation and natural cross-ventilation.
Open space amenity	Great opportunity to leverage level ground floor access and roof top amenity for large proportion of dwellings. Communal open space often limited to side and larger rear setbacks, smaller communal courtyard, or shared rooftop garden.
Parking logic	In lots wider than approximately 18 metres, parking can be provided underground. Where possible, vehicular entrances should be located along side streets or rear of lots. Where this is not possible, vehicular enties are integrated into the front facade of the building.

Development properties:

Floor Area Ratio (FAR) range: 2.5-3 FAR

0 1 2 3 4 5 10 15 20

Use mix		Potential for mixed-use. Retail or small scale commercial at ground floor.
Interfaces		Built to side boundaries. Contribute to street green character, while retaining engaging interface with ground floor uses.
Building height		
Building height	5-7 storeys	Maintain adequate daylight and sunlight in street and rear-facing buildings.
Street wall height	Minimum 4 storeys (14 metres)	Maintain human scale while creating enclosure of street. Maximum equal to the width of the street.
Open space		
Deep soil area	10-15 per cent	Primarily rear of lot.
Canopy cover area	10-15 per cent	Canopy trees in rear deep soil zone at rear and front garden setback.
Open space amenity	Communal	Rear garden and roof top. Generous circulation areas creates places for neighbours to meet.
	Private	Balconies and terraces on setback levels

Precedent examples

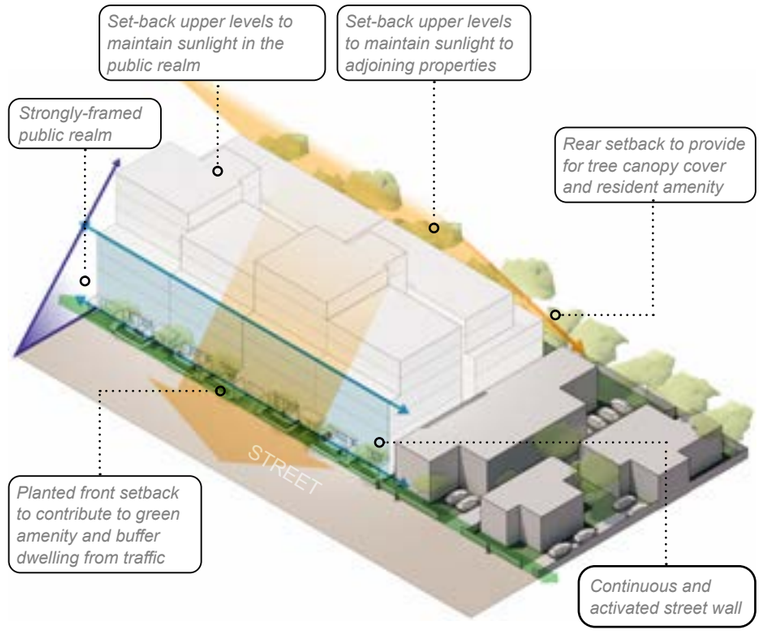


Figure 6-1 Typical Urban Infill 2 massing volume

Urban Development Type:

Urban Infill 2

Setbacks		
Front setback	Maximum 3 metres	Ground floor to provide for landscaping in residential streets
	Minimum 5.5 metres	Above 4 storeys to reduce perception of bulk and retain 1:1 proportion of street width to street height
Rear setback	Minimum 6 metres	Or 15 per cent of lot depth (which ever is greater) To provide deep soil zone minimum dimension 6 metres for large canopy trees.[1]
	52° Equinox sun plane	From top of rear fence to protect solar amenity to adjacent neighbours

1 This has been refined to minimum 6m during further testing

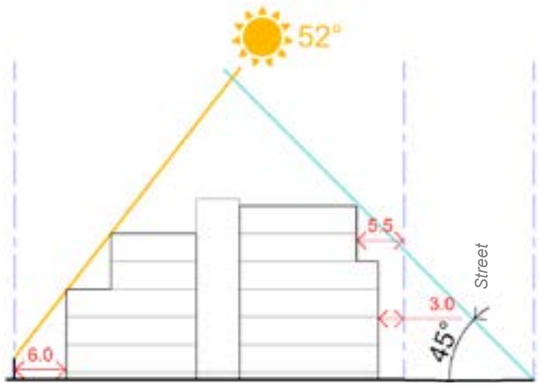
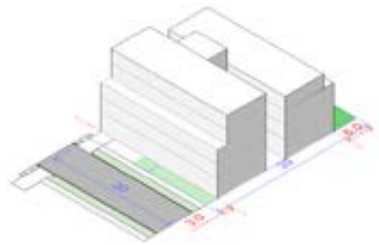
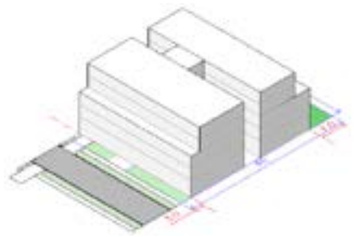


Figure 6-2 Section front and rear

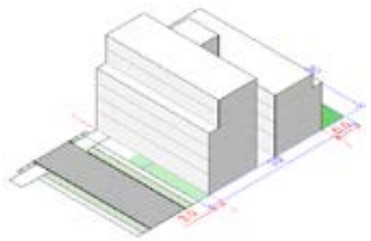
Lot sizes			
Area	1,170 square metres	Area	1,564 square metres
Width	30 metres	Width	34 metres
Depth	39 metres	Depth	46 metres
2 small amalgamated lots		2 large amalgamated lots	

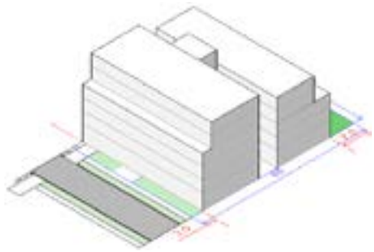
15 metre street width max 5 storey height (for testing only)			
Height (storeys)	**5**	**Height (storeys)**	**5**
FAR	**2.5**	**FAR**	**2.5**



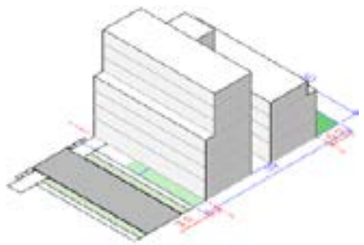


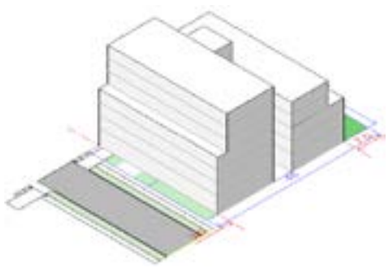
15 metre street width			
Height (storeys)	**6**	**Height (storeys)**	**6**
FAR	**3**	**FAR**	**3**





18 plus metre street width			
Height (storeys)	**7**	**Height (storeys)**	**7**
FAR	**3**	**FAR**	**3.5**

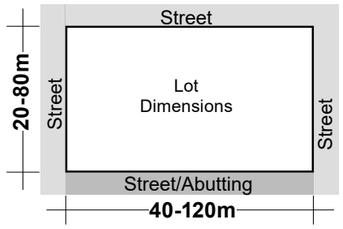




7. Hybrid Perimeter

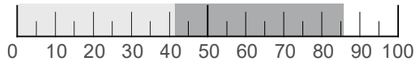
7.1 Hybrid Perimeter Development Type

Lot dimension range



Floor Area Ratio (FAR): **2.1-9 FAR**

Site coverage per cent: **43-86 per cent**



Description	The defining characteristic of the perimeter block is that the edges of the block are lined with buildings to create an enclosed open space and defining the public realm. This typology commonly incorporates varied heights including occasional 'punctuation' buildings with modest increases in height, and forms as low as 3 storeys to provide for townhouses. This format enables varied building types, providing for a range of uses and household types including families. This is the best way to accommodate a diversity of building types and uses at a medium and high densities, while ensuring that building frontage relates positively to the public realm.
Use mix potential	 Great mixed-use potential both horizontally and vertically.
Interfaces	 Building in landscape
Accommodation types	Flexible apartment layouts with good opportunity for dual aspect apartments. Ground floor units and roof tops has the opportunity for high amenity dwellings with direct access to courtyard garden or large roof top terraces.
Open space amenity	Internal courtyard space that is spatially, climatically and acoustically separated from the street space.
Public realm amenity	Good urban edge and street definition
Parking logic	Basement, podium, courtyard or off site.
Testing summary	This development type is generally performing very well and appropriate in the SRL East precincts on larger sites with multiple frontages. Key learning from our assessment of case studies: • Performs well on delivering high-density and mixed-uses and diversity of built form • Supports well-defined, legible and active streets and open spaces • Central courtyard space contributes to diversity of experiences in open space and can contribute to significant tree canopy cover • Enclosed central courtyard spaces create spatially and acoustically separated spaces that can act as a focal point to built community in a building block • Building heights can very to create great built diversity of built form and dwelling types while providing density and height in locations with the lest impact on adjacent streets and open spaces.

Figure 7-1 Indicative Hybrid Perimeter development type

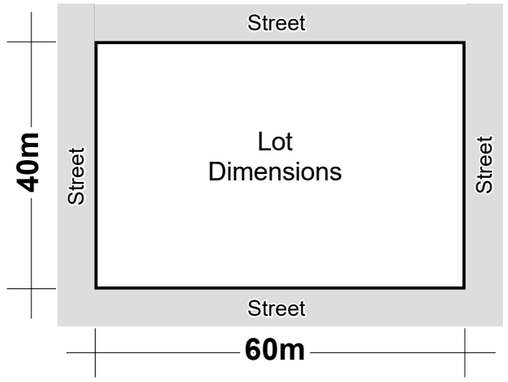
7.2 Hybrid Perimeter Case Studies

Case Study:

Nordhavn (North Harbour)

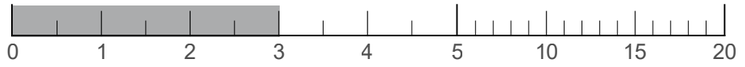
Urban Development Type:

Hybrid Perimeter

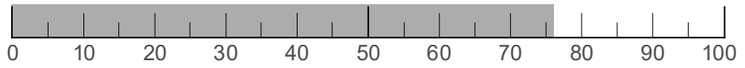


Location	Copenhagen, Denmark
Architect/Developer	Mangor Nagel Arkitekter
Building height	3-6 storeys
Land use mix	Residential with cafe GF on corners.
Tenure types	Market apartments
Open space amenity	Internal residential courtyard with public access.
Public realm amenity	Defined street edge with ground floor interface.
Parking logic	Shared centralised above ground car park.
Heritage	Integrated heritage buildings into perimeter blocks.
Concise description	An enclosed planted courtyard space is shared by residents. Public access through the courtyard is possible for pedestrian permeability. Building height varies from 4-6 storeys. Each building entrance service only 2 apartments per floor, creating many entrances and layers of community in the floor, staircase, courtyard and neighbourhood.

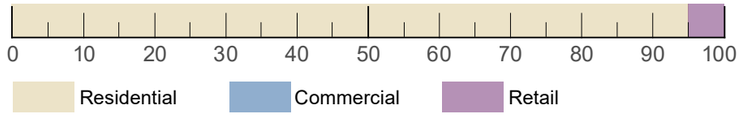
Floor Area Ratio (FAR) **3.0 FAR**



Site coverage per cent: **76 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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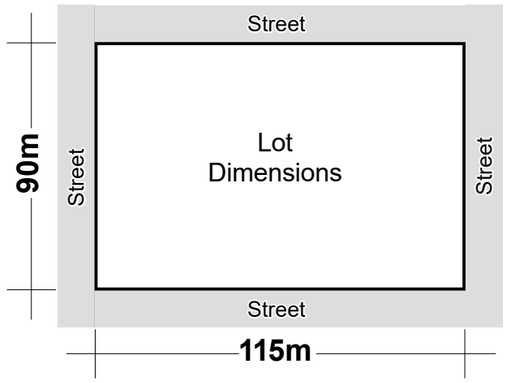
Case Study:

Imperium Zetland

Urban Development Type:

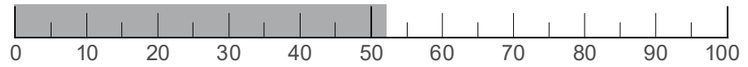
Hybrid Perimeter



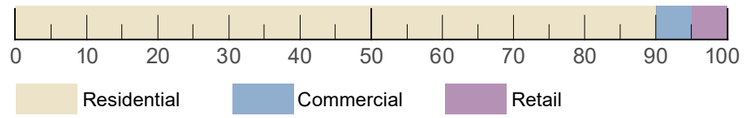
Location	Zetland, Victoria Park Precinct, Sydney NSW
Architect/Developer	Meriton
Building height	7,10, 14 storeys
Land use mix	Residential, childcare, retail
Tenure types	Built to rent
Open space amenity	Courtyard, lap pool, fitness,
Public realm amenity	Active ground floors and planted setback
Parking logic	Underground car park
Heritage	
Concise description	Six distinct building volumes organised in an open perimeter block. The courtyard spaces is elevated to make space for vehicular parking sleeved by retail uses at ground floor. Varying building heights allow for solar amenity in the courtyard spaces and personal balconies while providing significant building density. Two tower forms are place in each corner of the block.

Floor Area Ratio (FAR) **4.9 FAR**

Site coverage per cent: **52 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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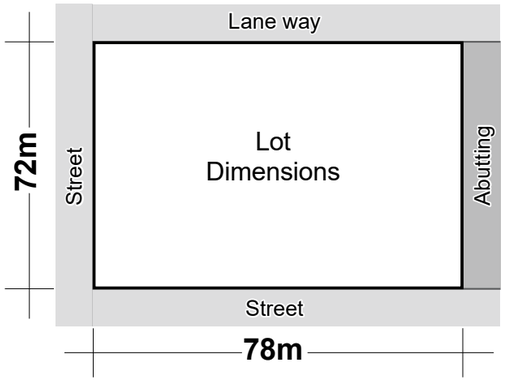
Case Study:

The Finery

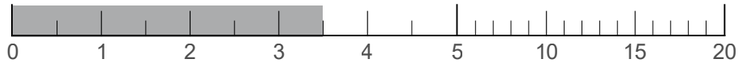
Urban Development Type:

Hybrid Perimeter

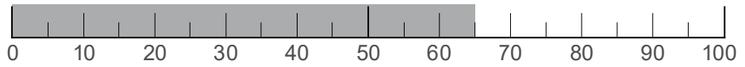


Location	Waterloo, Dyuralya Square, Sydney NSW
Architect/Developer	Mirvac
Building height	4-8
Land use mix	Residential, retail
Tenure types	Built to rent and market apartments
Open space amenity	Green courtyard on parking podium, roof top gardens
Public realm amenity	Active frontage and green planted verges
Parking logic	Podium car park in 2 storeys
Heritage	
Concise description	Three distinct building volumes organised in an open perimeter block. The courtyard spaces is elevated to make space for vehicular parking sleeved by retail uses at ground floor. Varying building heights allow for solar amenity in the courtyard spaces and personal balconies while providing significant building density.

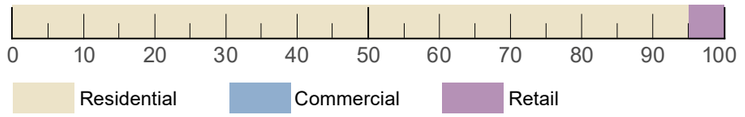
Floor Area Ratio (FAR) **3.5 FAR**



Site coverage per cent: **65 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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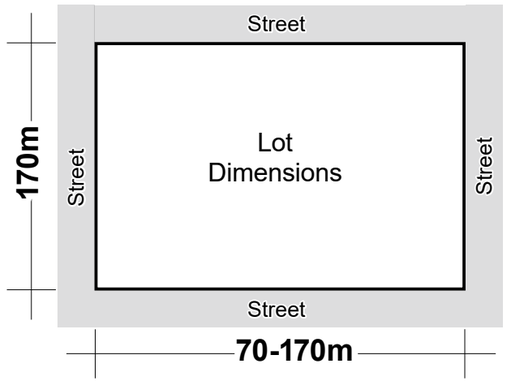
Case Study:

King's Cross, Pancras Square

Urban Development Type:

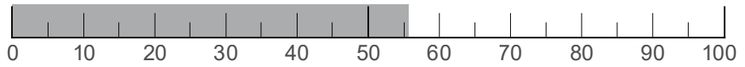
Hybrid Perimeter



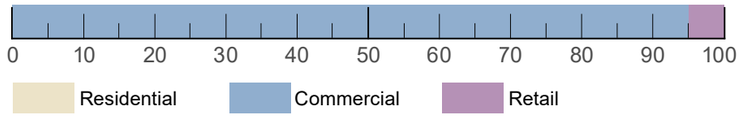
Location	Pancras Road, London, UK
Architect/Developer	Allies and Morrison (KX masterplan)
Building height	5-11 floors
Land use mix	Office, retail, leisure
Tenure types	Mixed
Open space amenity	Internal open space, rooftop gardens, plant rooms
Public realm amenity	Frontage to Pancras Square open space, active frontages with retail at ground floor and high quality public realm
Parking logic	Basement parking
Heritage	
Concise description	King's Cross will be the largest mixed-use development in single ownership to be master planned and developed in central London for over 150 years.

Floor Area Ratio (FAR) **7.5 FAR**

Site coverage per cent: **56 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
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Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

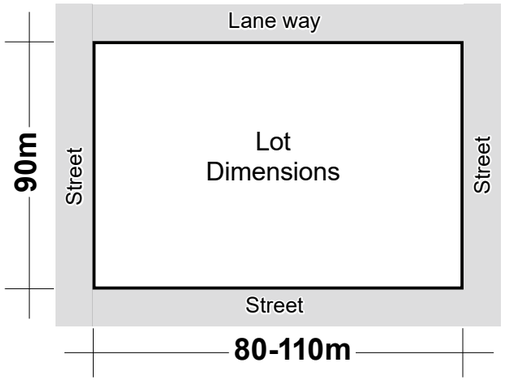
Where not relevant left blank

Case Study:

Plot H, Europaallee Zurich

Urban Development Type:

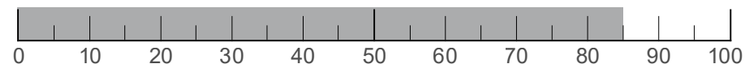
Hybrid Perimeter



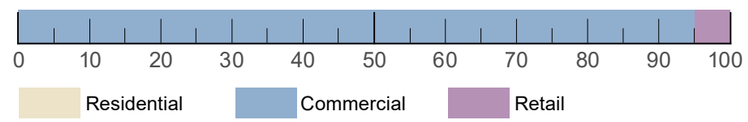
Location	Zurich, Switzerland
Architect/Developer	KCAP, Max Dudler et al
Building height	3-20
Land use mix	Mixed-use (retail, commercial, education, residential)
Tenure types	Mixed
Open space amenity	Leisure facilities, internal courtyards, terrace/rooftop gardens
Public realm amenity	Active frontages with retail at ground floor and high quality public realm, hards caped plaza spaces
Parking logic	Communal basement parking
Heritage	
Concise description	A key development site owing to its central position and excellent accessibility. In the masterplan, the morphology and block structure of the surrounding city is elaborated in order to insert the new development into its surroundings in a natural way.

Floor Area Ratio (FAR) **6.2 FAR**

Site coverage per cent: **85 per cent**



Land Use Mix



Urban development-criteria:

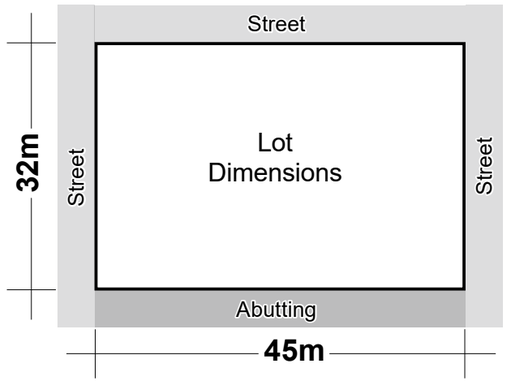
Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Case Study:

Zuidas 1 - Residential Building

Urban Development Type:

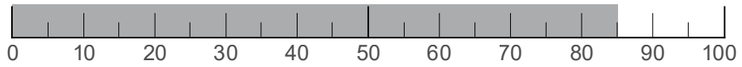
Hybrid Perimeter



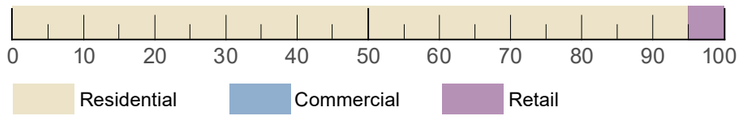
Location	Zuidas, Amsterdam, Netherlands
Architect/Developer	
Building height	4-12 storeys
Land use mix	Residential with restaurant ground floor
Tenure types	Market apartments
Open space amenity	Shared garden “lane way” with adjacent building plot.
Public realm amenity	Active ground floor retail
Parking logic	Basement (shared access between buildings)
Heritage	-
Concise description	U shaped residential courtyard jumping from 4 to 12 storeys.

Floor Area Ratio (FAR) **6.8 FAR**

Site coverage per cent: **85 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
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Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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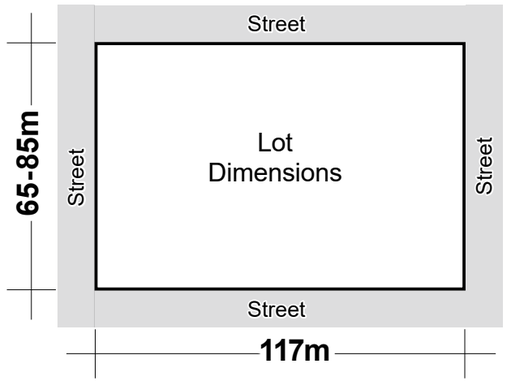
Case Study:

Central Saint Giles

Urban Development Type:

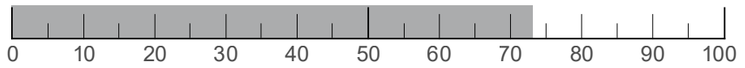
Hybrid Perimeter



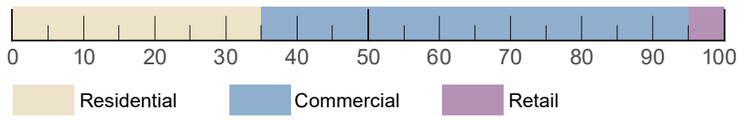
Location	St Giles, London
Architect/Developer	Renzo Piano
Building height	11- 15 storeys
Land use mix	Commercial office, Residential and retail
Tenure types	Multiple tenant
Open space amenity	Shared podium garden, roof top and green roofs.
Public realm amenity	Public courtyard lined with shops and restaurants.
Parking logic	Basement parking
Heritage	-
Concise description	Western block is 15 storeys residential building with 109 flats of which 53 are affordable. An 11 Storey U-shaped commercial building commercial offices.

Floor Area Ratio (FAR) **9 FAR**

Site coverage per cent: **73 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
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Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

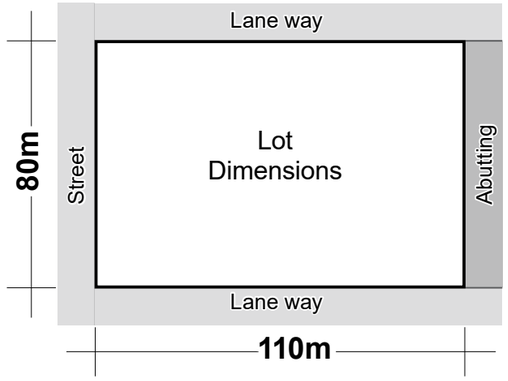
Where not relevant left blank

Case Study:

Sickla Quay

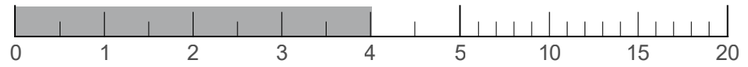
Urban Development Type:

Hybrid Perimeter

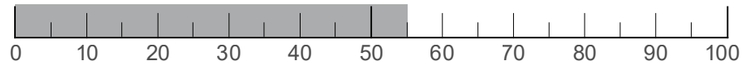


Location	Stockholm, Sweden
Building height	4-7
Land use mix	Primarily residential. Smaller retail active ground floors along light rail line.
Tenure types	60 per cent market units 40 per cent rental units of which some are social housing.
Open space amenity	Shared open courtyards and internal canal.
Public realm amenity	Waterfront promenade and publicly accessible internal canal. Active retail frontage along light rail line.
Parking logic	Underground parking basement.
Heritage	-
Concise description	A former industrial site south of Stockholm centre. The layout of the courtyards and buildings height are organised to take advantage of the canal views for as many dwellings as possible. Approximately 40,000 square metres per courtyard block.

Floor Area Ratio (FAR) **4 FAR**



Site coverage per cent: **55 per cent**



Land Use Mix

Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
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Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

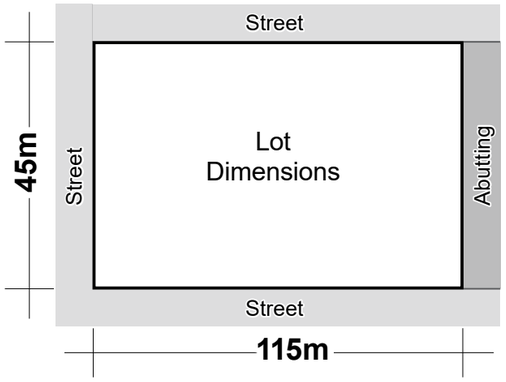
Where not relevant left blank

Case Study:

Arkadia

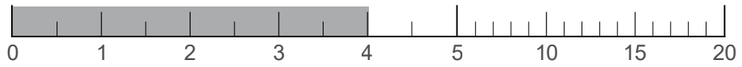
Urban Development Type:

Hybrid Perimeter

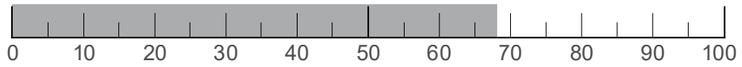


Location	Alexandria, NSW, Australia
Architect/Developer	DKO Architecture, Breathe Architecture
Building height	3-6 storeys
Land use mix	Residential
Tenure types	Market apartments
Open space amenity	Communal vegetable gardens and a rooftop recreational area
Public realm amenity	Seats, lawn, pathways
Parking logic	Basement (shared access between buildings)
Heritage	Inspired by the poetic gesture of recalling traces of history and that informed the façade proposition
Concise description	Heralded as one of the largest recycled brick building in Australia, the Arkadia development for Defense Housing Australia (DHA) occupies a 5,590m² site in the growing inner-city suburb of Alexandria, NSW. The development has been carefully integrated into the surrounding streets in a way that enhances the neighbourhood while offering a compelling model for urban living.

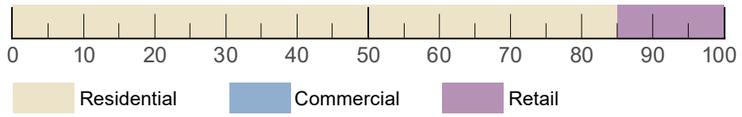
Floor Area Ratio (FAR) **3.8 FAR**



Site coverage per cent: **68 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
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Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

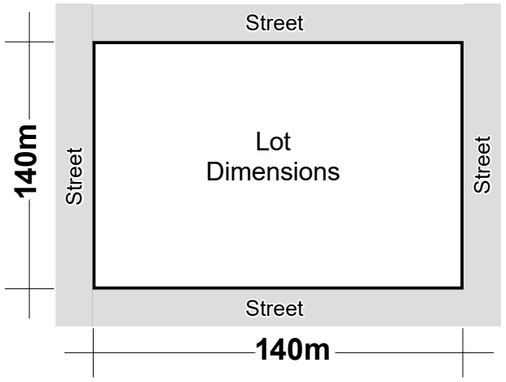
Where not relevant left blank

Case Study:

Mirvish Village

Urban Development Type:

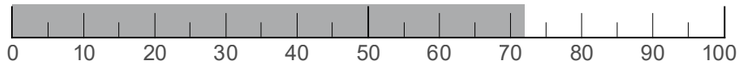
Hybrid Perimeter



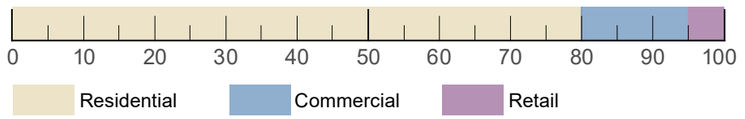
Location	Toronto, Canada
Architect/Developer	Henriquez Partners Architects
Building height	2-28 storeys
Land use mix	Residential, retail, commercial
Tenure types	Purpose built rental
Open space amenity	Public open space in the form of an on-site park approx. 1,150 square metres
Public realm amenity	Through site connectivity through publicly accessible walkways and lane ways. Widened sidewalks, tree plantings and public open space.
Parking logic	Underground car parking with sustainable transport options including bike and car co-op programs
Heritage	Includes heritage houses part of the 'Markham Street Art Colony'
Concise description	Mixed-use redevelopment with a range of building types, including the conservation of several low-rise heritage buildings, new mid-rise mixed-use residential buildings and a series of new slender 'micro' towers.

Floor Area Ratio (FAR) **7.6 FAR**

Site coverage per cent: **72 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
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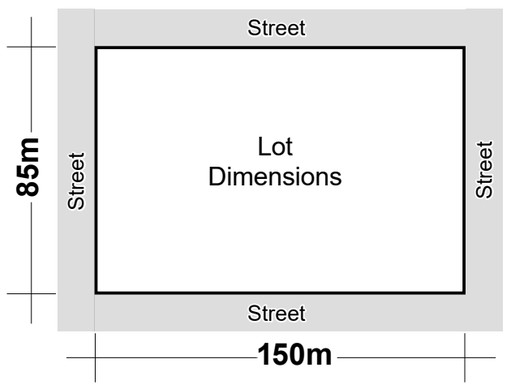
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Case Study:

Kingsborough

Urban Development Type:

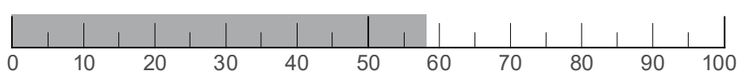
Hybrid Perimeter



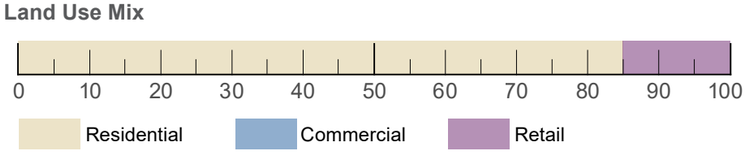
Location	Kingston, ACT
Architect/Developer	Developer: John Gasson. Five architects have worked on different buildings. COX Architecture Studio, Nathan Gibson Judd Architect and Kasparek Architects
Building height	4-7 storeys
Land use mix	Mixed-uses
Tenure types	Market housing apartments
Open space amenity	Balconies pool
Public realm amenity	Urban courtyard space in the centre of the development playground
Parking logic	Shared semi-underground car park.
Heritage	Reference
Concise description	A village square with a strip of shops. It is made up of 280 apartments, terrace homes and warehouse dwellings that provide a perfect retreat from city life. Service amenity: A yoga studio, bike shop, café, tap room and coffee roaster and small businesses. Around the village: shared gardens, playgrounds and open spaces. Great degree of flexibility to adapt dwellings such as putting up walls, design your own wet areas or choose your own colour scheme.

Floor Area Ratio (FAR) **2.9 FAR**

Site coverage per cent: **58 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
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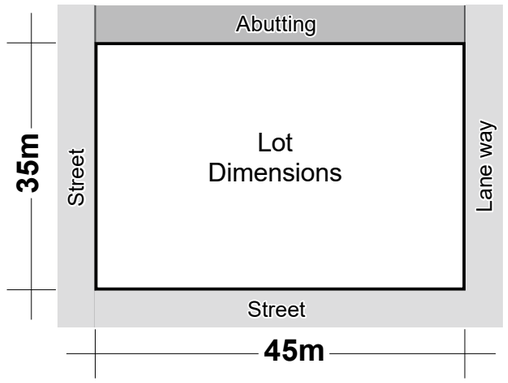
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Case Study:

Quartier Massena

Urban Development Type:

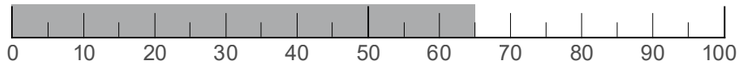
Hybrid Perimeter



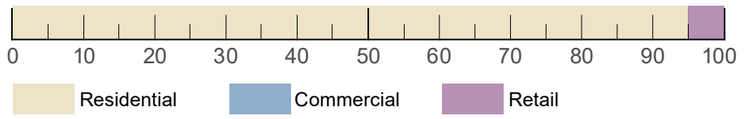
Location	Paris, France
Architect/Developer	Urban design: Christian De Portzamparc. Client: Ville de Paris (Paris City) Developer: SMEPA (Council development arm)
Building height	3-10
Land use mix	Residential and retail ground floor
Tenure types	-
Open space amenity	Roof top gardens and planted garden areas
Public realm amenity	Active ground floor to main street and lush garden areas to the street between the buildings
Parking logic	Underground car parking
Heritage	-
Concise description	Rather than a strict mass plan, Christian de Portzamparc conceives a set a rules allowing variations. At a district scale, Christian de Portzamparc makes use of a concept he developed during the 80s, that of the “open block” and its corollary luminous and diversified “open street”. The buildings are independent and apart, allowing the street to open onto the internal side of the open blocks where gardens are planted. The buildings sides all benefit from an exposure to sunlight. The wide variety of programs, volumes and materials is implemented along the entity of the street.

Floor Area Ratio (FAR) **5.2 FAR**

Site coverage per cent: **65 per cent**



Land Use Mix



Urban development-criteria:

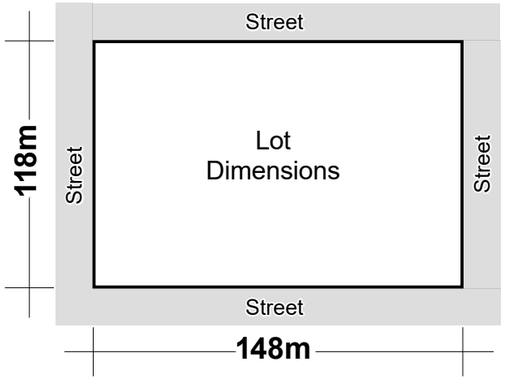
Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Case Study:

Trafalga Place

Urban Development Type:

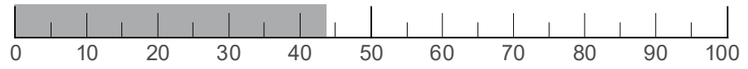
Hybrid Perimeter



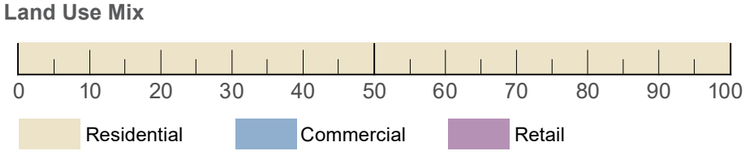
Location	London, UK
Architect/Developer	dRMM
Building height	10 storeys
Land use mix	Residential
Tenure types	-
Open space amenity	Internal pedestrian link, level 1 podium courtyard
Public realm amenity	1.5 metre tree-lined setback at ground floor with ground floor apartments at street level
Parking logic	Underground and within podium interior
Heritage	-
Concise description	Trafalga Place introduces four buildings which wrap around the perimeter of it's site, bisected by a new pedestrian link. It respects the surrounding heritage materiality and landscaping condition whilst correcting the areas modernist past of monolithic apartment blocks. To do this it has a diverse built forms along it's street edge, with a range of different dwelling/open space relationships like courtyard gardens, rooftop gardens, terraces, and projecting balconies which provide passive surveillance to the street.

Floor Area Ratio (FAR) **2.1 FAR**

43 per cent



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

7.3 Hybrid Perimeter testing

Urban Development Type:
Hybrid Perimeter

This development type provides an inviting public realm character, potential for varied visual experience, uses and housing choices, excellent communal amenity and plentiful space for tree canopy cover.

The arrangement of built form along the street edge provides a strongly-framed and engaging public realm. The central green open space provides a high standard of communal amenity, and space for tree planting.

This typology commonly incorporates varied heights including occasional 'punctuation' buildings with modest increases in height, and forms as low as 3 storeys to provide for townhouses. This format enables varied building types, providing for a range of uses and household types including families.

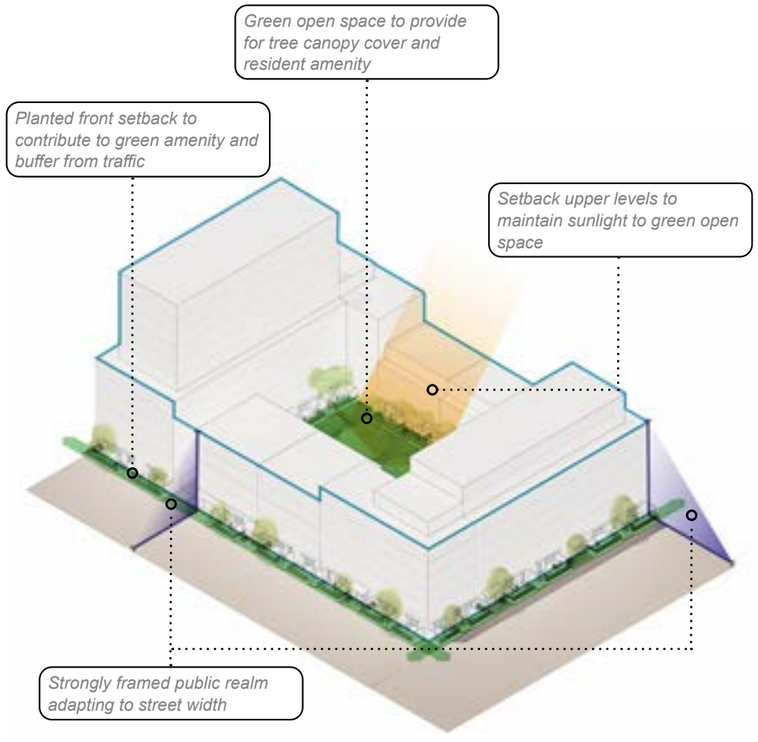


Figure 7-2 Typical Hybrid Perimeter massing volume

Description:

Existing place type	Activity centre (commercial area) beyond the Core
Role and function rationale	High intensification of built form providing space for jobs growth, local services and housing surrounding the core
Future Character drivers rationale	• High level of activation to the street • Maintain sunlight amenity to the public realm • Recognise existing moderate to high level of intensification
Accommodation types	Residential dwellings typically single storey apartments with single or corner orientation in varying sizes. Apartments typically on single level. Private outdoor space on balconies or covered balconies within the building envelope.
Parking logic	Parking located in basement or ground floor podium. Vehicular and service entrance from internal lane way on site or integrated into front building facade.

Development properties:

Floor Area Ratio (FAR) range: **2.5-4.5 FAR**

Use mix		Potential for mixed-use. Retail or small scale commercial at ground floor.
Interfaces		Built to side boundaries. Contribute to street green character, while retaining engaging interface with ground floor uses.
Building height		
Building height	3-15 storeys	Maintain adequate daylight and sunlight in street, and open space (including courtyards)
Street wall height	-	Respond to role and function of adjacent streets. Average maximum street wall height equal to width of street.
Open space		
Deep soil area	25 per cent	Consolidated green space on development sites
Canopy cover area	25 per cent	Canopy trees in rear deep soil zone and front garden setback and roof tops.
Open space amenity	Communal	Consolidated rear garden and roof tops
	Private	Inset balconies and rooftop terraces on setback levels

Precedent examples

FAR testing on Large Opportunity sites

Internal streets and spaces should be established on large opportunity sites to service the new buildings. We have assumed an FAR efficiency of 70 per cent on large opportunity sites to compensate for these. See diagram below.

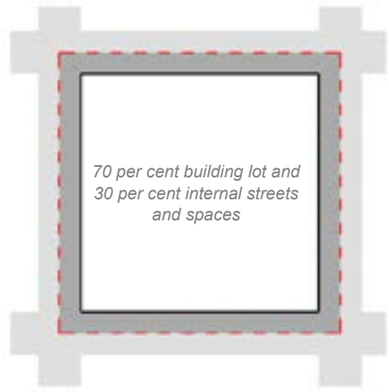


Figure 7-1 Large opportunity sites efficiency

Urban Development Type:
Hybrid Perimeter

Setbacks		
Front setback	0-3 metres	Respond to role and function to adjacent and created streets
Upper levels	-	Ensure appropriate solar amenity and micro-climatic conditions in adjacent streets and spaces.
Side and rear	4.5 metres	Landscaped
Internal courtyard	25 metres	Landscaped courtyard space for tree canopy and amenity.

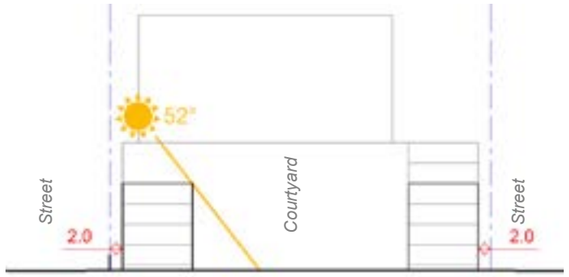
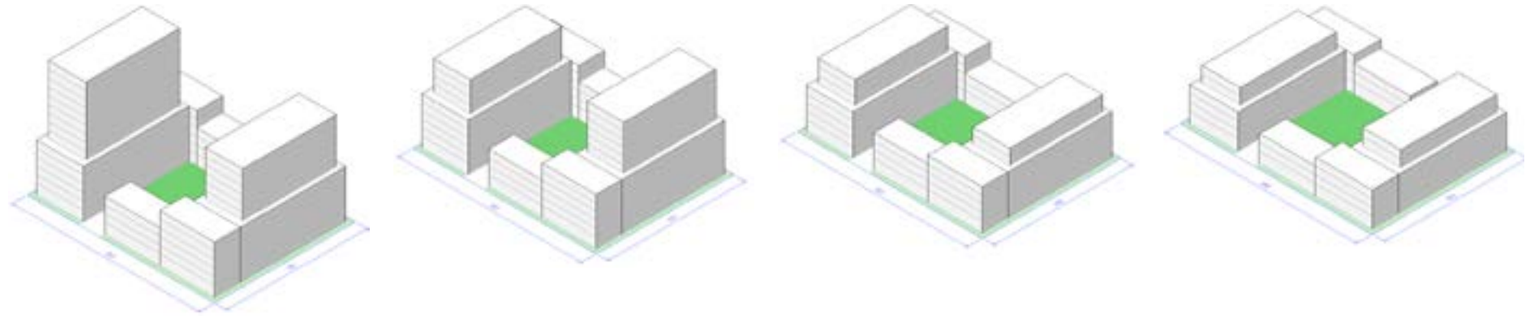
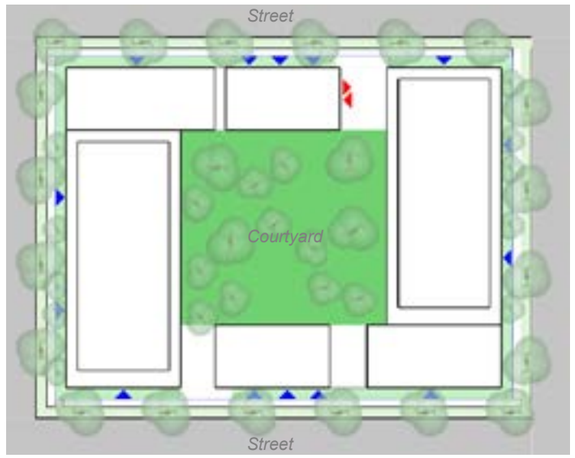


Figure 7-3 Section - ensuring solar amenity to courtyard space.

Typical lot							
The Hybrid Perimeter type/Large Opportunity Sites does not yet have a typical lot/urban block sizes. An appropriate typical lot/block size has been identified:							
Area	4,800 square metres						
Width	60 metres						
Depth	80 metres						
Height testing							
Height (storeys)	**4-15**	**Height (storeys)**	**4-12**	**Height (storeys)**	**4-8**	**Height (storeys)**	**3-6**
FAR	**4.5**	**FAR**	**4**	**FAR**	**3**	**FAR**	**2.5**



70 per cent efficiency for internal streets and open spaces (the FAR for an entire large opportunity site)							
FAR	**3.3**	**FAR**	**2.9**	**FAR**	**2.2**	**FAR**	**1.8**



Legend

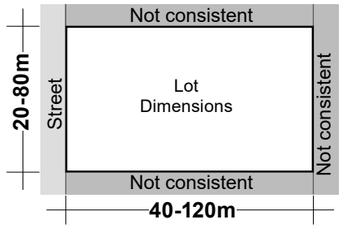
- Building entrance
- Vehicular entrance
- Deep soil zone (calculated)
- Landscaped area
- Tree (indicative)

Figure 7-4 Example block structure with full development

8. Large Freestanding Building

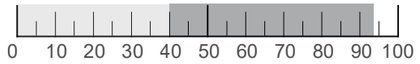
8.1 Large Freestanding Building Development Type

Lot dimension range



Floor Area Ratio (FAR): **2.4-11.3 FAR**

Site coverage per cent: **40-94 per cent**



Description	This type of development is characterised by freestanding buildings in a pedestrianised environment. This provides an opportunity for a moderate level of tree canopy cover to contribute to amenity and the precinct's environmental performance.
Use mix potential	 Commercial Education Research & Development Advanced manufacturing
Interfaces	 Building in landscape
Accommodation types	Large floor plates typically required for education, employment and special uses such as laboratories, research facilities and other innovative uses.
Open space amenity	Low-moderate building height contributes to memorable well-framed spaces with good amenity. Generous tree planting and tree canopy cover along edges of building or adjacent public realm.
Public realm amenity	Contribute to landscaped character of streets and public realm
Parking logic	Basement, surface or free standing parking structure off-site
Testing summary	Moderate intensification of built form providing space for education, innovation and advanced manufacturing uses. These uses tend to require low-moderate height buildings. However, there are opportunities for intensification to provide for jobs growth through the redevelopment of low-rise structures into mid-rise buildings Key learning from our assessment of case studies: • Performs well on delivering high-density and built-form diversity • Generally good public realm interfaces with landscaping in front setbacks • Often doesn't sit very well in it's natural context due to the nature of the large floor plates • Case studies lacking green landscaping and tree canopy cover.

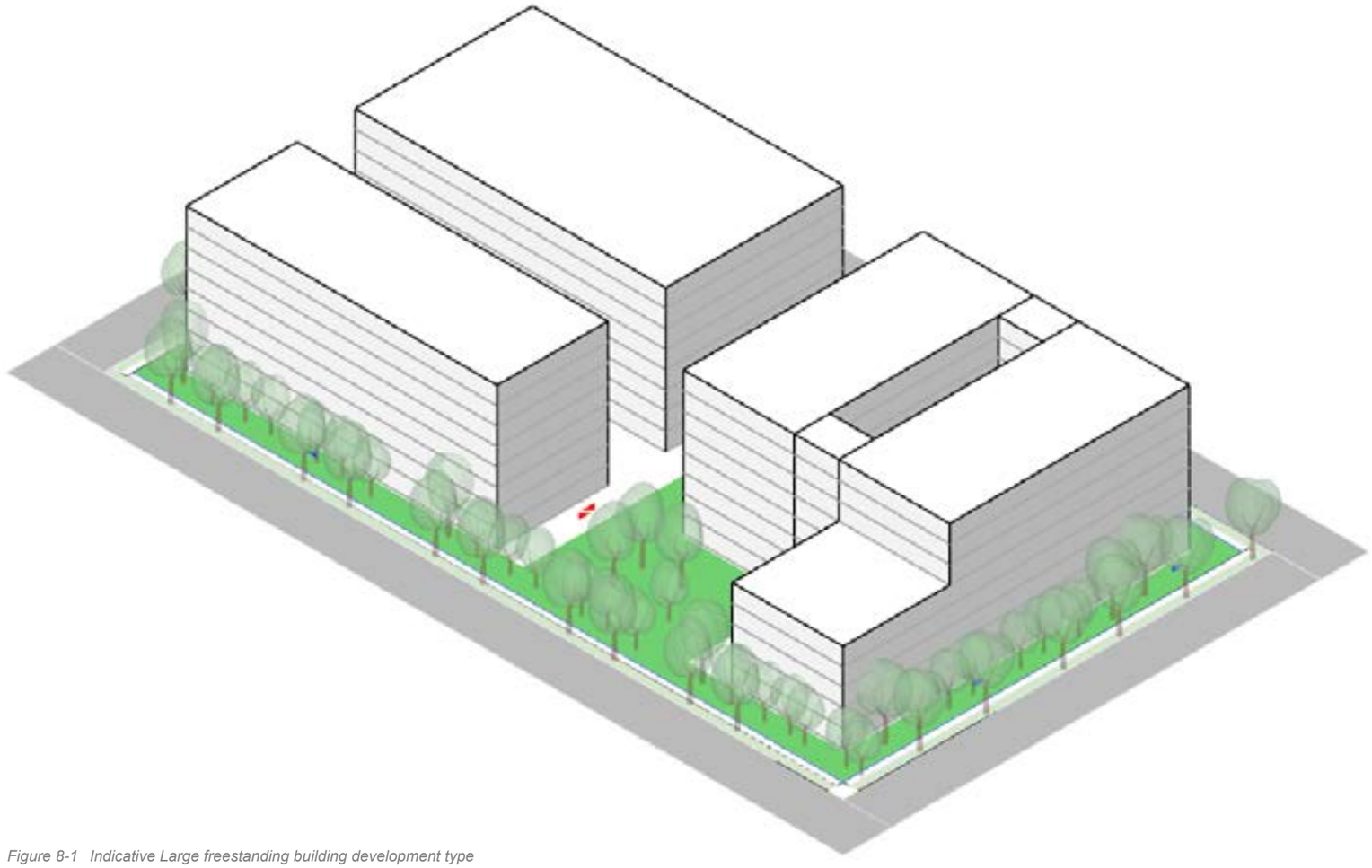


Figure 8-1 Indicative Large freestanding building development type

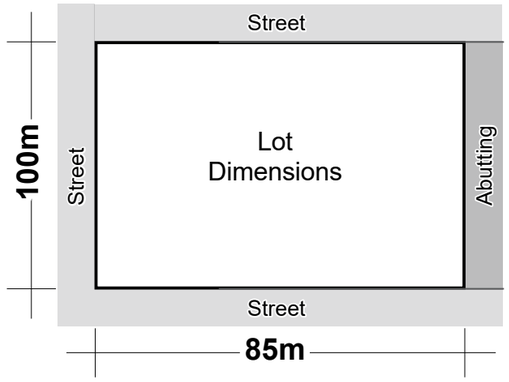
8.2 Large Freestanding Building case studies

Case Study:

Melbourne Connect

Urban Development Type:

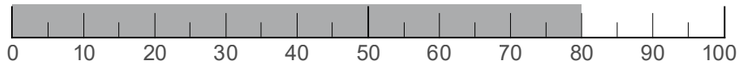
Large Freestanding Building



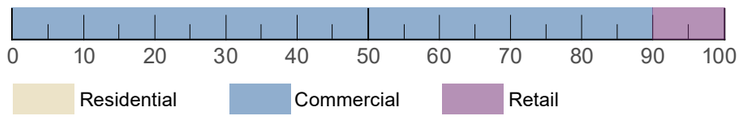
Location	Carlton, Victoria
Architect/Developer	Woods Bagot
Building height	12 storeys
Land use mix	Commercial/retail
Tenure types	-
Open space amenity	Internal pedestrian link
Public realm amenity	Built to boundaries with activated ground floor
Parking logic	Underground
Heritage	-
Concise description	Designed as a innovation precinct with university tenancy and co-working spaces, its form is three separate buildings that wrap around an interior courtyard. It has a well activated ground floor with an emphasis on light an view lines running through the building.

Floor Area Ratio (FAR) **9.0 FAR**

80 per cent



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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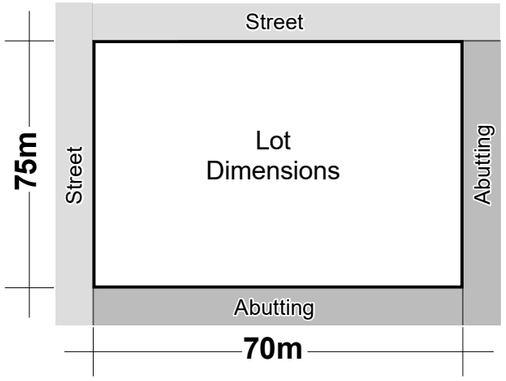
Case Study:

Ferntree Business Park

Urban Development Type:

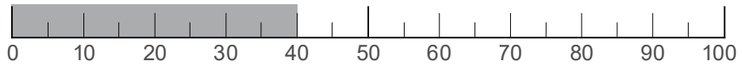
Large Freestanding Building



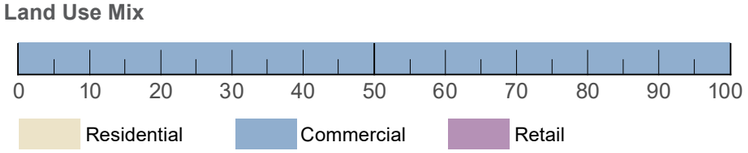
Location	Monash, Victoria
Architect/Developer	Gray Puksand
Building height	6 storeys
Land use mix	Commercial
Tenure types	-
Open space amenity	Front landscaped setback, rear semi-private park
Public realm amenity	
Parking logic	Underground
Heritage	-
Concise description	Box form commercial building with generous setbacks at all sides, maintaining established eucalyptus tree canopy of the area with entrances set off the main road.

Floor Area Ratio (FAR) **2.4 FAR**

40 per cent



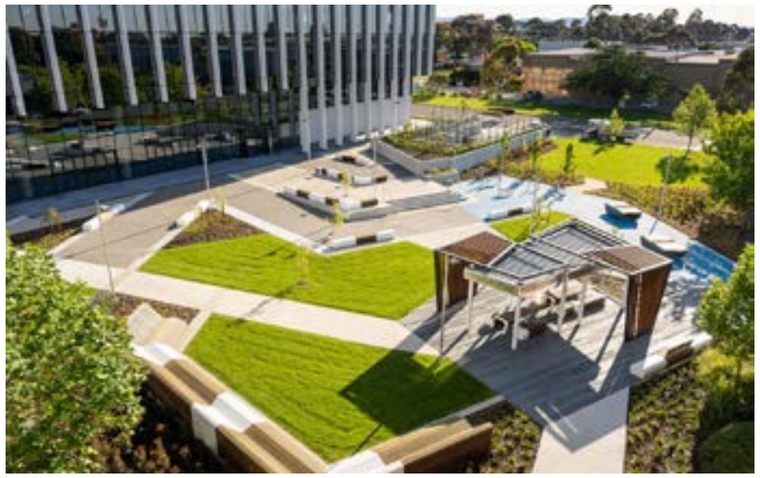
Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

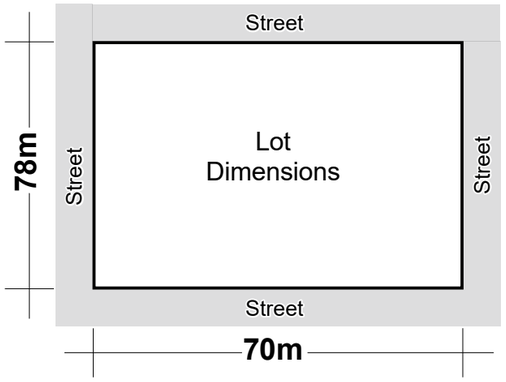


Case Study:

Westmead Innovation Quarter

Urban Development Type:

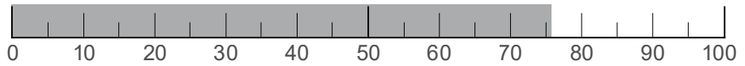
Large Freestanding Building



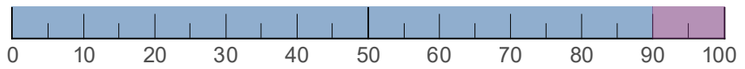
Location	Westmead, Sydney
Architect/Developer	Architectus
Building height	7 storeys
Land use mix	Commercial/retail
Tenure types	-
Open space amenity	Open space pedestrian link
Public realm amenity	Built to boundaries with activated ground floor
Parking logic	Underground
Heritage	-
Concise description	Designed as a university research facility, Westmead Innovation Quarter strikes a good balance between density and public realm amenity with an internal pedestrian link. Aims at combining it's university usage with complementary commercial tenants.

Floor Area Ratio (FAR) **5.3 FAR**

76 per cent



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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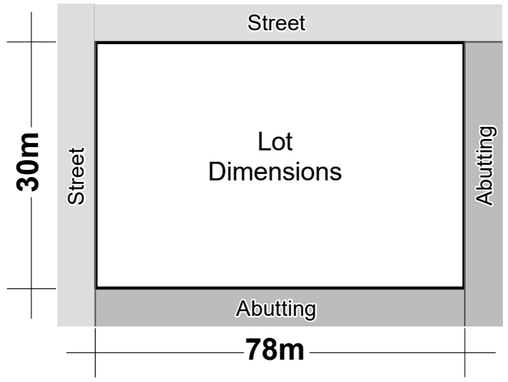
Case Study:

Paramatta Square

Urban Development Type:

Large Freestanding Building

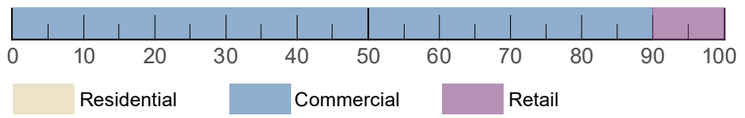


Location	Paramatta, Sydney
Architect/Developer	Architectus
Building height	15 storeys
Land use mix	Commercial/retail
Tenure types	-
Open space amenity	Internal pedestrian link
Public realm amenity	Built to boundaries with activated ground floor
Parking logic	Underground
Heritage	-
Concise description	1 Parramatta Square (also known as 1PS), houses the $220 million dollar Parramatta city campus for the Western Sydney University which opened in 2017. It's home to 10,000 students from the School of Business. It is designed to promote close relationships with the business community, and has allowed the University to expand and leverage its research expertise. The 15-storey building was developed in close collaboration with the University, which holds a 40-year lease to house its principal campus in the Parramatta CBD. The other tenants of 1PS are Australia's largest professional services firm, PwC, and government agency WaterNSW.

Floor Area Ratio (FAR) **11.3 FAR**

94 per cent

Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

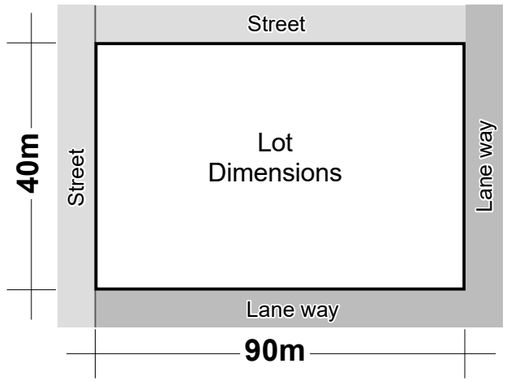
Where not relevant left blank

Case Study:

Arch Tech Lab

Urban Development Type:

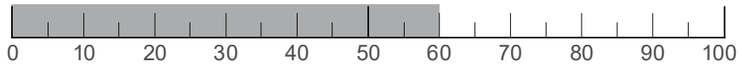
Large Freestanding Building



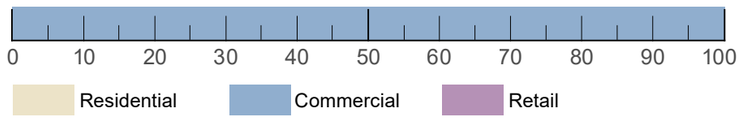
Location	ETH University Zurich, Switzerland
Building height	4 storeys
Land use mix	Fabrication and production
Tenure types	University fabrication building
Open space amenity	-
Public realm amenity	-
Parking logic	Built on the roof of existing car park
Heritage	-
Concise description	This building is a production and fabrication facility at the ETH University in Zurich. The building is resource-efficient, compact and emission-free construction. The building is built on the roof on an existing car park on campus. Wood was chosen for the roof construction and steel for the load-bearing system of the building because these materials have ideal stiffness-to-weight ratios. In addition, the steel structure gets by without supporting cores and shafts, which both allows for flexible use and makes it possible to adapt the interior design to changing needs.

Floor Area Ratio (FAR) **2.3 FAR**

Site coverage per cent: **60 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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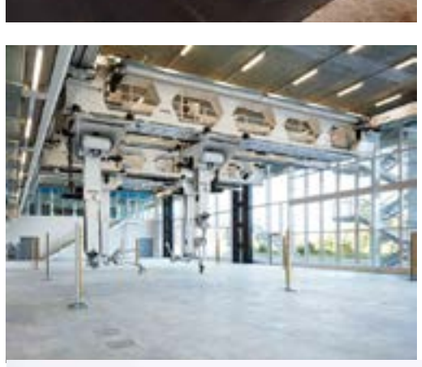


8.3 Large Freestanding Building testing

Urban Development Type:
Large Freestanding Building

The large freestanding building development type provides the large floor plates typically required for education or employment uses. Its moderate building height contributes to memorable, well-framed spaces with good amenity.

Larger lot sizes provide opportunities for these larger footprint buildings and generous tree planting. This typology provides a 25 per cent deep soil area in the front setback and consolidated garden areas.

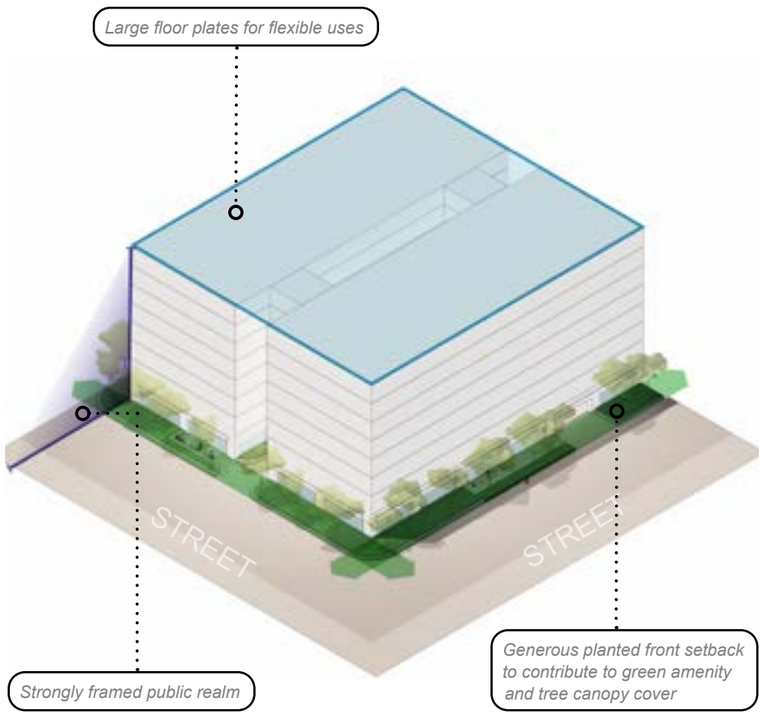


Figure 5.02: The diagram above shows the desired urban form outcomes for the large freestanding building typology.

Description:

Existing place type	Education or employment campus
Role and function rationale	Moderate intensification of built form providing space for education, innovation and advanced manufacturing uses
Future Character drivers rationale	• High level of activation to the street • Maintain sunlight amenity to the public realm • Recognise existing moderate to high level of intensification.
Accommodation types	Non-residential uses. This development type provides the large floor plates typically required for education or employment campus uses.
Parking logic	• Underground car parking • Multi-level car parking • Car parking off site.

Development properties:

Floor Area Ratio (FAR) range: **4-7 FAR**

Use mix		Commercial office Advanced manufacturing Research and Development Health and Education
Interfaces		Building in the landscape
Building height		
Building height	6-12 storeys	Maintain adequate daylight and sunlight in street and rear-facing buildings.
Street wall height	-	Retain 1:1 ratio between building height and street width
Open space		
Deep soil area	25 per cent	Perimeter of lot and consolidated courtyard garden area.
Canopy cover area	25 per cent	Canopy trees in rear deep soil zone and front garden setback.
Open space amenity	Communal	Green front setbacks, courtyard garden area

Precedent examples

Urban Development Type:
Large Freestanding Building

Setbacks		
Front	6 metres	Plus 1m per metre of height above the maximum street wall height.
Side and rear	6 metres	Landscaped
Front above street wall	1:1	Retain 1:1 ratio between building height and street width
Rear and side setback	6 metres	From any directly abutting properties, to provide for canopy trees.

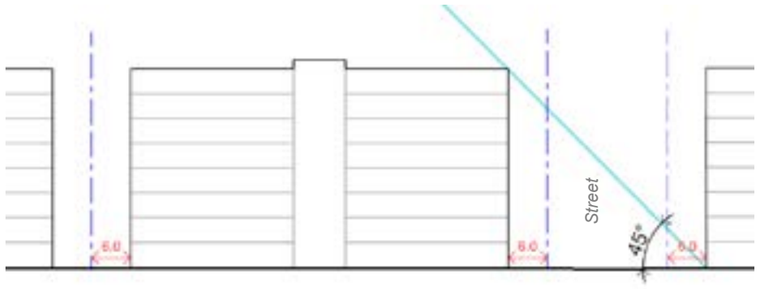
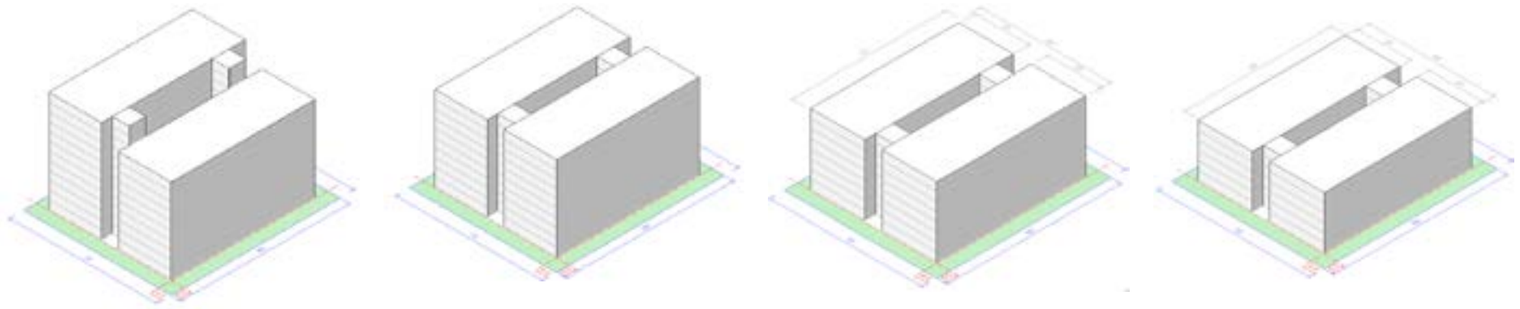
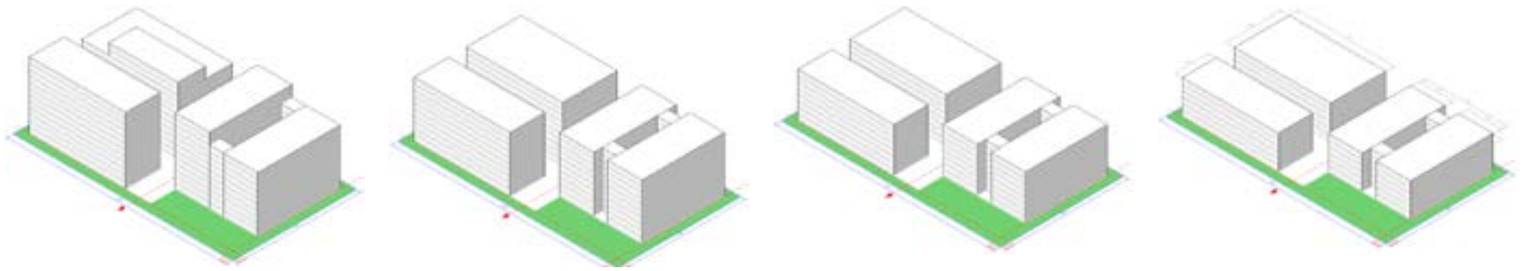


Figure 8-1 Section North of street

Typical lot							
Many locations of the Large freestanding building type does not yet have a defined urban grain or typical lot/urban block sizes. An appropriate typical lot/block size has been identified:							
Area	5,600 square metres						
Width	80 metres						
Depth	70 metres						
Typical lot							
Height (storeys)	**10-12**	**Height (storeys)**	**10**	**Height (storeys)**	**8**	**Height (storeys)**	**6**
FAR	**6.5**	**FAR**	**5.5**	**FAR**	**4.5**	**FAR**	**3.5**



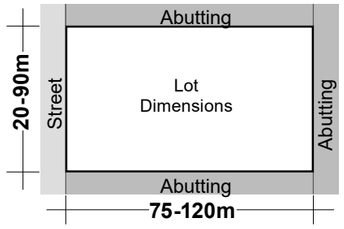
Large lot							
Some locations of the Large freestanding building type does not yet have a defined urban grain or typical lot/urban block sizes. Some uses require large adjacent buildings. An appropriate large lot/urban block size has been identified for these and should include a pedestrian link to ensure urban permeability and amenity.							
Area	14.400 square metres						
Width	160 metres						
Depth	90 metres						
Large lots with pedestrian link							
Height (storeys)	**12**	**Height (storeys)**	**10**	**Height (storeys)**	**8**	**Height (storeys)**	**6**
FAR	**5**	**FAR**	**4.5**	**FAR**	**4**	**FAR**	**3**



9. Hybrid Employment

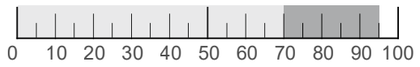
9.1 Hybrid Employment Development Type

Lot dimension range



Floor Area Ratio (FAR): **1.5-2.8 FAR**

Site coverage per cent: **70-95 per cent**



Description	Case studies are a mix of development uplift on former low-density industrial areas with a wide range of uses with activities of typically lower value such as service industry, car repair, small manufacturing, services and storage.
Use mix potential	Non residential uses.
Interfaces	 Front and rear setbacks or extending to all boundaries
Accommodation types	No accommodation.
Open space amenity	Improvement to adjacent public realm and landscaped front setbacks.
Public realm amenity	Improved street interfaces with active uses, landscaping and urban furniture.
Parking logic	Underground or within structure
Case study summary	The case studies see an uplift in employment with a greater mix of office spaces, experience and new types of services along with significant uplift in amenity to buildings and adjacent public realm. This type is appropriate in existing industrial areas located within the SRL East precincts. Key learning from our assessment of case studies: • A diversity of building sizes and heights that accommodates the specific uses in an industrial context • This type does not inherently create good urban outcomes and user amenity, but can be created in building interfaces • Large building site coverage lacking vegetation and permeable surfaces.

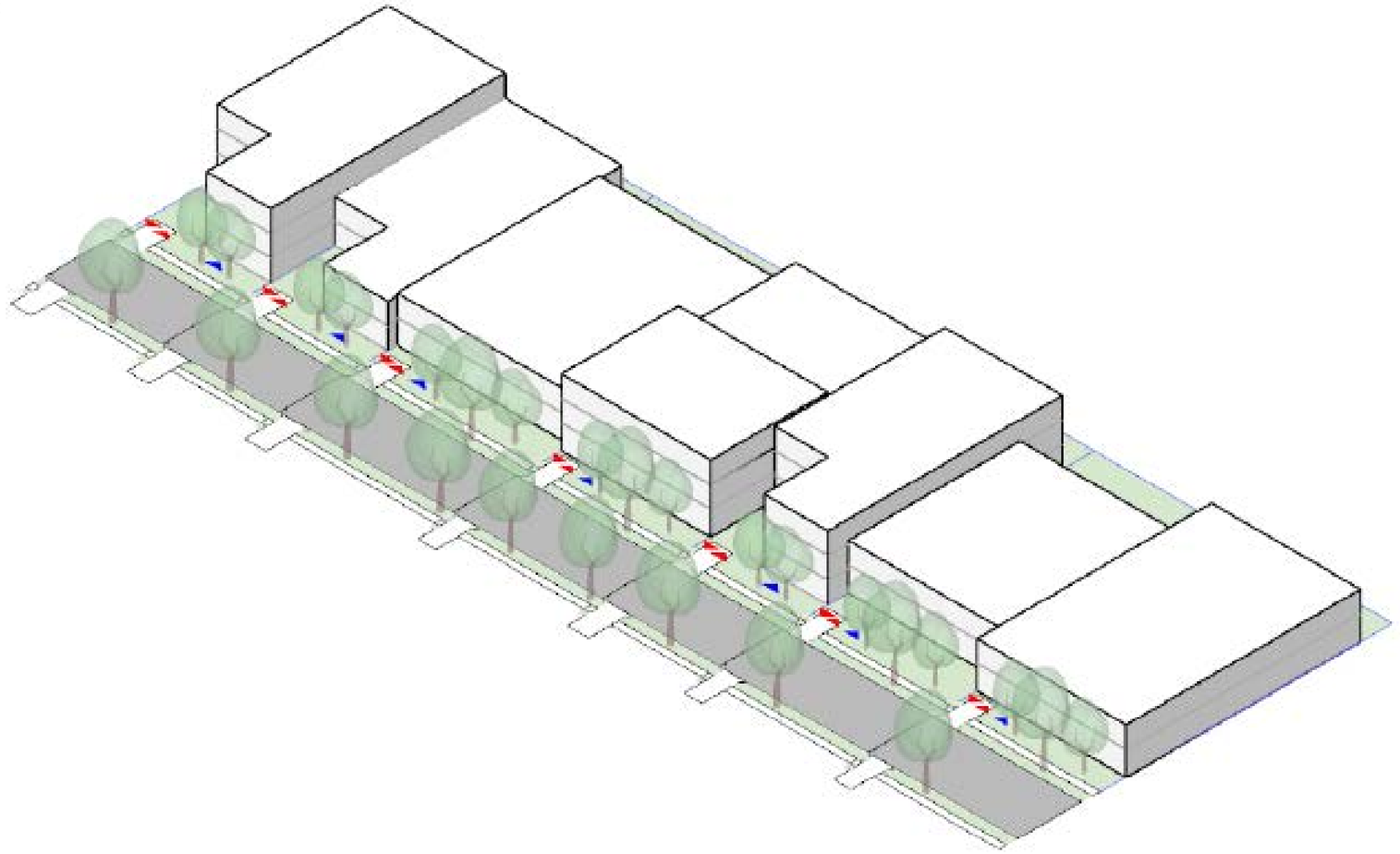


Figure 9-1 Indicative Hybrid Employment development type

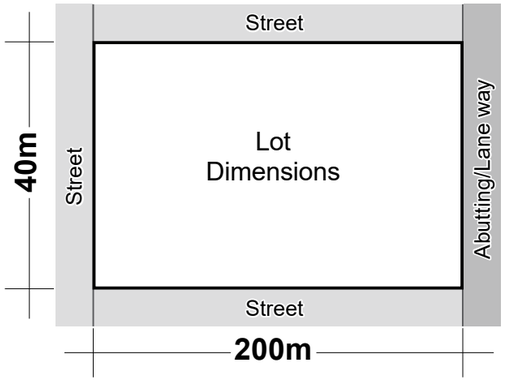
9.2 Hybrid Employment case studies

Case Study:

Goods Shed North

Urban Development Type:

Industrial Areas



Location	710 Collins, Melbourne
Architect/Developer	Abacus Group
Building height	2-3 storeys
Land use mix	Commercial and small part retail.
Tenure types	Mixed commercial and retail tenants.
Open space amenity	Internal atrium space.
Public realm amenity	Planted setback to Bourke street with street furniture and active frontage.
Parking logic	Car park under Collins Street bridge
Heritage	Integrated heritage warehouse
Concise description	Occupying a rectangular block of 7,800sqm spanning between Collins Street and Bourke Street. Heritage-listed former railway warehouse transformed into a two level commercial office building. A 4 storey retail and commercial building has been added at Collins Street - mitigating a significant level change. The current potential for redevelopment is being investigate to utilise potential yield on the site. Provides a relatively low site utilisation in a very highly utilised area. (tall buildings).

Floor Area Ratio (FAR) **1.5 FAR**

0 1 2 3 4 5 10 15 20

Site coverage per cent: **95 per cent**

0 10 20 30 40 50 60 70 80 90 100

Land Use Mix

0 10 20 30 40 50 60 70 80 90 100

Residential Commercial Retail

Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

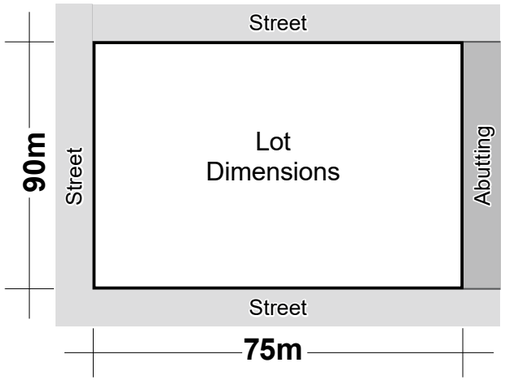
Where not relevant left blank

Case Study:

Seek Headquarters

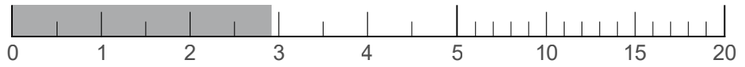
Urban Development Type:

Industrial Areas

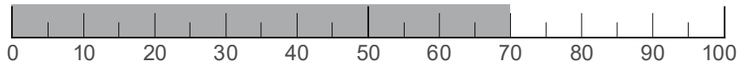


Location	Cremorne, VIC
Architect/Developer	Hassell Studio
Building height	9 storeys
Land use mix	Commercial
Tenure types	Single commercial tenant
Open space amenity	Courtyard spaces on ground floor and roof top for tenants
Public realm amenity	Active ground floor along main street. Green planted edge along lane way.
Parking logic	Basement car park
Heritage	-
Concise description	Unconventional offices and the local setting, this 'contemporary warehouse' concept resulted in a modern building that sits comfortably within its urban and historical context. Rising 7 storeys and incorporating over 19,000 square metres of floor space, the building is set back from all its boundaries to respect its residential neighbours, provide a generous garden for SEEK and the local community, and create a wider footpath.

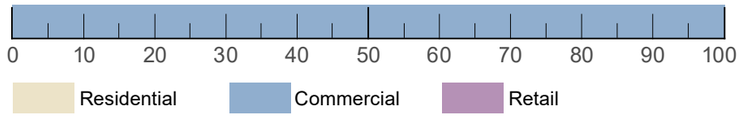
Floor Area Ratio (FAR) **2.9 FAR**



Site coverage per cent: **70 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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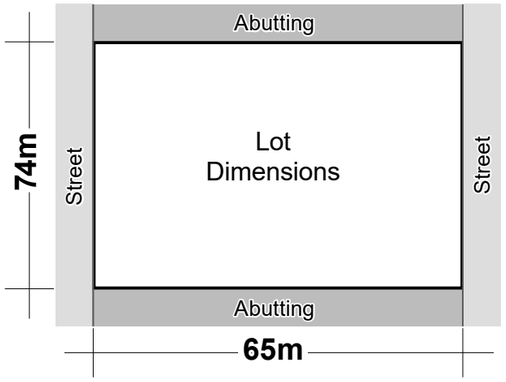
Case Study:

Carmen's Head Office

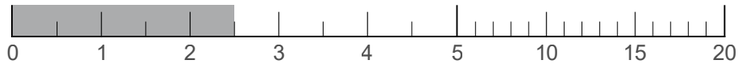
Urban Development Type:

Hybrid Employment

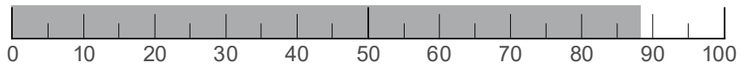


Location	Huntingdale, Melbourne, Australia
Architect/Developer	Ewert Leaf
Building height	3 storeys
Land use mix	Commercial
Tenure types	-
Open space amenity	Rooftop courtyard
Public realm amenity	Nothing of note, typical of the existing area
Parking logic	Rear of lot
Heritage	-
Concise description	Largely using the existing building form, this development improves on the standard industrial typology of the area with subtle improvements as opposed to a radical change in form. It atypically has an activated street engagement with a direct-to-consumer shop, a rooftop terrace garden for meetings and staff entertainment, and a material palette which makes the most of its industrial details, resulting in an uplift with a low environmental cost.

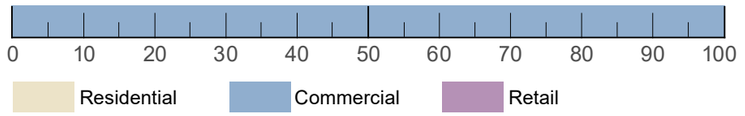
Floor Area Ratio (FAR) **2.5 FAR**



88 per cent



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

9.3 Hybrid Employment testing

Urban Development Type:
Hybrid Employment

The Hybrid Employment development type can host a wide range of employment uses. It can take the form of a freestanding building on larger or amalgamated lots, or a boundary-to-boundary infill building on narrower lots.

Importantly, the development type positions loading and servicing activities away from the street frontage, and instead addresses the street with its most active uses and incorporates a modest landscaped setback. This will contribute to a more inviting streetscape, attracting new businesses to the area. This typology provides a 5-10 per cent deep soil area at the front of the lot. This typology provides a 5 per cent deep soil area across the front of the lot.

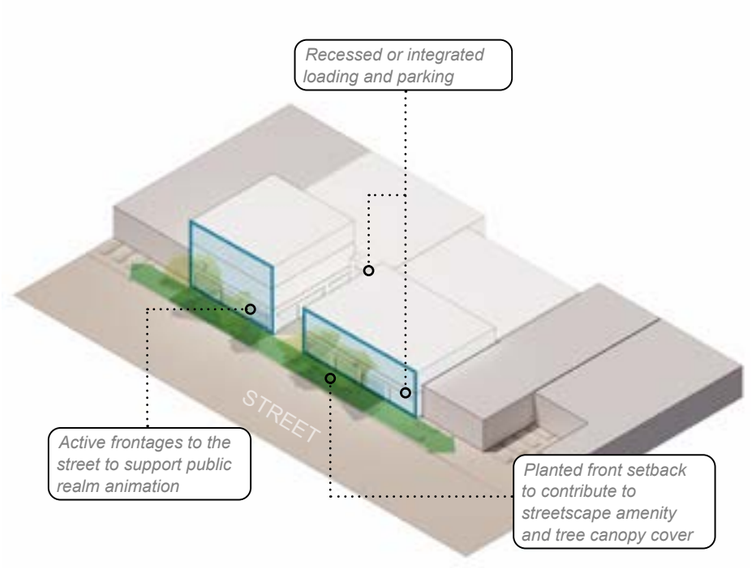


Figure 5.03: Urban form outcomes for the Hybrid Employment typology.

Description:

Existing place type	Light industrial areas
Role and function rationale	Moderate intensification of built form providing space for jobs growth. These areas currently host predominantly light industrial uses. However, given their proximity to the SRL station, they offer the potential for higher-order employment uses delivering a higher jobs density.
Future Character drivers rationale	• Enhance landscape character and amenity within the street • Moderate level of activation to the street • Capitalise on amenity provided by open space.
Accommodation types	No accommodation
Parking logic	Vehicular and service entrance in building frontage or narrow side lane way. Vehicular parking and loading areas to be located away from street.

Development properties:

Floor Area Ratio (FAR) range: **2.5-4.5 FAR**

Use mix		No residential uses
Interfaces		Built to side boundaries. Contribute to street green character, while retaining engaging interface with ground floor uses.
Building height		
Building height	2-4 storeys	Building height limited by solar plane to protect the amenity of opposite footpath. It is envisaged that most development will be in the order of 1-3 storeys high.
Street wall height	-	Retain 1:1 relation between street wall height and street space.
Open space		
Deep soil area	5 per cent	Located in front landscaped setbacks
Canopy cover area	5 per cent	Canopy trees in front landscaped setback should contribute to amenity and canopy cover in street space.
Open space amenity	Communal	Front setbacks

Precedent examples

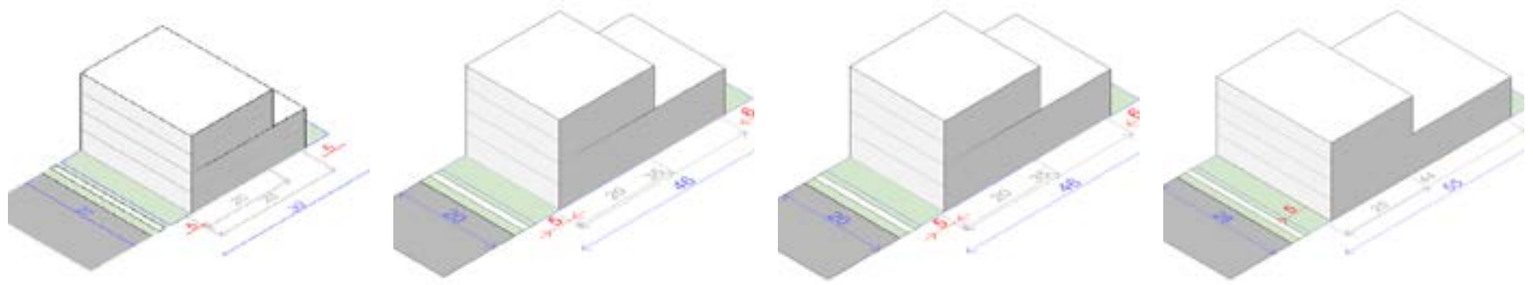
Urban Development Type:
Hybrid Employment

Setbacks		
Front setback	Minimum 4 metres	Generous planted front setback with canopy trees to improve landscape amenity in street scape.
	Maximum 5 metres	For 70 per cent of the lot width.
Rear setback	6 metres [1]	Deep soil zone.
Side setbacks	0-6 metres	Not required. Maximum 5 metres or 70 per cent of lot width can be setback to retain continuous street wall definition.

1 This has been refined to 0 metres or a rear setback where abutting non-industrial property equal to the height above ground floor level.

Figure 9-1 Section - front and rear setback

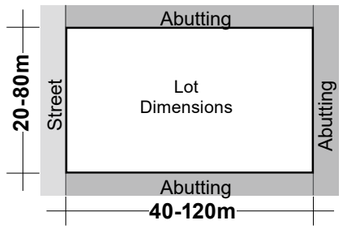
Location							
Clayton (James St)		**Burwood**		**Clayton (Audsley St)**		**Glen Waverley**	
Area	1,053 square metres	Area	920 square metres	Area	920 square metres	Area	1,540 square metres
Width	27 metres	Width	20 metres	Width	20 metres	Width	28 metres
Depth	39 metres	Depth	46 metres	Depth	46 metres	Depth	55 metres
Lot testing							
Height (storeys)	**2-4**	**Height (storeys)**	**2-4**	**Height (storeys)**	**2-4**	**Height (storeys)**	**2-4**
FAR	**2**	**FAR**	**2.4**	**FAR**	**2.4**	**FAR**	**2.3**



10. Garden Apartments

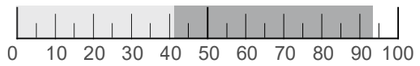
10.1 Garden Apartment Development Type

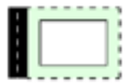
Lot dimension range



Floor Area Ratio (FAR): **1.4-2.8 FAR**

Site coverage per cent: **42-94 per cent**



Description	Freestanding apartment building in a landscaped setting. Characterised by relatively narrow street frontage and facing directly onto neighbouring lots at the rear and sides.
Use mix potential	 Limited opportunity for non-residential integration
Interfaces	 Building in landscape
Accommodation types	Great opportunity to provide wide range of accommodation types. This type can be configured with single level apartments, duplexes, multi-storey townhouses and varying sizes.
Open space amenity	Communal open space often limited to side setback shared with driveway or smaller communal courtyard. Great opportunity to leverage level ground floor access and roof top amenity for large proportion of dwellings.
Public realm amenity	Green front garden setback similar to other residential interfaces. Not a type conductive to creating a defined public domain.
Parking logic	Often side setback lane way to access individual car parking integrated into built form. In lots wider than approximately 17 metres, parking can be provided underground.
Testing summary	This type is suitable for significant densification in existing residential areas with lot amalgamation of just two lots. • Retains strong garden character typical of existing detached-housing areas • High tree canopy cover • Side elevations provides architecturally articulated elevations on all sides appropriate in context typically dominated by lower detached built form • Residential use only • Semi-active residential frontages.

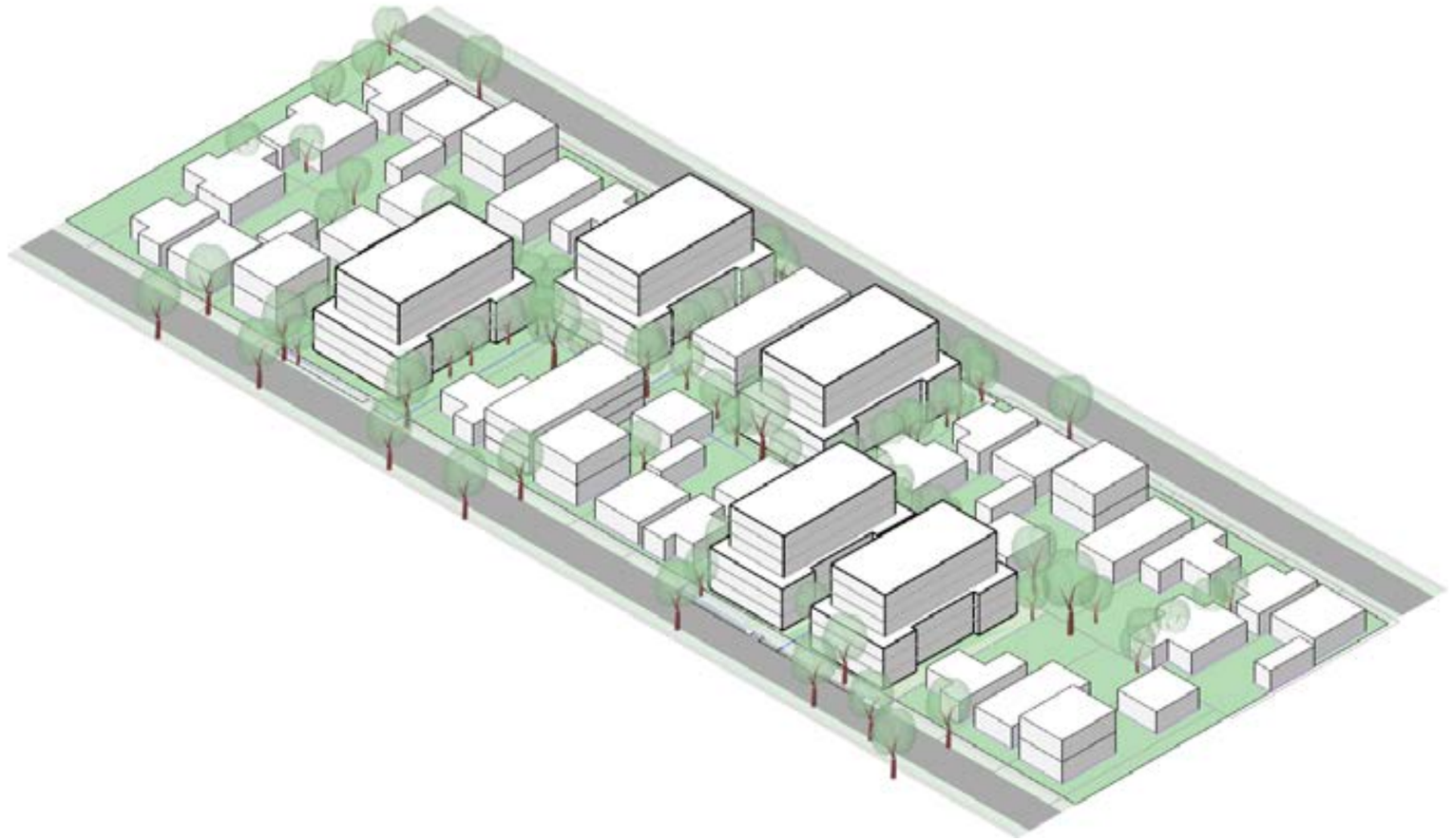


Figure 10-1 Indicative Garden Apartments development type

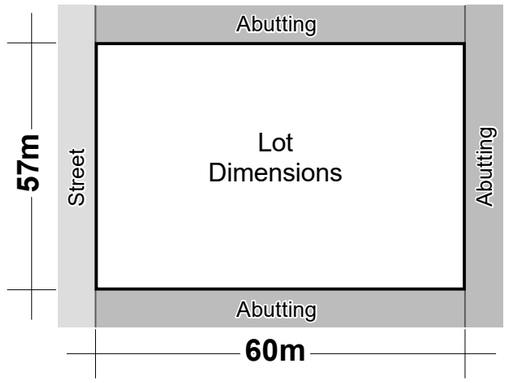
10.2 Garden Apartments case studies

Case Study:

‘Oasis’, 33-39 Veron St, Wentworthville

Urban Development Type:

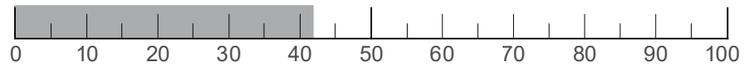
Garden Apartment



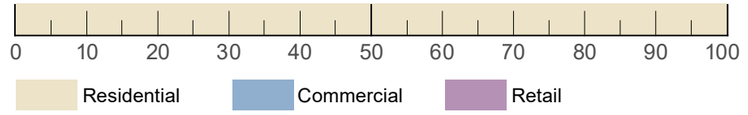
Description	Matching pair of 5 storey residential developments with a middle courtyard. Top level is recessed slightly from all sides on both. Situated on a street of similar developments which all were built in the same period around 2018.
Location	Wentworthville, NSW
Architect/Developer	Conquest
Building height	4 Storeys
Land use mix	Residential
Tenure types	Private market apartments
Open space amenity	Interior courtyard
Public realm amenity	
Parking logic	Underground car park
Heritage	-

Floor Area Ratio (FAR) **1.9 FAR**

Site coverage per cent: **42 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

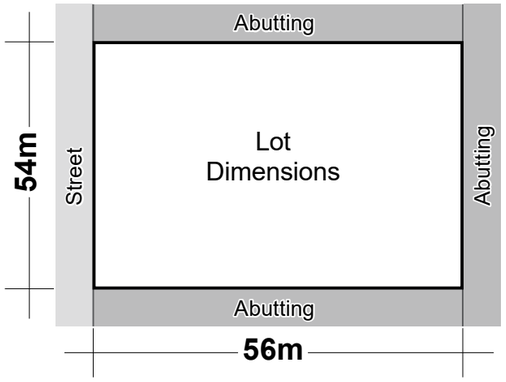
Where not relevant left blank

Case Study:

122 Roseneath St, Clifton Hill

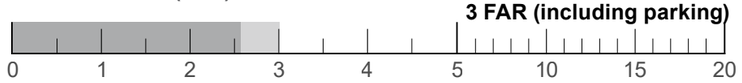
Urban Development Type:

Garden Apartment

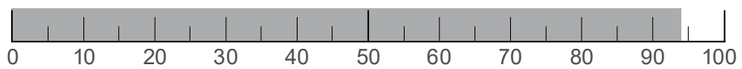


Location	Clifton Hill, Melbourne
Architect/Developer	Fieldwork, Icon and Assemble.
Building height	3-6 storeys
Land use mix	Residential with retail ground floor
Tenure types	Built-to-rent and built-to-rent-to own. (Assemble model)
Open space amenity	Podium garden and communal room
Public realm amenity	Activated street edge
Parking logic	Stacker parking in ground floor podium
Heritage	-
Concise description	Diversity in apartment types including 1, 2 and 3-bedroom apartments and 2 and 3 storey townhouses on the parking podium. The scheme includes internal and external communal areas, a workshop and communal laundry. The project is sensitive to its suburban context with a gradual increase of height in the centre of the development.

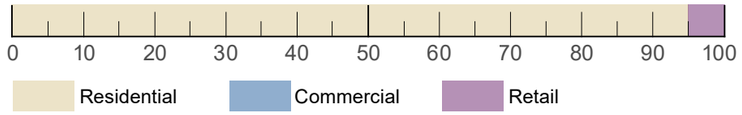
Floor Area Ratio (FAR) — **2.6 FAR**, **3 FAR (including parking)**



Site coverage per cent: — **94 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

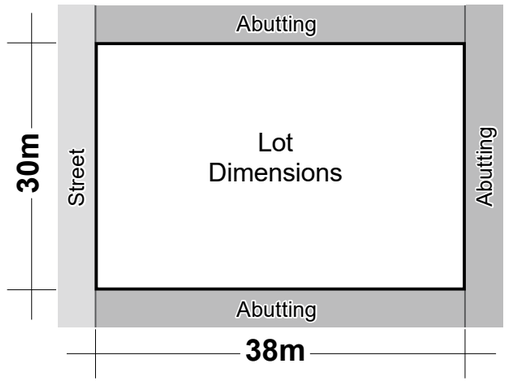
Where not relevant left blank

Case Study:

Vic Future Homes A

Urban Development Type:

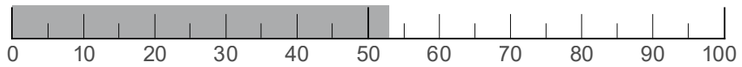
Garden Apartment



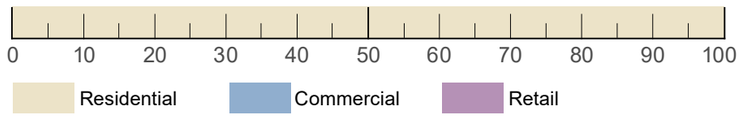
Location	-
Architect/Developer	VIC Gov Architect - Future homes
Building height	3 storeys
Land use mix	Residential
Tenure types	Market units - strata
Open space amenity	Private courtyards and balconies.
Public realm amenity	Green residential interface with multiple entrances.
Parking logic	Underground parking
Heritage	Requires demolition and new build.
Concise description	A pre-approved scheme for providing 15 units of varying sizes on two amalgamated lots. This configuration has underground parking basement and a lot with a north/south orientation. Each unit has a private open space as well as a access to a shared courtyard.

Floor Area Ratio (FAR) **1.5 FAR**

Site coverage per cent: **53 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

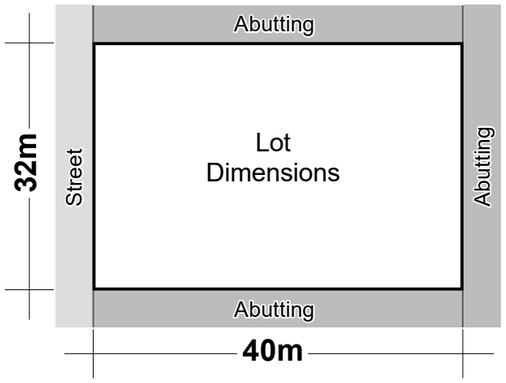
Where not relevant left blank

Case Study:

Vic Future Homes B

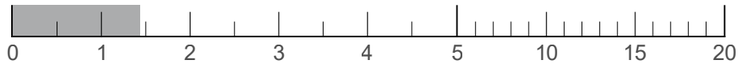
Urban Development Type:

Garden Apartment

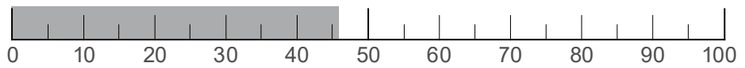


Location	-
Architect/Developer	VIC Gov Architect - Future homes
Building height	3 storeys
Land use mix	Residential
Tenure types	Market units - strata
Open space amenity	Private courtyards and balconies.
Public realm amenity	Green residential interface with multiple entrances.
Parking logic	Underground parking
Heritage	Requires demolition and new build.
Concise description	A pre-approved scheme for providing 16 units of varying sizes on two amalgamated lots.

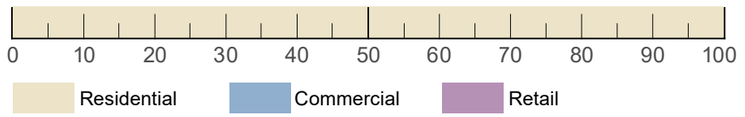
Floor Area Ratio (FAR) **1.4 FAR**



Site coverage per cent: **46 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

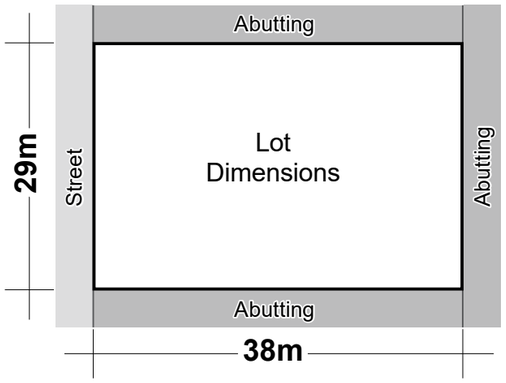
Where not relevant left blank

Case Study:

Vic Future Homes C

Urban Development Type:

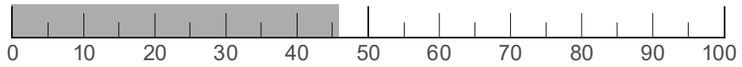
Garden Apartment



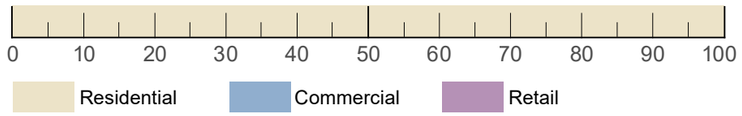
Location	-
Architect/Developer	VIC Gov Architect - Future homes
Building height	3 storeys
Land use mix	Residential
Tenure types	Market units - strata
Open space amenity	Private courtyards and balconies.
Public realm amenity	Green residential interface with multiple entrances.
Parking logic	Underground parking
Heritage	Requires demolition and new build.
Concise description	A pre-approved scheme for providing 16 units of varying sizes on two amalgamated lots.

Floor Area Ratio (FAR) **1.4 FAR**

Site coverage per cent: **46 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

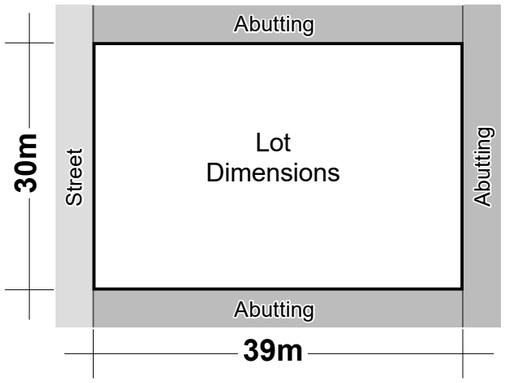
Where not relevant left blank

Case Study:

Vic Future Homes A

Urban Development Type:

Garden Apartment



Location	-
Architect/Developer	VIC Gov Architect - Future homes
Building height	3 storeys
Land use mix	Residential
Tenure types	Market units - strata
Open space amenity	Private courtyards and balconies.
Public realm amenity	Green residential interface with multiple entrances.
Parking logic	Underground parking
Heritage	Requires demolition and new build.
Concise description	A pre-approved scheme for providing 17 units of varying sizes on two amalgamated lots.

Floor Area Ratio (FAR) **1.4 FAR**

0 1 2 3 4 5 10 15 20

Site coverage per cent: **55 per cent**

0 10 20 30 40 50 60 70 80 90 100

Land Use Mix

0 10 20 30 40 50 60 70 80 90 100

Residential Commercial Retail

Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

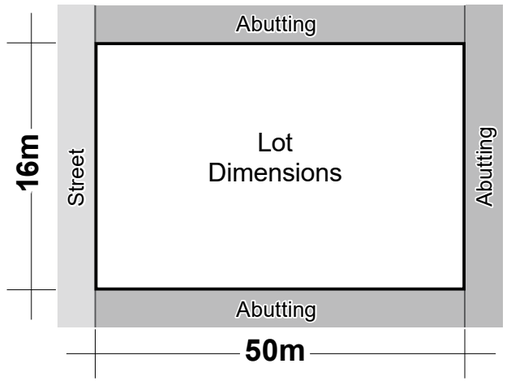
Where not relevant left blank

Case Study:

90 Ruskin Street, Elwood

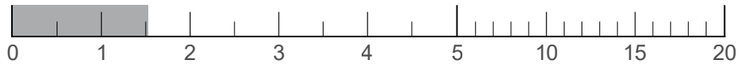
Urban Development Type:

Garden Apartment

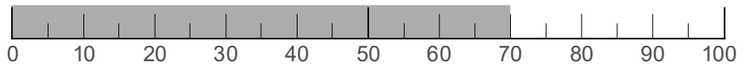


Location	90 Ruskin Street, Elwood, Melbourne VIC
Architect/Developer	Fieldwork Architects
Building height	3 storeys
Land use mix	Residential
Tenure types	Market townhouses
Open space amenity	Private courtyard gardens and roof top terraces
Public realm amenity	Green garden setback to street
Parking logic	Parking integrated in townhouse
Heritage	-
Concise description	A series of four new townhouses in Melbourne's leafy suburb of Elwood which provides a new model of medium-density living in the area. The scale, setback and materiality of the Ruskin Street frontage sits comfortably within its domestic context, while the northern interface revitalises the canal-edge.

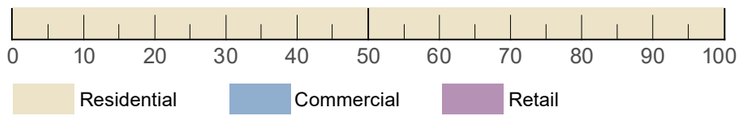
Floor Area Ratio (FAR) **1.6 FAR**



Site coverage per cent: **70 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

10.3 Garden Apartment testing

Urban Development Type:

Garden Apartment

The garden apartment development type (amalgamated lots) can host a range of residential unit types and ensification of existing residential areas.

The garden apartment development type incorporates landscaped setbacks from all boundaries, which will provide for the retention of the leafy character, high quality amenity and significant contribution to tree canopy cover. This typology provides a 35% deep soil area across the front, sides and rear of the lot.

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.

Garden apartments of 4-6 storeys rely on the amalgamation of two typical lots, which is necessary to deliver higher density while providing good quality internal amenity, avoiding unreasonable impacts on the amenity of neighbouring properties and providing a well-landscaped perimeter.

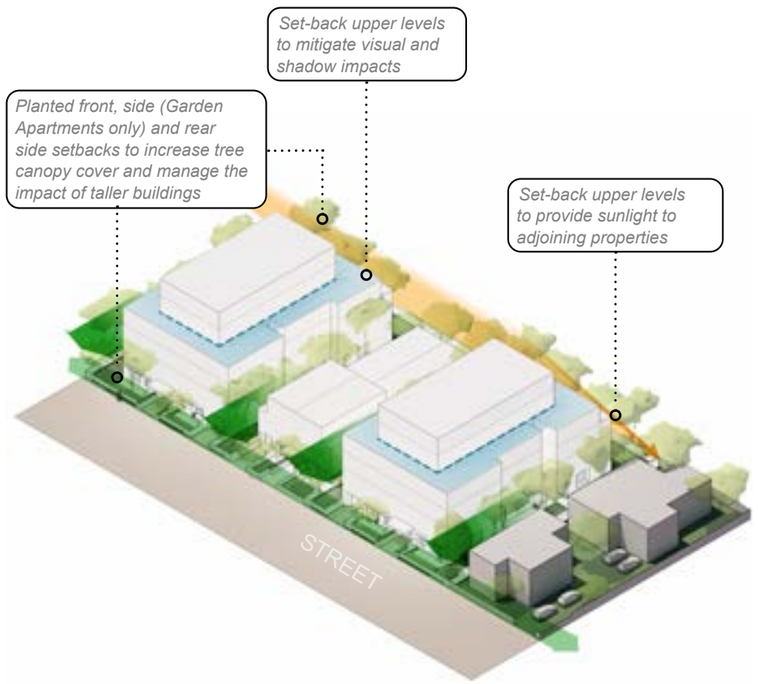
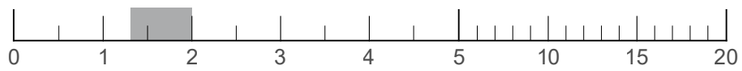


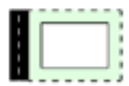
Figure 5.04: Urban form outcomes for the Garden Apartment typology.

Description:

Role and function rationale	Moderate intensification of built form providing space for more housing.
Future Character drivers rationale	• Retain garden setting • Maintain sense of openness in the street • Contribute to tree canopy cover • Respond to lower residential hinterland • Consolidation of 2 lots.
Existing place type	• Low-rise residential neighbourhood • Conventional lot sizes • Some unit development • Leafy streets and backyards • Typically zoned GRZ.
Accommodation types	Great opportunity to provide wide range of accommodation types. This type can be configured with both single level apartments, duplexes, multi-storey townhouses and varying sizes appropriate for many household configurations including families.
Open space amenity	Great opportunity to leverage level ground floor access and roof top amenity for large proportion of dwellings. Communal open space often limited to side and larger rear setbacks, smaller communal courtyard, or shared rooftop garden.
Parking logic	Parking is to be provided underground. Vehicular enties are integrated into the front of the building.

Floor Area Ratio (FAR) range: **1.3-2 FAR**



Use mix		Residential use only
Interfaces		Building in landscape
Building height		
Building height	4-6 storeys	Maintain adequate daylight and sunlight in streets and to rear abutting buildings while maintaining sense of openness in the street
Street wall height	4 storeys (14 metres) 3 storeys (11 metres) in sensitive areas	To complement the existing lower-rise buildings in these areas.
Open space		
Deep soil area	35 per cent	Located along perimeter of lot with minimum 3m dimension (out of the 4,5m setback zone) to allow for canopy trees)
Canopy cover area	35 per cent	Canopy trees along perimeter of lot including front garden setback.

Precedent examples

Urban Development Type:
Garden Apartment

Setbacks		
Front setback	4 metres	Ground floor to provide for landscaping in residential streets
	1.5 metres per floor	Above street wall to reduce perception of bulk and retain 1:1 proportion of street width to street height
Rear setback	6 metres	To provide deep soil zone
	Equinox sun plane	From top of rear fence to protect solar amenity to adjacent neighbours
Side setback	4.5 metres	Ground floor to create 9 metres separation to adjacent neighbour
	0.8 metres per metre of height above 14 metres	To lessen the visual and shadow impact of th upper form.

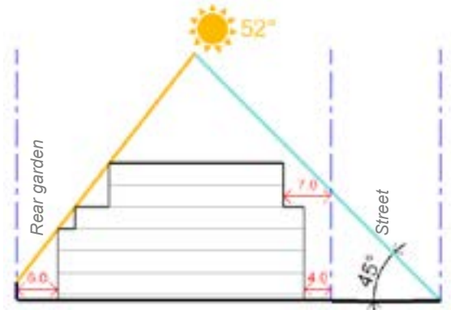


Figure 10-2 Section front and rear

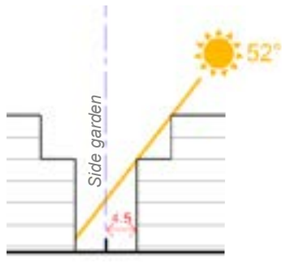


Figure 10-3 Section sides

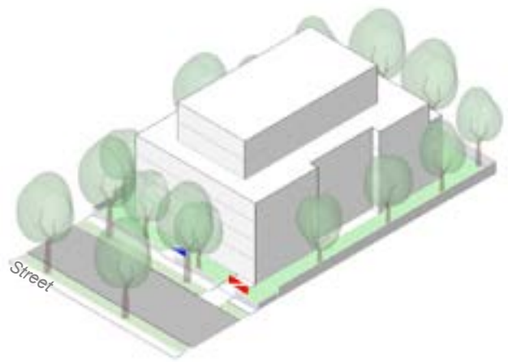
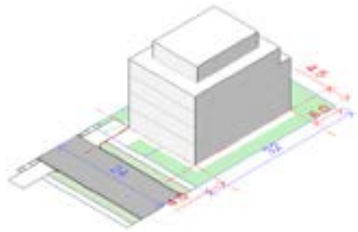
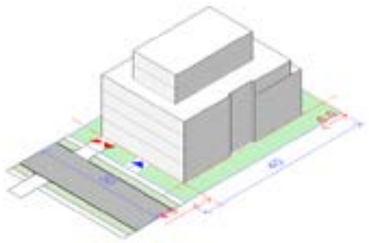


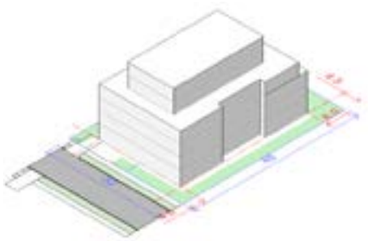
Figure 10-1 Typical Garden Apartment massing volume

LOT SIZES					
15th per centile lot size		**Median lot size**		**85th per centile lot size**	
Area	768 square metres	Area	1.200 square metres	Area	1.472 square metres
Width	24 metres	Width	30 metres	Width	32 metres
Depth	32 metres	Depth	40 metres	Depth	• 46 metres
2 small amalgamated lots		2 typical size amalgamated lots		2 large amalgamated lots	

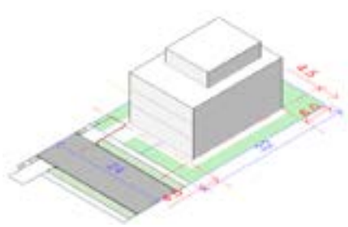
TYPICAL CONDITIONS					
Height (storeys)	**5**	**Height (storeys)**	**6**	**Height (storeys)**	**6**
FAR	**1.6**	**FAR**	**2**	**FAR**	**2**

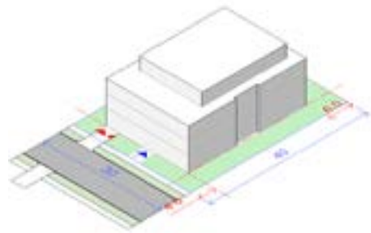


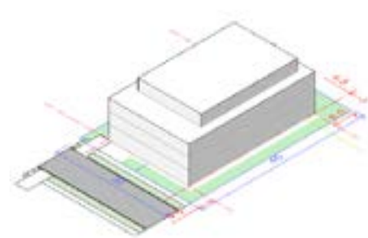




SENSITIVE AREAS					
Height (storeys)	**4**	**Height (storeys)**	**4**	**Height (storeys)**	**4**
FAR	**1.3**	**FAR**	**1.5**	**FAR**	**1.5**







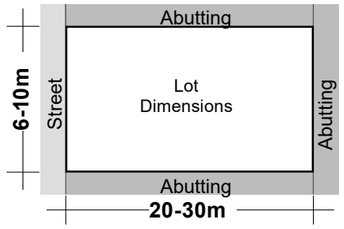
Legend

- Building entrance
- Vehicular entrance
- Deep soil zone (calculated)
- Landscaped area
- Tree (indicative)

11. Townhouse

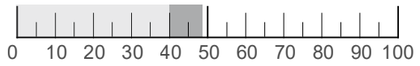
11.1 Townhouse Development Type

Lot dimension range



Floor Area Ratio (FAR): **0.8-1.4 FAR**

Site coverage per cent: **40-48 per cent**



Description	The terrace joins together individual plots in a line. Typically, each dwelling has it's own entrance to the street creating narrow multi-storey dwellings. By being joined together, they create an urban context with clear distinction between front and back. While front facades usually follow same building line, the backs are usually less formal with greater variation, reflecting individual needs and preferences.
Use mix potential	 Limited opportunity for mixed-uses Only small scale retail and community uses can be integrated
Interfaces	 Built to side boundaries. Front and rear garden
Accommodation types	Single family dwellings, multi-unit buildings
Open space amenity	Narrow front garden and generous rear garden
Public realm amenity	Active streets with many entrances and passive surveillance
Parking logic	On-lot parking reduces public realm amenity and street interface. Rear-loaded car parking requires lane way. In new terrace developments, shared car parking can be provided in underground or semi-underground configuration.
Testing summary	Terrace housing performs very well on a large range of criteria and is an appropriate urban development type in many suburban settings. They are typically limited to 2-4 storeys for each dwelling with their own entrance to the street. Terraces can be a supplement to other more efficient development types deployed in the SRL East Draft Structure Plan Area in existing residential areas where single lot development is required. • Legible streets with many entrances improves street activation • The terrace type is intrinsically limited to 2-4 storeys achieving relatively low density but human scale • Poor public realm interface when terraces are oriented perpendicular to the street.

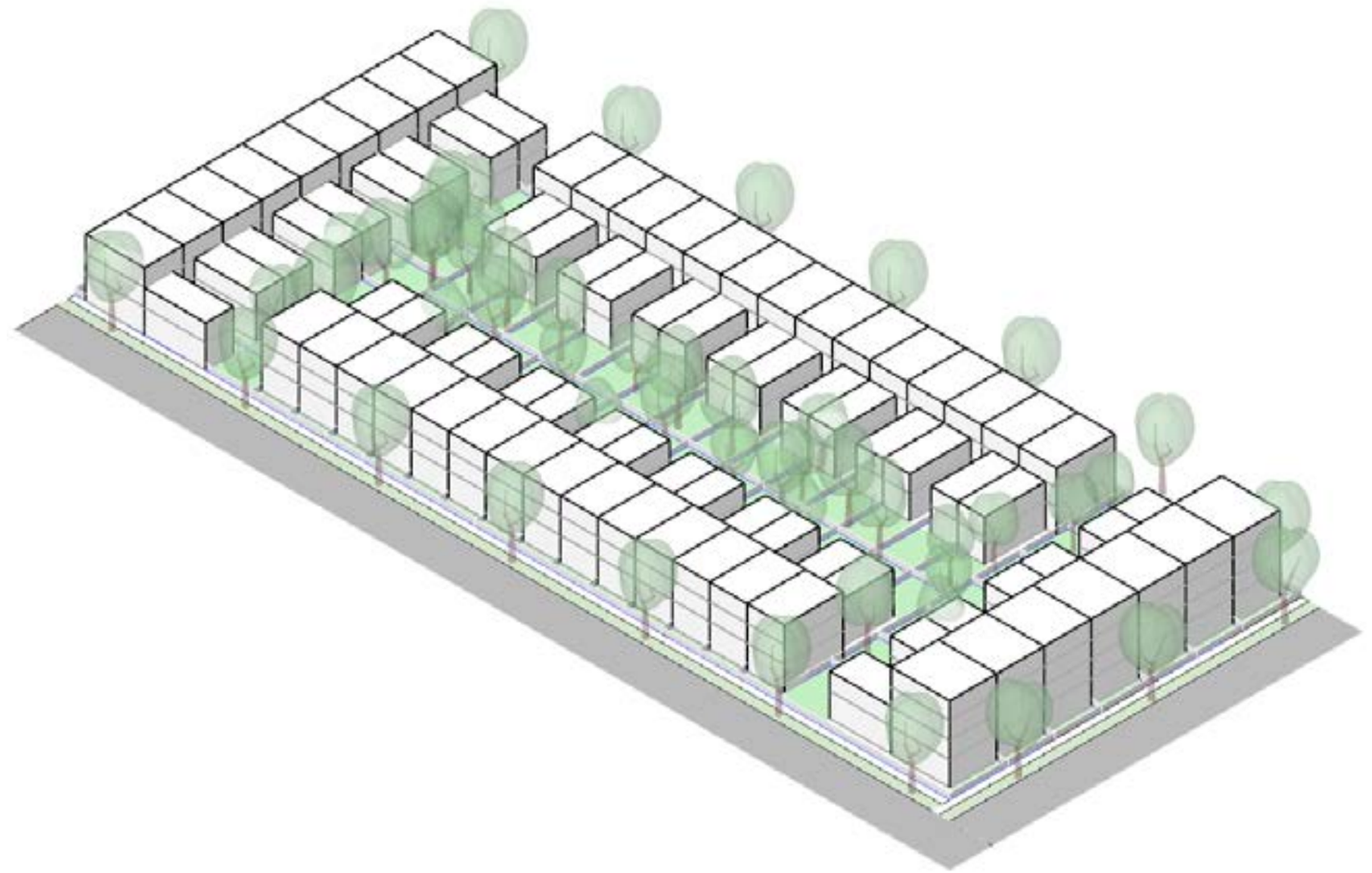


Figure 11-1 Indicative Townhouse development type

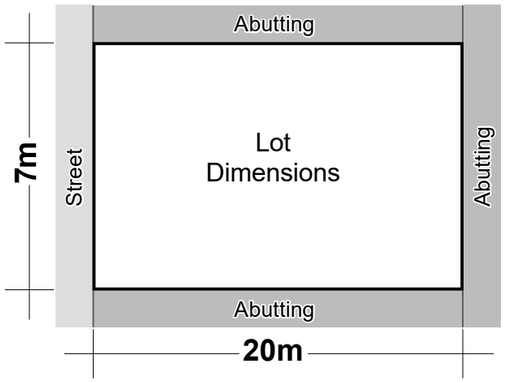
11.2 Townhouse case studies

Case Study:

Dujardin Mews

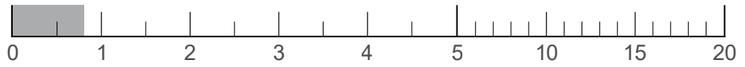
Urban Development Type:

Terrace

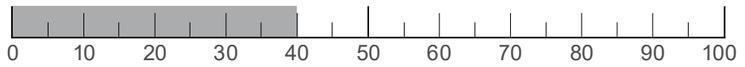


Location	Enfield, United Kingdom
Architect/Developer	Karakusevic Carson Architects
Building height	2-3 storeys
Land use mix	Residential (social housing)
Tenure types	50 per cent social rent, 50 per cent affordable
Open space amenity	None
Public realm amenity	Public landscaping and some seating spaces
Parking logic	Parking on street.
Heritage	-
Concise description	Dujardin Mews is the first council-led, social housing delivered by the local borough of Enfield in 40 years. Dujardin Mews transforms a restrained rectangular plot, creating a variety of 38 new homes – in a mix of townhouses, flats and maisonettes – with public landscaping and a pedestrian route.

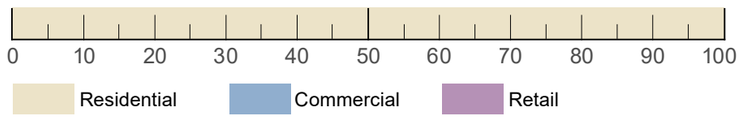
Floor Area Ratio (FAR) **0.8 FAR**



Site coverage per cent: **40 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

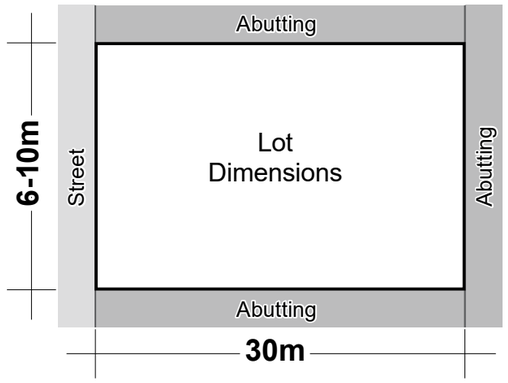
Where not relevant left blank

Case Study:

Park Slope

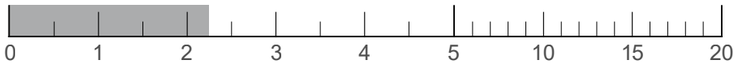
Urban Development Type:

Terrace

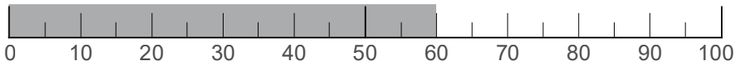


Location	198 7th Ave, Brooklyn, NY 11215
Building height	15 metres
Land use mix	Manufacturing, commercial, residential & mixed-use.
Tenure types	Mixed housing.
Open space amenity	Front garden setback, rear garden setback and terraces.
Public realm amenity	Engaging and active street interfaces with greenery and multiple entrances.
Parking logic	Parking on street.
Heritage	Generally heritage precinct
Concise description	The city blocks of Park Slope, Brooklyn are a typical example of residential neighbourhood that has evolved to include other uses (churches, schools, single family dwellings and apartment dwellings) over time. Most buildings are 3.5 storeys high (including a half sunken basement) 6-8 metres wide plots and 15 metres deep. Setbacks Front: Typically 4 metres Rear: Typically 15 metres A ground floor extension is common to provide more space for the garden unit and a terrace to first floor unit. The building type offers flexibility to be adapted to a large family home or smaller dwelling units on each floor. The urban grain also manages to accommodate 4 storey walk-up apartment building of typical 20-30 metres deep which the provision of a light well to ventilate internal bedrooms.

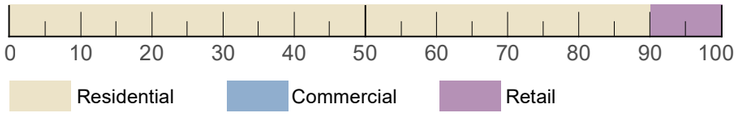
Floor Area Ratio (FAR): **12.3 FAR**



Site coverage per cent: **60 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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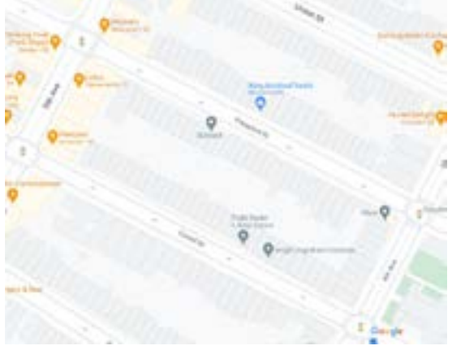
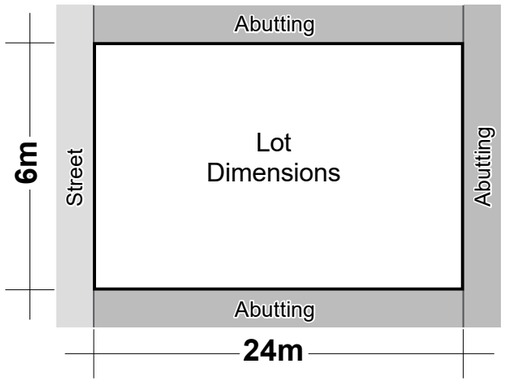


Case Study:

Accordia

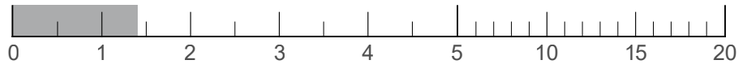
Urban Development Type:

Terrace

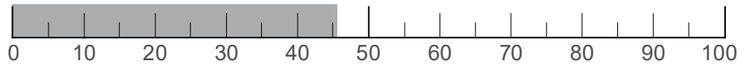


Location	Cambridge, UK
Building height	2-5 storeys
Land use mix	Residential
Tenure types	30 per cent affordable housing, 70 per cent market housing
Open space amenity	Courtyard gardens and balconies/roof tops
Public realm amenity	Shared streets and green pockets.
Parking logic	On-site parking from rear lane way
Heritage	-
Concise description	Within the 378-unit Accordia masterplan ABA had the unique position of designing three completely different building types in three locations: Two pairs of semi-detached houses on Brooklands Avenue, a 5 storey 'point building' comprising ten apartments overlooking the central square, and a 21 unit apartment building overlooking Hobsons Brook.

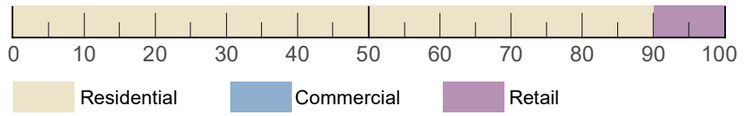
Floor Area Ratio (FAR): **1.4 FAR**



Site coverage per cent: **46 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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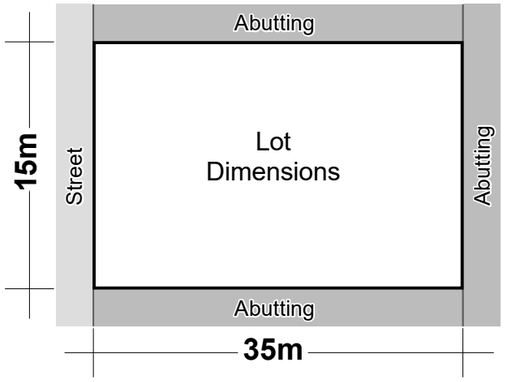
Case Study:

7 Tobruk Cres, Williamstown VIC

Urban Development Type:

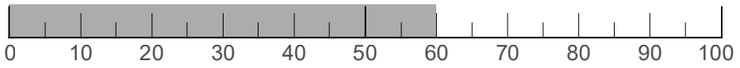
Townhouse



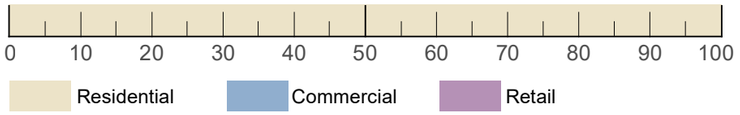
Location	7 Tobruk Cresent, Williamstown VIC
Building height	9 metres
Land use mix	Residential
Tenure types	Private market dwellings
Open space amenity	Front garden setback and rear garden setback
Public realm amenity	Planted front setback. One driveway to basement parking for both units
Parking logic	Basement parking. 5 parking spots. 2 for each dwelling plus guest/ bike parking.
Heritage	Suburban character street. No formal heritage listing.
Concise description	The city blocks of Park Slope, Brooklyn are a typical example of residential neighbourhood that has evolved to include other uses (churches, schools, single family dwellings and apartment dwellings) over time. Most buildings are 3.5 storeys high (including a half sunken basement) 6-8 metres wide plots and 15 metres deep. Setbacks Front: Typically 4 metres Rear: Typically 15 metres A ground floor extension is common to provide more space for the garden unit and a terrace to first floor unit. The building type offers flexibility to be adapted to a large family home or smaller dwelling units on each floor. The urban grain also manages to accommodate 4 storey walk-up apartment building of typical 20-30 metres deep with the provision of a light well to ventilate internal bedrooms.

Floor Area Ratio (FAR): **1 FAR**

Site coverage per cent: **60 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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11.3 Townhouse testing

Urban Development Type:
Townhouse

Townhouses (single lots) can host a range of residential unit types and ensification of existing residential areas. .

The garden apartment development type incorporates landscaped setbacks from all boundaries, which will provide for the retention of the leafy character, high quality 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 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.

Townhouses of 3 storeys 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. This typology provides a 15 per cent deep soil area across the front and rear of the lot.

The modest building height avoids unreasonable impacts on the amenity of neighbouring properties and providing a well-landscaped front garden.

Description:

Role and function rationale	Moderate intensification of built form providing space for more housing.
Future Character drivers rationale	• Intensification on single lot developments • Retain garden setting • Maintain sense of openness in the street.
Existing place type	• Low-rise residential neighbourhood • Conventional lot sizes • Some unit development • Leafy streets and backyards • Typically zoned GRZ.
Accommodation types	Great opportunity to provide wide range of accommodation types. This type can be configured with both single level apartments, duplexes, multi-storey townhouses and varying sizes appropriate for many household configurations including families.
Open space amenity	Great opportunity to leverage level ground floor access and roof top amenity for large proportion of dwellings. Communal open space often limited to side and larger rear setbacks, smaller communal courtyard, or shared rooftop garden.
Parking logic	Parking is to be provided underground. Vehicular enties are integrated into the front of the building.

Floor Area Ratio (FAR) range: **1.2-1.4 FAR**

Use mix		Residential use only
Interfaces		Generous front and rear setbacks
Building height		
Building height	Max. 3 storeys (11 metres)	To complement existing lower-rise buildings
Street wall height	Max. 3 storeys (11 metres)	To complement existing lower-rise buildings
Open space		
Deep soil area	20-25 per cent	Located to front and rear
Canopy cover area	20-25 per cent	Canopy trees in front and rear garden

Precedent examples

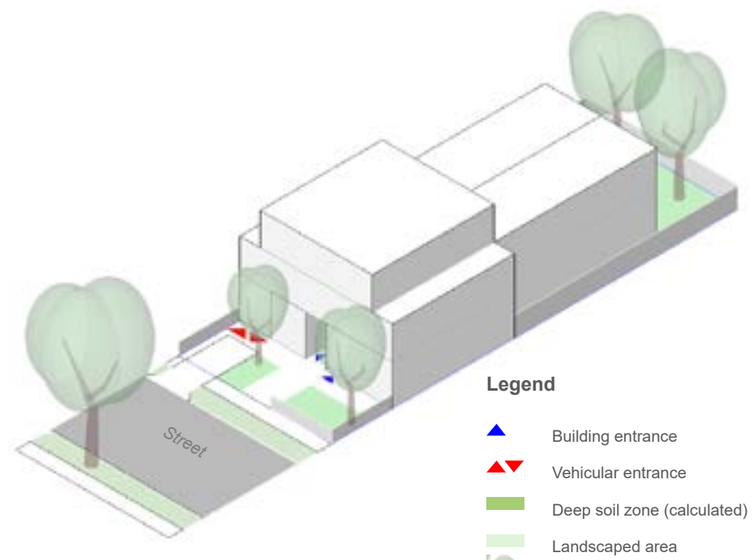


Figure 11-1 Typical Townhouse massing volume

Urban Development Type:

Townhouse

Setbacks		
Front setback	6 metres	Ground floor to provide for landscaping in residential streets
Rear setback	6 metres	To provide deep soil zone.
	Equinox sun plane	From top of rear fence to protect solar amenity to adjacent neighbours
Side setback	0 metres	At ground level for half of lot facing the street
	2 metres	Above height of 6.9 metres to lessen the visual and shadow impact of upper form
	2 metres	At ground level in rear half of the site

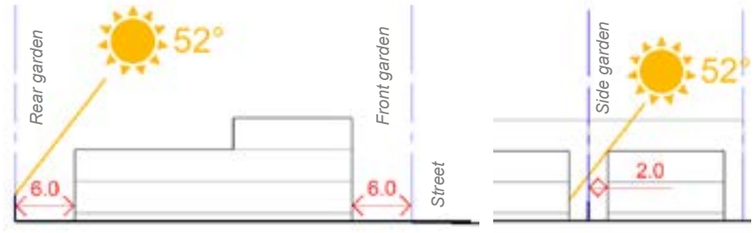
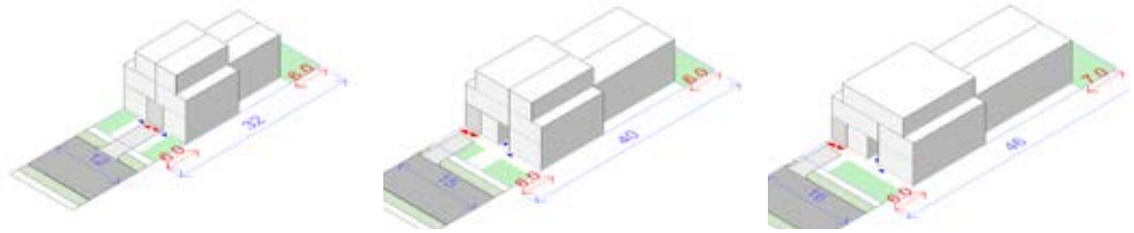


Figure 11-2 Section front and rear

LOT SIZES					
15th per centile lot size		**Median lot size**		**85th per centile lot size**	
Area	384 square metres	Area	600 square metres	Area	736 square metres
Width	12 metres	Width	15 metres	Width	16 metres
Depth	32 metres	Depth	40 metres	Depth	46 metres
TYPICAL CONDITIONS					
Height (storeys)	**3**	**Height (storeys)**	**3**	**Height (storeys)**	**3**
FAR	**1**	**FAR**	**1.2**	**FAR**	**1.2**
Garden area	**25 per cent**	**Garden area**	**22.5 per cent**	**Garden area**	**20 per cent**



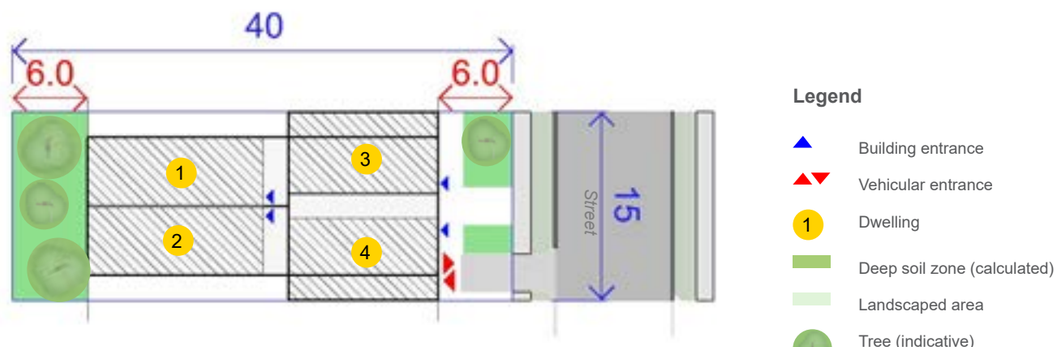


Figure 11-3 Townhouse development with four dwellings

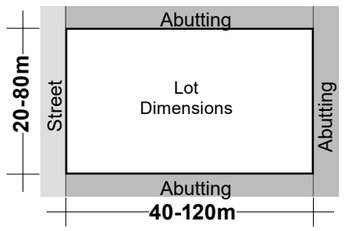
Legend

- Building entrance
- Vehicular entrance
- 1 Dwelling
- Deep soil zone (calculated)
- Landscaped area
- Tree (indicative)

12. Pavilion Block

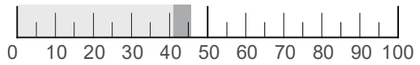
12.1 Pavilion Block Development Type

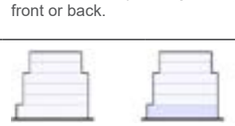
Lot dimension range



Floor Area Ratio (FAR): **2.5-2.8 FAR**

Site coverage per cent: **42-46 per cent**



Description	Freestanding apartment building in a landscaped setting. Characterised by having frontage on all four elevations with no clear front or back.
Use mix potential	 Limited opportunity for non-residential integration
Interfaces	 Building in landscape
Accommodation types	Great opportunity to provide wide range of accommodation types. This type can be configured with single level apartments, duplexes, multi-storey townhouses and varying sizes.
Open space amenity	Communal open space often limited to side setback shared with driveway or smaller communal courtyard. Great opportunity to leverage level ground floor access and roof top amenity for large proportion of dwellings.
Public realm amenity	Green front garden setback similar to other residential interfaces. Not a type conductive to creating a defined public domain.
Parking logic	Often side setback lane way to access individual car parking integrated into built form. In lots wider than approximately 17 metres, parking can be provided underground.
Case study summary	This type is generally not suitable for locations within the SRL East precincts. Key learning from our assessment of case studies: • Can provide interesting fine-grain spaces between buildings when carefully considered • Spaces between buildings typically inferior to hybrid perimeter development type with better street definition • Legible street network and traffic management is challenging • Consolidated parking basements located below pavilions and the open space is detrimental of deep soil zones • Legibility of open space network between buildings can be a challenge due to lack of front and back of buildings.

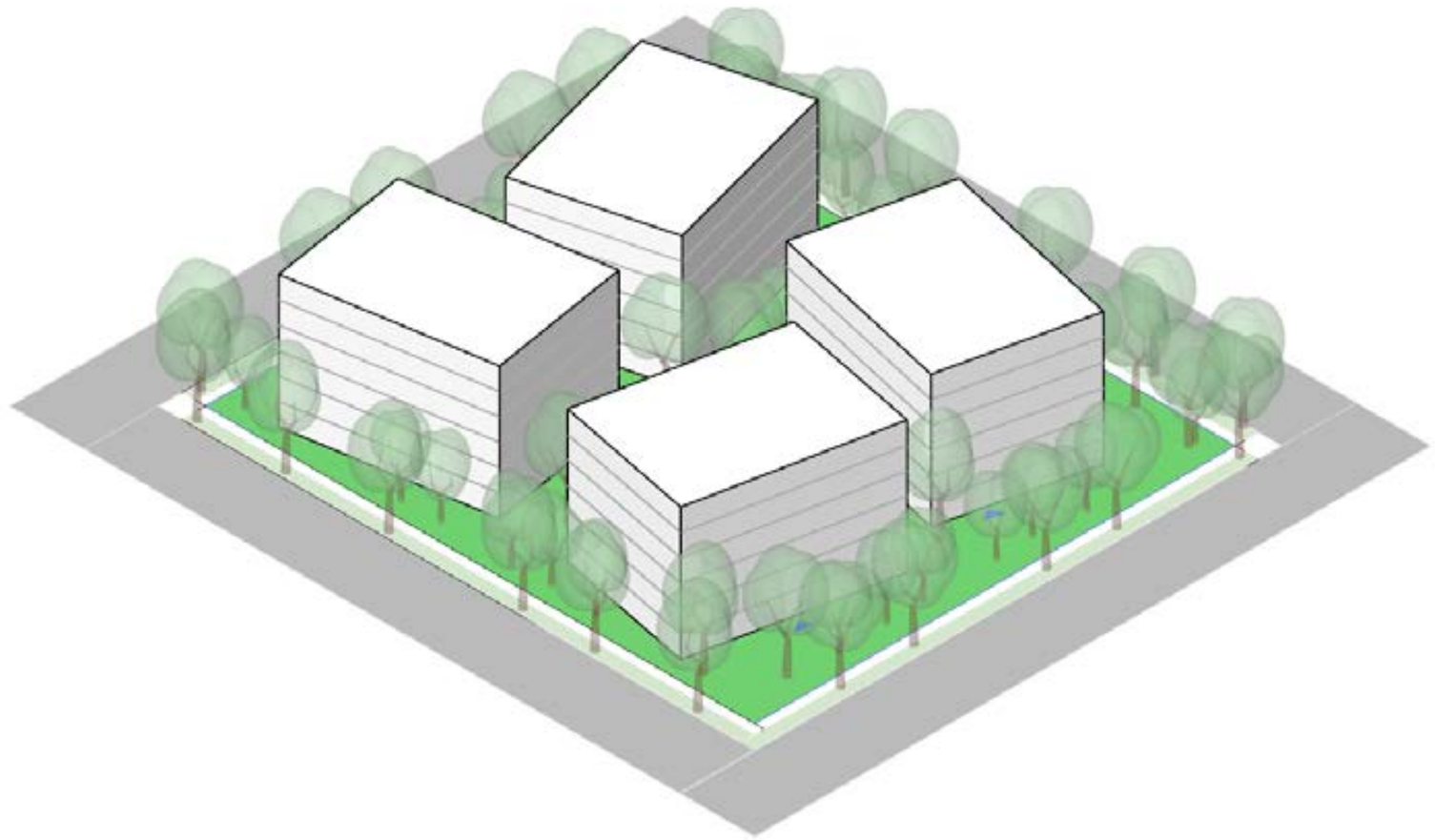


Figure 12-1 Indicative Pavilion Block development type

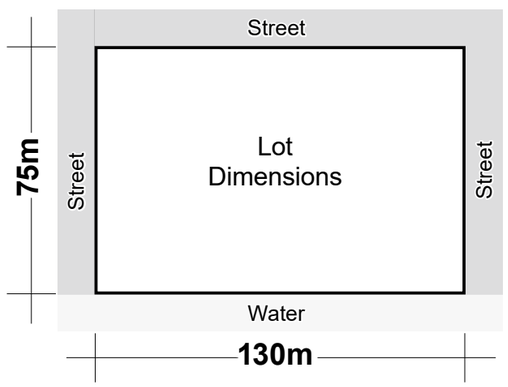
12.2 Pavilion Block case studies

Case Study:

Bispevika Housing, Oslo

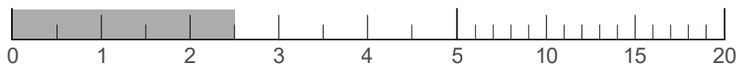
Urban Development Type:

Pavilion Block

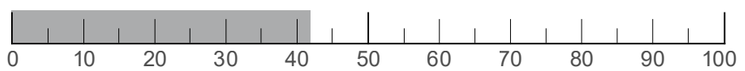


Location	Oslo, Norway
Architect/Developer	Vandkunsten. Oslo Sentrum Utvikling A/S
Building height	4-8 storeys
Land use mix	Residential Cafes and restaurants Neighbourhood scale supermarket
Tenure types	Market apartments
Open space amenity	Man-made canal connected to the Oslo Fjord.
Public realm amenity	Public board walk for with jetty and swimming area. Kayak storage and kayak launching platforms
Parking logic	Underground parking
Heritage	-
Concise description	The new residential area of 300 units is located on the waterfront in central Oslo. Contrasting the dense and high buildings behind it, the development has used characteristics from natural archipelagos to form a series of spatial transitions – from the open sea to the calm inland waters.

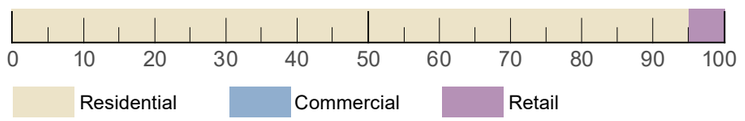
Floor Area Ratio (FAR) **2.5 FAR**



Site coverage per cent: **42 per cent**



Land Use Mix



Urban development-criteria:

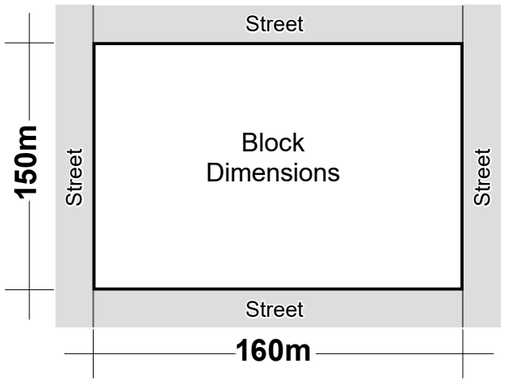
Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Case Study:

Hunziker Areal, Zurich

Urban Development Type:

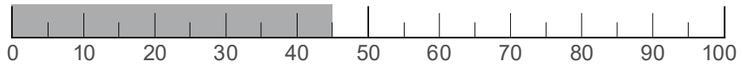
Pavilion Block



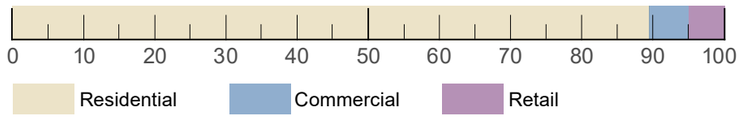
Location	Zurich, Switzerland
Architect/Developer	“Mehr als wohnen” - building collective (co-ownership development)
Building height	5-7 storeys
Land use mix	Residential, commercial, retail, kindergarten.
Tenure types	Shared ownership model for market housing.
Open space amenity	Open space network of plazas and pocket parks.
Public realm amenity	Open space network of plazas and pocket parks.
Parking logic	Shared underground basement.
Heritage	-
Concise description	Thirteen apartment buildings are organised in a composition that creates an intimate open space framework reminiscent of a medieval town grid. The apartment buildings are relatively large and square (typically 40 x 30 m) which enables the shaping of the open spaces similar to smaller courtyard buildings. These dimensions are a-typical in an Australian context. Housing for 1200 people 150 workplaces “Mehr als wohnen” - building collective (co-ownership development) 41,000sqm development.

Floor Area Ratio (FAR) — **2.8 FAR**
2 FAR (including streets and spaces)

Site coverage per cent: — **45 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
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Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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Part 2
Public realm typologies

1. Public Realm Typologies

To ensure people have better connections and streets are attractive to encourage walking and cycling, a hierarchy of streets and typologies has been developed - from wide tree-lined Boulevards to more ‘human-scale’ pedestrian links.

The street typologies seek to align with the SRL Urban Design principles (as outlined in the SRL Urban Design Framework and Strategy).

Precedent case studies and typical sections for each typology are outlined on the following pages.

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.

1.1 Street Typologies

BOULEVARD

Grand urban gesture along primary road and public transport corridor, providing strong landscape and pedestrian outcomes including canopy trees, pedestrian crossing opportunities and public realm nodes (seating and landscape amenity).

AVENUE

A wide and tree-lined ‘connector’ street that accommodates active and/or public transport with nodes of pedestrian amenity to support the functionality of the street.

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.

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.

PEDESTRIAN LINKS

New or improved pedestrian 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.

1.2 Boulevard

BOULEVARD

Grand urban gesture along primary road and public transport corridor, providing strong landscape and pedestrian outcomes including canopy trees, pedestrian crossing opportunities and public realm nodes (seating and landscape amenity).

- Canopy tree planting and expanded understorey planting
- Pedestrian pathways, refuge and crossing points
- Multi-modal transport opportunities
- Opportunities for public art
- Potential threshold zones that promote pedestrian crossing / land use relationships
- Distinct furniture zones with high level of amenity and materiality

UDS PRINCIPLES

1 Enduring
2 Enhancing
3 Connected
4 Accessible
5 Enhancing
6 Liveable

Case Studies and Success Factors

ST KILDA ROAD, MELBOURNE

Success factors:

- Clear modal split and dedication
- Grand canopy street trees
- Medians with tree planting
- Generous footpaths
- Tree planting within verges adjacent to footpaths

LONSDALE STREET, DANDENONG

Success factors:

- Distinctive patterned surface finishes
- ‘Garden rooms’ within continuous ‘linear garden’ with understorey planting and raised planters
- Feature lighting design / public artwork as a centerpiece
- High quality street furniture
- Generous footpaths

Boulevard Section

Figure 1-1 Indicative Boulevard typology section

1.3 Avenue

AVENUE

A wide and tree-lined ‘connector’ street that accommodates active and/or public transport with nodes of pedestrian amenity to support the functionality of the street

- 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
- Some areas with moderate level of materiality

UDS PRINCIPLES

1 Enduring
2 Enhancing
3 Connected
4 Accessible
5 Enhancing
6 Liveable

Case Studies and Success Factors

FRASER AVENUE,KINGS PARK, PERTH

Success factors:

- Significant tree canopy for shade and cooling
- Avenue of *Corymbia citriodora (*lemon scented gums).

STREET TREE MASTER PLAN, SYDNEY

Success factors:

- Safe pedestrian crossing points
- Street tree canopy for shade, cooling and habitat. Diversity of species for climate resiliance
- Wide pedestrian paths and kerb alignment to accomodate public transport stops
- Provision of lighting to improve perception of 24 hr safety.

Avenue Section

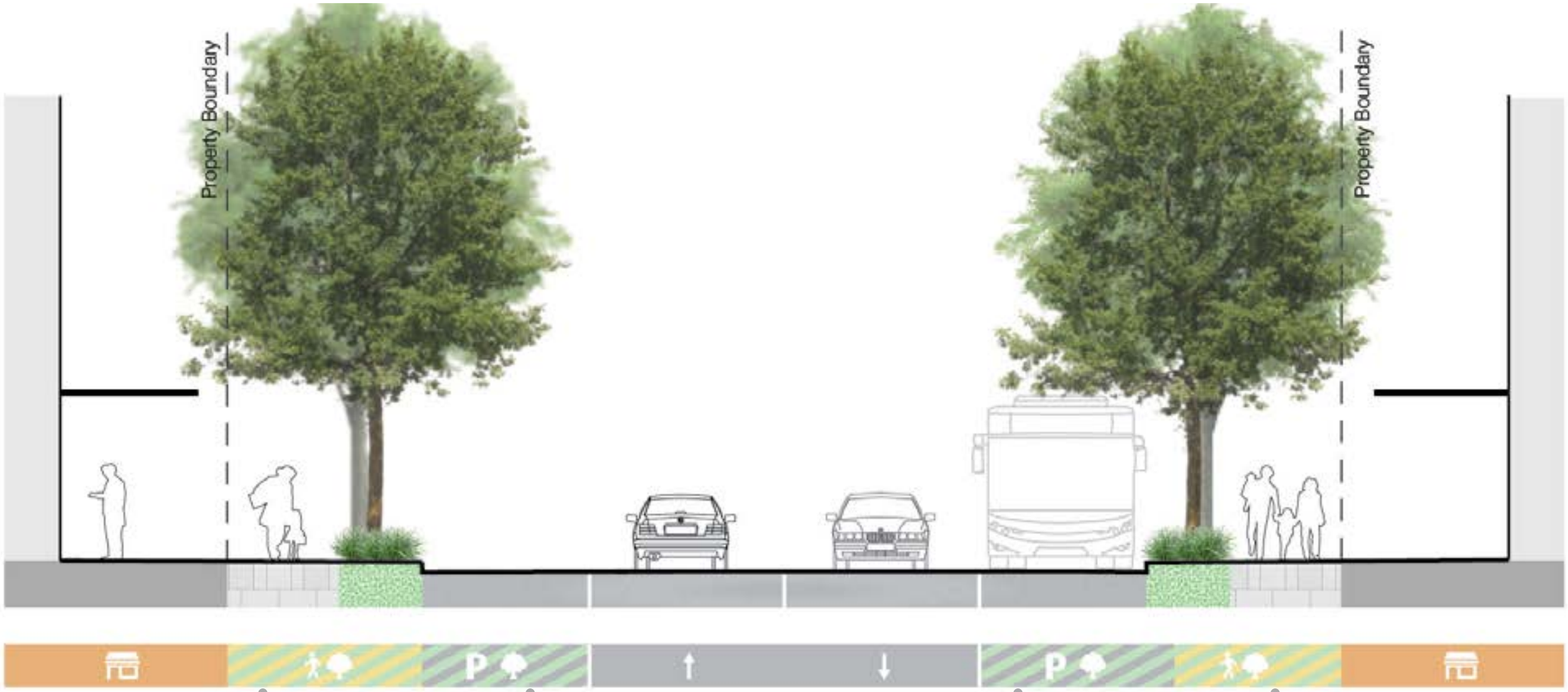


Figure 1-1 Indicative Avenue typology section

1.4 Activity Street

ACTIVITY STREET

Highly urbanised streetscape that supports retail and dining activity and an attractive and comfortable pedestrian experience, with generous pedestrian circulation space, street trees and high-quality materials.

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

UDS PRINCIPLES

1 Enduring
2 Enhancing
3 Connected
4 Accessible
5 Enhancing
6 Liveable

Case Studies and Success Factors

GREVILLE STREET, PRAHRAN

Success factors:

- Flush kerb creating genuine shared zone
- Slow speed environment
- Layered landscape
- High quality paving
- Fine-grain retail tenancies.

LITTLE STANLEY STREET, BRISBANE

Success factors:

- Generous street trees
- Focus on dining uses with adequate space for on street dining
- Slow speed with on street car parking
- Investment in lighting to promote evening economy.

AFGHAN BAZAAR STREETSCAPE, MELBOURNE

Success factors:

- Collaboration with local artist on public art and
- Feature custom paving and furniture
- Kerb ourstand and footpath widening
- Community and stakeholder consultation.

Activity Street - Type A

Shelter, awnings and canopy trees provide shade and weather protection to street level footpaths to ensure a comfortable user experience.

Street trees create a comfortable and attractive walking environment by providing urban cooling and shade, filtering airborne pollutants, enhancing visual amenity and helping to modify the visual scale of a place and the impact of any adjacent development.

Public realm activated by outdoor dining, on-street trading, commercial frontages and public street infrastructure to attract people and activity.

Multifuctional lane for on-street car parking, kerb outstand (for furniture, greening and tree planting) and potential WSUD vegetated raingarden.

Multifuctional lane for on-street car parking, kerb outstand (for furniture, greening and tree planting) and potential WSUD vegetated raingarden.

Generous footpath with dedicated zone for planting and urban furniture. Opportunity for facade greening.

Figure 1-1 Indicative Activity Street - Type A section

Activity Street - Type B - Flush kerb

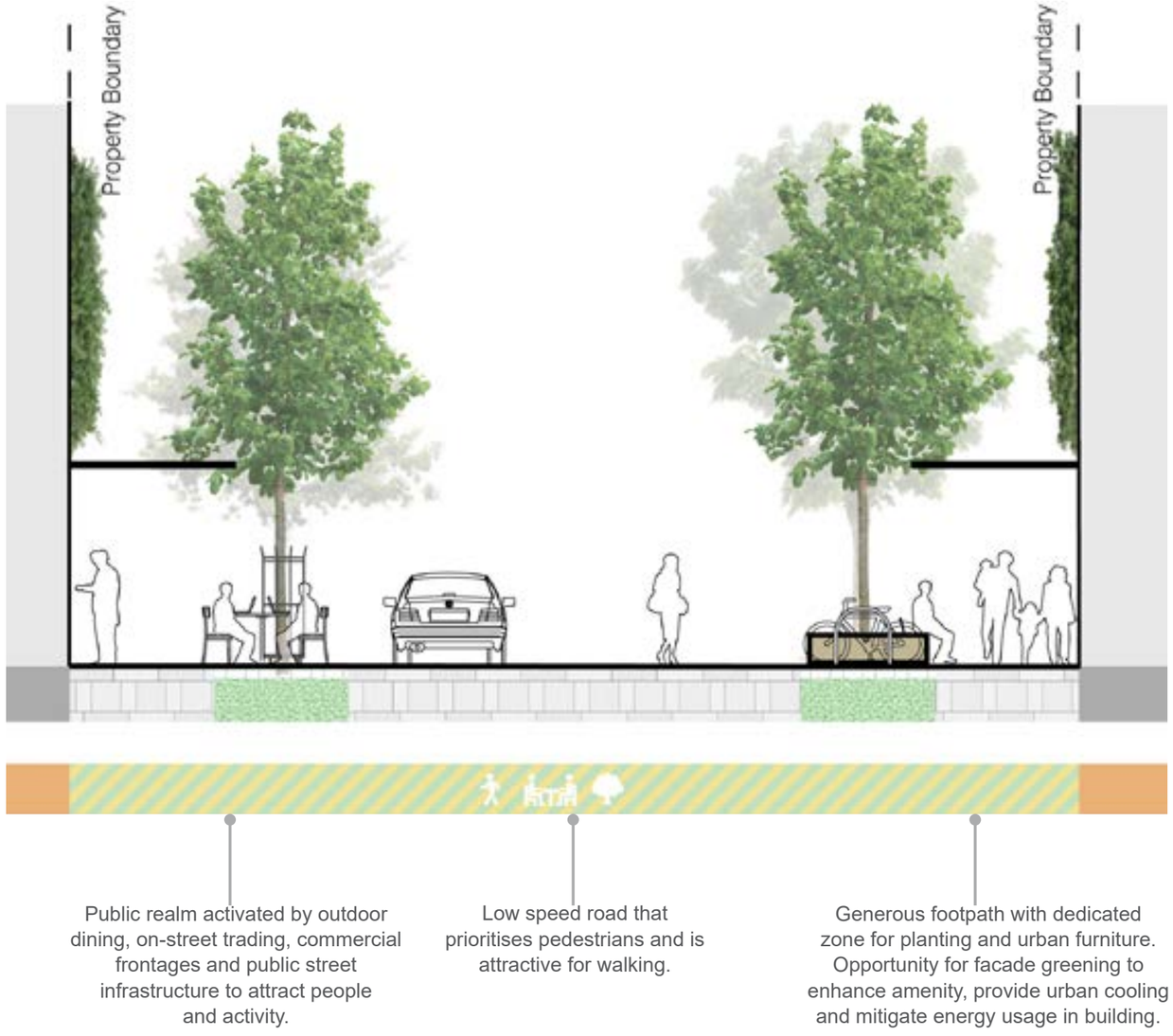


Figure 1-2 Indicative Activity Street - Type B - Flush kerb section

Activity Node

Figure 1-3 Indicative Activity Node section

1.5 Green Street

GREEN STREET

Green Streets are a broad classification for a local street that may be enhanced to support a range of opportunities including pedestrian connectivity and access to recreation facilities, enhanced environmental/biodiversity outcomes, and the potential to accommodate cycle and bus routes. To promote walking, these streets will prioritise additional levels of amenity than a standard urban street including:

- Landscaping and pause points
- Threshold treatments at the intersection with the Green Street to support pedestrians prioritisation (such as wombat crossings)
- The potential removal of some on-street parking where appropriate for enhancements such as tree planting, bike lanes, traffic calming, etc
- Traffic calming and measures to reduce car volumes to create a pleasant low speed environment.

Broad types of Green Street include:

- Green Street - Type A - General (walking)
- Green Street - Type B - Biodiversity
- Green Street - Type C - Cycling
- Green Street - Type D - Bus.

These types and the sections shown opposite are typical only to illustrate potential outcomes. Green streets could be Type A, B , C or D and/or a combination of each, which will be dependent on a future design that is site specific and considers the local context. Some features of a Green Street:

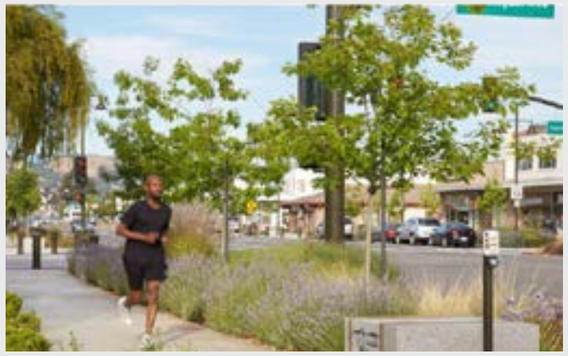
- Street trees and biodiverse under-storey planting WSUD initiatives
- Active transport (walking and cycling) paths and connections
- Activity nodes and pause points with seating
- Street lighting to one side to light the full street
- Separation between transport modes
- Micro mobility infrastructure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

Case Studies and Success Factors

CASTRO VALLEY BOULEVARD, CALIFORNIA

Success factors:

- Landscape providing barrier to vehicle area
- Pause points, seating, street furniture and bike parking increasing functionality of street corridor
- Biodiverse and continuous understorey planting
- Distinctive urban furniture.



SOUTH BANK, MELBOURNE

Success factors:

- Separated pedestrian and cycle paths protected from road
- Extensive inground biodiverse planting and street trees
- Distrinctive urban furniture and lighting
- High quality paving .

SUBIACO, WESTERN AUSTRALIA

Success factors:

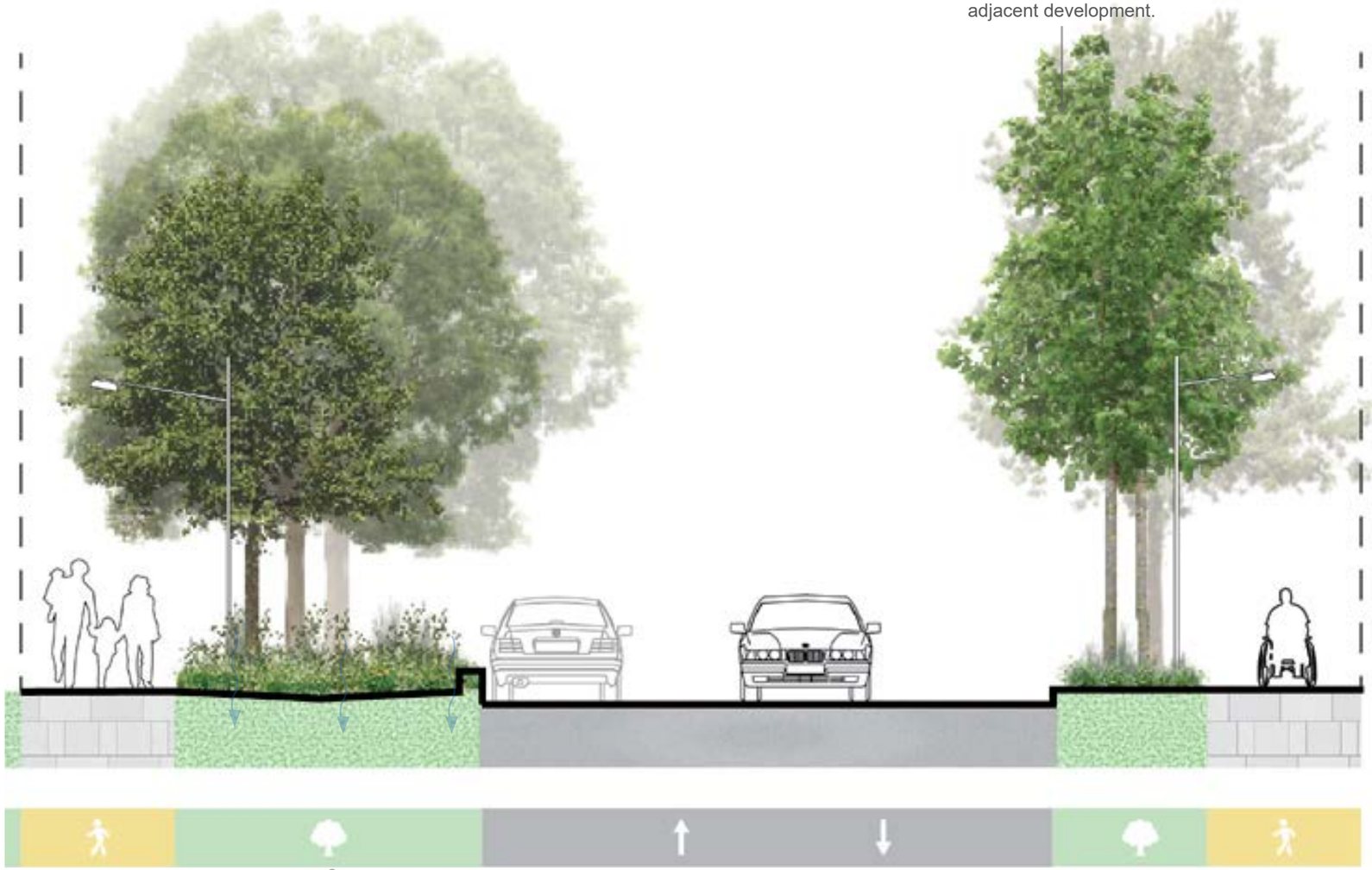
- Raised flush crossings with feature paver
- Separated pedestrian path
- Generous pedestrian priority with on street dining
- Inground planting and mature tree canopy
- Distrinctive urban furniture and lighting.

Green Street - Type A - Urban amenity

Figure 1-1 Indicative Green Street - Type A - Urban amenity section

Green Street - Type B - Biodiversity Link

Street trees create a comfortable and attractive walking environment by providing urban cooling and shade, filtering airborne pollutants, enhancing visual amenity and helping to modify the visual scale of a place and the impact of any adjacent development.



Continuous biodiverse understorey planting with enhanced habitat value and pollinator function. Opportunity for passive irrigation and WSUD raingarden to improve plant performance and reduce stormwater runoff.

Planting to support biodiversity, improve amenity and reduce impervious surfaces

Figure 1-2 Indicative Green Street - Type B - Biodiversity link

Green Street - Type C - Activity transport

Street trees create a comfortable and attractive walking environment by providing urban cooling and shade, filtering

Bike lanes (C1 or C2) that are bidirectional or unidirectional that are separated from both pedestrians and vehicles. Buffers to bike lane to remove the risk of car dooring.

Widened zone for street trees, planting and seating to provide amenity, shade, enhanced biodiversity outcomes and create an attractive walking environment. Opportunities for passive irrigation and WSUD gardens to be incorporated to reduce stormwater and improve plant health.

Figure 1-3 Indicative Green Street - Type C - Activity transport

1.6 Pedestrian Link

PEDESTRIAN LINK

Pedestrian only through-block link. Laneways and pedestrian links typically have limited or no vehicular access and prioritise pedestrian circulation. New pedestrian link locations are shown as fixed or flexible.

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

UDS PRINCIPLES

1 Enduring
2 Enhancing
3 Connected
4 Accessible
5 Enhancing
6 Liveable

Case Studies and Success Factors

QUAY QUARTER LANES , SYDNEY

Success factors:

- Feature paving
- Activated edges with boutique retail and cafes
- Informal seating ledges and custom furniture elements.

HOOPER STREET, SAN FRANCISCO, CA

Success factors:

- Street tree planting
- Passively irrigated garden beds
- Permeable paving
- Catenary lighting
- Industrial context.

Pedestrian Link- Type A - Urban amenity

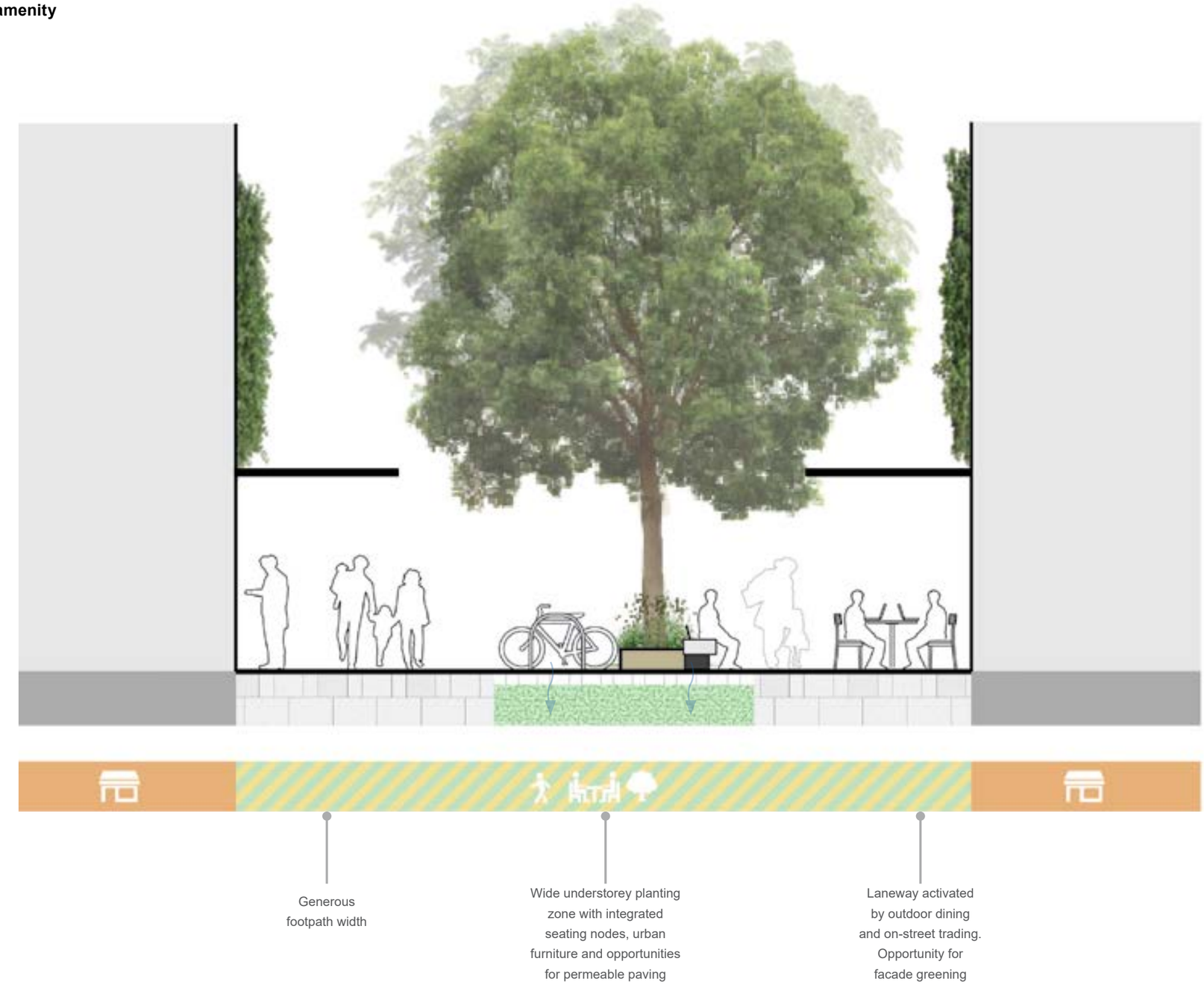


Figure 1-1 Indicative Pedestrian Link - Type A - Urban amenity section

Pedestrian Link- Type B - Shared Path

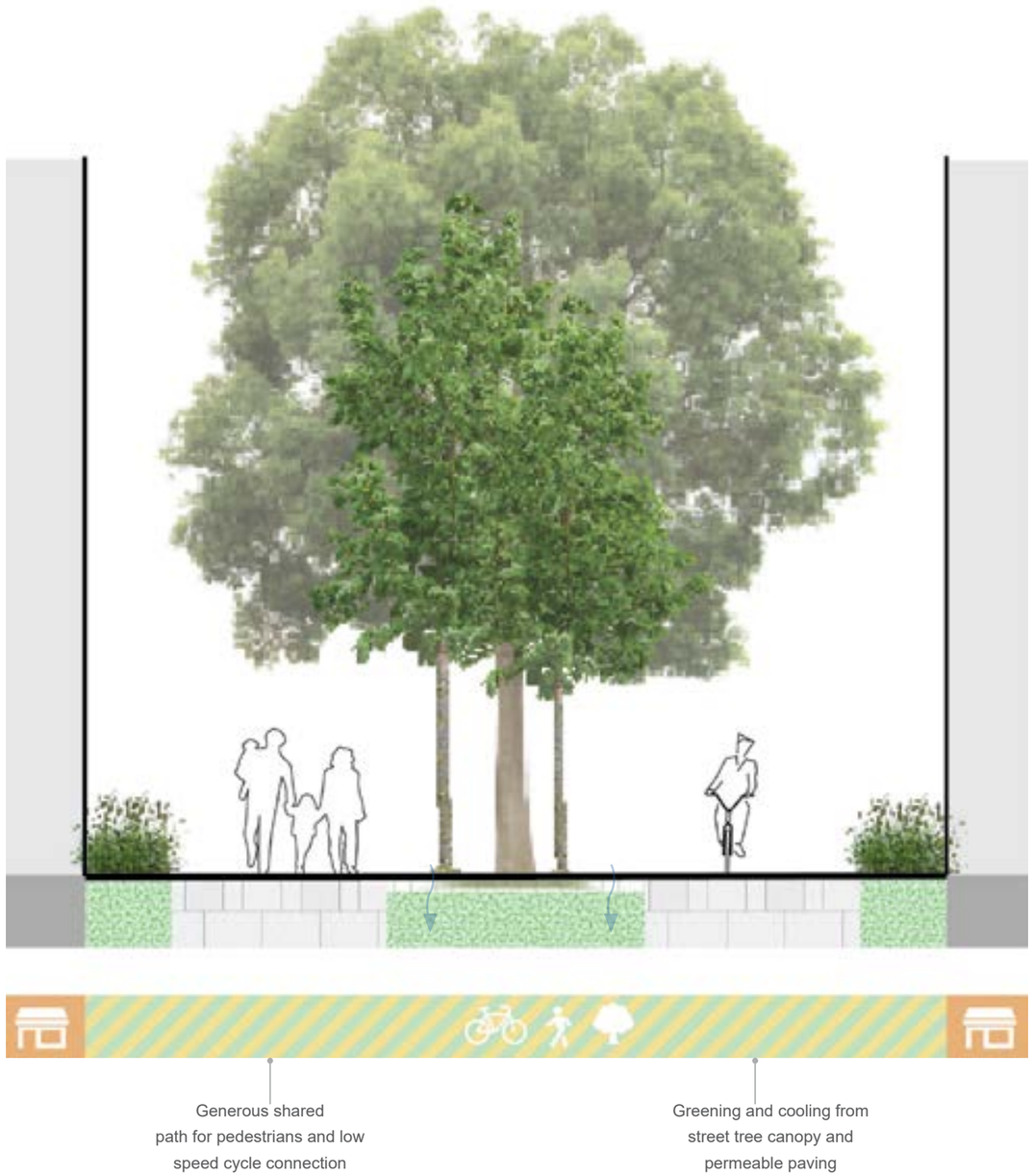


Figure 1-2 Indicative Pedestrian Link - Type B - Shared path section

Pedestrian Link- Type C - Biodiversity link

Figure 1-3 Indicative Pedestrian Link - Type C - Biodiversity link section

AJM
Joint Venture

80 Collins Street

Melbourne VIC 3000

PO Box 23061 Docklands

VIC 8012 Australia

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

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VICTORIA'S BIG BUILD

SUBURBAN RAIL LOOP AUTHORITY

SRL East Draft Structure Plan

Urban Design Report

Attachment A: Supporting Research

Technical Report R.1

Rev 01 February 2025

aurecon | Jacobs | MOTT MACDONALD

SUBURBAN RAIL LOOP

AJM Joint Venture

Document Control Record

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

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Contents

Report Purpose

This report summarises research relating to urban development, public realm and overshadowing which informs the SRL East Draft Structure Plan Urban Design Reports. The report has three parts as outlined below:

- **Part 1: Urban Development Typologies** - This section identifies relevant case studies which are appropriate contemporary medium to high-density development typologies. This section also tests a range of typologies across a range of lot sizes common to the SRL East Draft Structure Plan Areas to identify built form parameters and estimate the level of density expected from each typology
- **Part 2: Public Realm Typologies** - This section outlines research into relevant case studies and identification of their success factors, and groups the case studies into a range of typical public realm typologies. A typical cross-section is presented for each typology which reflects the identified success factors and aligns to the SRL urban design principles and objectives.

Part 1
Urban development typologies

1. Introduction

1.1 Purpose

This report summarises research undertaken to identify and evaluate national and international best-practice forms of urban development.

This research informed the urban development types proposed for the SRL East Draft Structure Plan Areas (see Urban Form in the SRL East Draft Structure Plan - Urban Design Reports).

1.2 Research methodology

STEP 1: CASE STUDIES

A number of buildings were identified as relevant case studies recognised as appropriate contemporary medium to high-density development typologies. Their merits were assessed against an urban form evaluation tool as explained on the following page. Not all case studies represent 'best practice' but rather contemporary examples of a relevant typology. They were included in the assessment to inform key learnings for the built form testing. They accommodate a range of uses including residential, commercial, industrial, research & development, advanced manufacturing and mixed-use.

Case studies were drawn from a Victorian, Australian and international context. The case studies located outside Victoria were delivered through different building codes and planning systems than what applies in a Victorian context. However, they were specifically included to expand our benchmark understanding of high quality urban development and to understand how high quality urban development is achieved using different planning systems.

The following data was collected for each case study:

- Lot size
- Site coverage
- Building height
- Development density
- Use mix
- Plan drawing
- Eye-level photos.

This data was used to categorise and evaluate the case studies and the data is presented in the format shown in Figure 1-1.

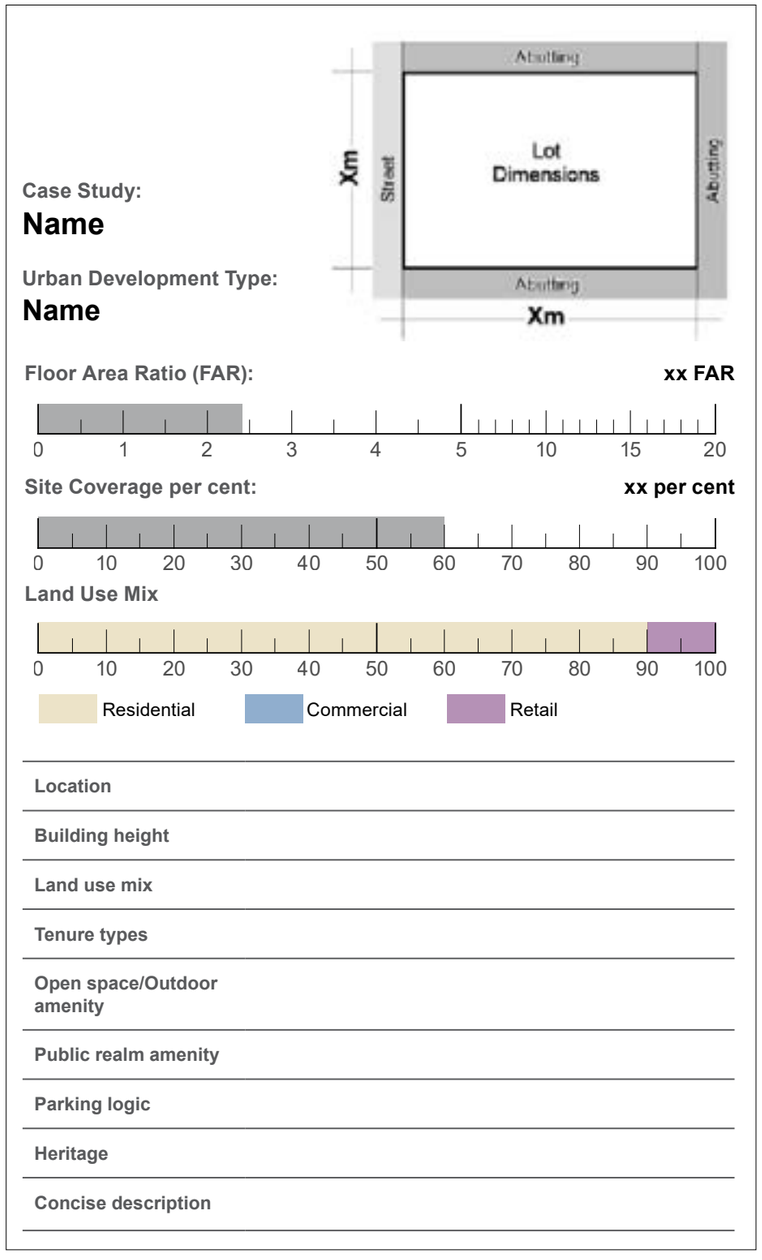


Figure 1-1 Case-study data template

STEP 2: TYPES

The case studies were categorised into urban development types according to defining characteristics such as:

- Street interface
- Setbacks
- Floor plan layouts and circulation
- Building heights
- Open space location
- Building use suitability.

The urban development types are arranged according to the density range delivered by the case study examples for each building type in the following table below:

Urban development type	Density (FAR)						
	0-1	1-2	2-3	3-4	4-5	5-6	6+
Podium-tower							■
Mid-rise podium-tower					■	■	■
Large freestanding building				■	■	■	■
Hybrid Perimeter				■	■	■	■
Urban Infill			■	■	■	■	
Shoptop Infill			■	■			
Pavilion Block			■				
Hybrid Employment		■	■				
Garden Apartment		■	■				
Terrace	■	■					

Figure 1-2 Urban Development Type overview

STEP 3: EVALUATION

Using the SRL Urban Design Framework Principles and Objectives, a series of urban development criteria were established specifically for this research to identify the preferred urban development types.

Each case study was assessed against the urban development criteria and summarised in a visual overview that enables easy comparison of their merit ‘at a glance’.

Following the evaluation, the Pavilion Block and Terrace Housing were eliminated from further analysis due to their relatively poor performance against the project’s principles and objectives.

The case studies that:

- Perform well have predominantly green criteria
- Perform moderately well have predominantly amber criteria; and
- Perform poorly have predominantly red criteria

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Figure 1-3 Example of assessment of case study against the Urban Development Criteria

URBAN DEVELOPMENT CRITERIA

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

1. Density
Maximum development intensity within the limits of other criteria

2. Implementability
Ease of development

3. Adaptability
Ability for buildings to change in function

4. Equitable development
Equitable opportunities for neighbouring development

5. Environmental sustainability
Energy use in construction and operation

6. Personalisation
Ease of additions and renovations

Principle 2 — Diverse:
Places that are inclusive and offer a diverse range of experiences

7. Mixed-use
Ability for buildings to accommodate multiple uses

8. Built form diversity
A varied and memorable visual experience

9. Accommodation diversity
Buildings which cater for a wide range of household and business types

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

10. Permeability
Inclusion of additional publicly-accessible pedestrian routes where appropriate

11. Legibility
Built form that reinforces the urban structure and contributes to intuitive way-finding

12. Vegetation
Retention and inclusion of trees, other vegetation and deep soil planting

Principle 4 —Accessible:
Places that are socially connected, enjoyable and easy to walk and wheel around

13. Safety
Passive surveillance of the public realm and communal spaces

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

14. Natural context
Buildings that respond positively to natural conditions and features

15. Heritage
Building form and design that respects heritage fabric

16. Character
Building form and design that complements the character of valued existing and neighbouring development

17. Community
Support for social interaction within developments

18. Design excellence
High standards of design

Principle 6 —Liveable:
Places that are comfortable and welcoming

19. Human scale
Built form that enhances the pedestrian scale of streets and places

20. Public realm amenity
Contribution to an inviting public realm in terms of its spatial experience and access to sun and daylight

21. Internal amenity
High amenity accommodation, circulation and communal open space for living and working

22. Public realm interface
Contribution to a comfortable, engaging and active pedestrian environment

Figure 1-4 Urban Development Criteria developed using SRL Urban Design Framework Principles and Objectives.

STEP 4: TESTING

Extensive testing of the urban development types was conducted to understand their potential feasibility and density within the SRL East Draft Structure Plan Areas.

This work was undertaken in parallel with the development of Urban Form proposals for each precinct and inputs into the capacity modeling. The urban development typologies and testing informed the future character of urban form areas within each SRL East Structure Plan Area. Subsequent further refinement of the urban form proposals during the development of the Draft Structure Plan Urban Design Reports has resulted in some minor discrepancies between built form controls in this supporting research document and the Urban Design Reports. (Please refer to Draft Structure Plan Urban Design Reports - Sections 5 and 6).

Each of the selected urban development types was tested on typical lot sizes in each relevant urban form area assessing its design feasibility to determine the likely built form outcome and development capacity.

The urban development testing has taken into account the following aspirations consistent with the SRL urban design objectives and principles:

- Urban consolidation - to facilitate growth
- Orient dwellings to the street and rear - improving outlook and street interface
- Street wall and human scale - Well defined public domain to contribute to an inviting, visually interesting and vibrant public realm at walking pace
- Sunny streets and spaces - maintain solar access to main streets and urban spaces
- Sky views - maintain relatively open streetscape with some maintained sky view amenity
- Equitable development - consider development opportunities on adjacent properties
- High quality architecture - enable a high quality architectural response.

Design considerations:

- Lot size (with the requirement that the development be achievable on at least 70 per cent of lots within the relevant sub-precinct)
- Density range
- Height range
- Suitability for different household types and businesses
- Parking locations
- Appropriate ground floor and upper-level setbacks
- Building site coverage, garden areas and deep soil zones
- Sun impacts on adjacent buildings and private open spaces
- Sun impacts on adjacent streets and open spaces.

The development types were 3D modelled on typical lot sizes within the relevant urban form areas. The typical lot sizes tested represent the15th percentile and the 85th percentile dimensions for the urban form areas where the development type is proposed. This ensures the developability of at least 70 per cent of lots within each urban form areas (assuming amalgamation where noted).

Sunlight amenity

Sunlight impacts were tested by considering direct shadowing on the adjacent public realm, private open space and building facades. A solar plane was established for north-south orientation and east-west orientation, resulting in upper-level setbacks. The solar amenity requirements are listed in Table 1-1.

Assumptions

The development types were defined according to current best-practice and compatibility with Clause 58 of the Victorian Planning Provision (VPP) as a minimum standard.

Building floor-to-floor height	
Residential levels	3.2 metres
Commercial ground floor	4.5 metres
Commercial upper floor	3.8 metres (4 metres in purely commercial buildings)
Floor plates	
Residential max width, max length	20 metres, 45 metres
Residential building depth Residential minimum floor plate area:	10 metres single orientation 20 metres double loaded 16 metres for dual-orientation apartments 300 square metres
Commercial building depth Commercial minimum floor plate area:	Max. 30 metres Min. 700 square metres
Advanced manufacturing and industrial building depth	Maximum 40 metres
Building separation	
Minimum separation for privacy	9 metres
Sun Access	
Private open space	Minimum 3 hours between 9am and 3pm at September equinox for Key Movement Corridors, Urban Neighbourhoods place types. Minimum 4 hours between 9am and 3pm at September equinox for Residential Neighbourhoods place type. Minimum 5 hours between 9am and 3pm at September equinox for areas outside the Draft Structure Plan Area.
Street footpath (except in Central Core areas)	Equinox: 11am - 2 pm
Open space (plaza/green)	Varies according to the importance of the space and its context.

Table 1-1 Development type testing assumptions

STEP 5: CAPACITY CALCULATION

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 areas.

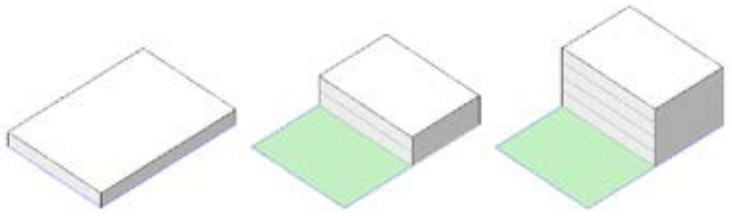
The FAR was determined by calculating the total Gross Floor Area of a building above ground level, measured from the outside of external walls, and includes all roofed areas (in accordance with GFA definition at Clause 73.01 of the VPP) divided by the area of the site.

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 eight as adjacent floors).

The envelope does not include:

- Basements
- Any uncovered communal outdoor areas.



FAR 1 FAR 1 FAR 2

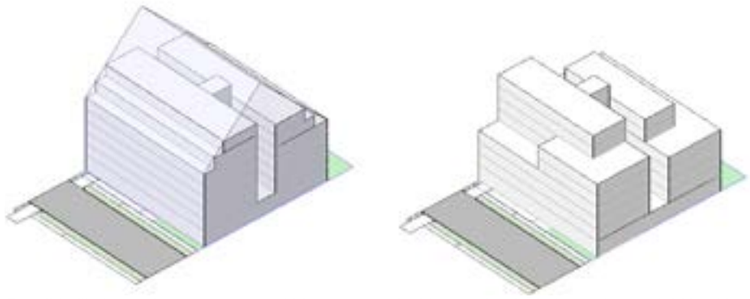
Figure 1-5 Floor area ratio (FAR) principle

Architectural articulation efficiency

A likely building volume was modelled within the maximum permissible envelope on each site based on our best practice assumptions in Table 1-1. 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.

Other factors that should be considered in determining the actual developable area include:

- Contamination
- Strata title
- Registered in Victoria Heritage Database (VHD)
- Environmental Audit Overlay
- Heritage Overlay
- Land subject to Inundation Overlay
- Special building Overlay
- Existing lot sizes and sizes of adjacent lots encourage amalgamation.



Possible likely maximum outcome within permissible building envelope

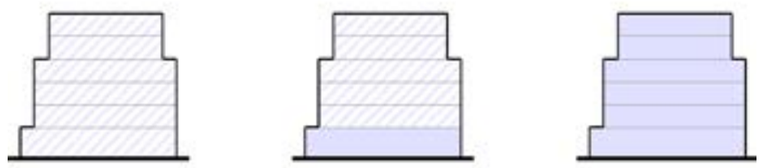
Architectural articulation reduces yield by 10 per cent

Figure 1-6 Architectural articulation principle

Land use mix

The urban development testing considers various uses as appropriate.

The land uses that were tested are identified for each urban form area and identified by the following icons:

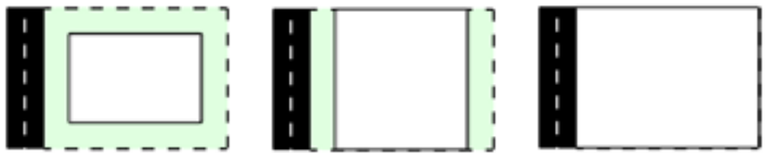


Residential *Mixed-use* *Commercial*

Figure 1-7 Use-mix principles

Interfaces

The built form response to site boundaries of the urban development types generally fall into three categories:



Building in landscape *Built to side boundaries* *Built to all boundaries*

Figure 1-8 Interface principles

1.3 Testing and capacity summary

The testing and capacity analysis established potential built form outcomes for each of the urban development types. Following the development of an Urban Form Framework and Future Urban Form Areas, the potential development capacity of each Draft Structure Plan Area was able to be anticipated based on the application of best-practice urban development types and outcomes.

The built form testing outcomes of each urban development type are summarised in Table 1-2.

The rationale for each urban development type is explained on the following pages.

Legend colour	Urban development type		Potential Use	Tree canopy cover	Location	Density	Building height
	Podium-Tower Active frontages at podium level with setback and separated towers above.		Mixed-use Commercial/ retail	0 per cent	Box hill	FAR 13	30 plus storeys
					Monash	FAR 11.5	25 storeys
					Glen Waverley/Clayton Core	FAR 8.5	20 storeys
					Cheltenham core	FAR 6.5	14 storeys
					Burwood core	FAR 5.5	6-14 storeys
	Mid-rise podium-tower Continuous street wall with setback built form to the rear. Side setbacks ensure solar amenity in public realm.		Mixed-use	5-10 per cent	20 metres plus Street width-deep lot	FAR 7	15 storeys
					15 metres street width - deep lot	FAR 6.5	14 storeys
					15 metres street width - shallow lot	FAR 5	11 storeys
					Rear residential interface	FAR 4	9 Storeys
	Shoptop Infill Articulated 2-3 storey street wall of existing retail streets with setback upper levels.		Mixed-use Retail/ Commercial	0 per cent	Near station	FAR 5	7 storeys
					Rear residential interface	FAR 4	7 storeys
					Far from station	FAR 3.5	5 storeys
	Urban Infill	**Urban Infill 1** Narrow front setback frames public realm while creating a continuous street wall edge with zero side setbacks. Rear setbacks ensure good solar amenity to adjacent buildings and open spaces.	Mixed-use Commercial	10-15 per cent	30 metres plus street width	FAR 4	9-10 storeys
					25 metres street width	FAR 3.5	8 storeys
					20 metres street width	FAR 3	6 storeys
		Urban Infill 2 Frames public realm with a continuous street wall edge with zero side setbacks and planted front setbacks. Rear and front setbacks ensure good solar amenity to adjacent buildings and open spaces.	Mixed-use Residential	10-15 per cent	15 metres &18 metres street widths	FAR 3	6-7 storeys
	Hybrid Perimeter Defined street edge created engaging public realm with central garden proving high standard of communal amenity and space for tree planting. Varied building types and heights for a range of uses and dwelling types.		Mixed-use	25 per cent	MSH-Student Quarter	FAR 2.9	4-12 storeys
					PMP printing BW-Mt Scopus college	FAR 2.2	4-8 Storeys
					BH -Former Brickworks Site BW-Aged Care	FAR 1.8	3-6 storeys
	Large Freestanding Building Large floor plates with moderate building height. Planted street setbacks with large canopy trees.		Commercial Education Advanced manufacturing Laboratories	25 per cent	MSH-Employment North	FAR 4,5	10 storeys
					Monash employment South	FAR 3.5	8 storeys
					Monash employment South Deakin University Holmsglen Institute	FAR 3.5	6 storeys
	Hybrid Employment Large floor plates for a wide range of employment and light industrial uses. Moderate landscaped setback to the street contribute to more inviting streetscape while loading and services are away from the street frontage.		Employment Commercial Light industrial uses	5 per cent	Cheltenham, Clayton, GlenWaverley & Burwood Industrial Areas	FAR 1	2-4 storey
	Garden Apartments Landscaped setbacks to all boundaries retaining leafy residential character. Setback upper levels ensures solar amenity on adjacent buildings.		Residential	35 per cent	No sensitive interfaces	FAR 2	4-6 storeys
					Overlay/sensitive areas	FAR 1.5	3-4 storeys
	Townhouses Development of single lots in residential neighbourhoods. Four townhouses with primary orientation to the street and rear. Generous landscaped setback to the street and rear retains the leafy residential character of these areas.		Residential	20-25 per cent	All residential neighbourhoods	FAR 1.2	2-3 storeys
	Pavilion Block		Residential	-	Not included in the SRL East precincts	-	-

Table 1-2 Development type testing summary

Urban Development Types Summary

A suite of best practice higher density urban development types that perform well against the SRL Objectives and Principles have been identified and are presented on the following pages.

Podium-Tower

Medium-high rise towers in the form of podium-tower buildings can deliver the significant 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 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.

Mid-rise podium-tower

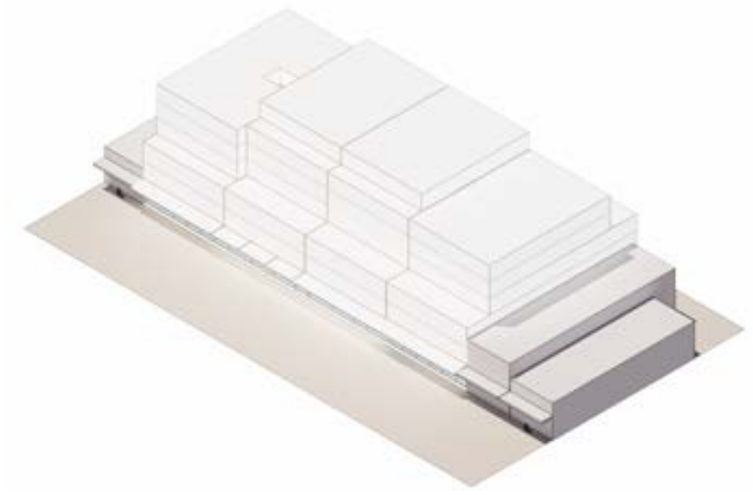
The mid-rise podium-tower delivers high-density whilst maintaining good solar provision to the public realm. This type typically requires a large lot or lot amalgamation.

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 rear boundary to provide space for tree planting. This typology provides a 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.

Shoptop Infill



Shoptop Infill development type provides for employment and housing growth and increased vibrancy, particularly outside retail hours, while complementing the existing character and providing a high level of pedestrian amenity.

It relies on the amalgamation of up to three typical lots, to create a feasible site width.

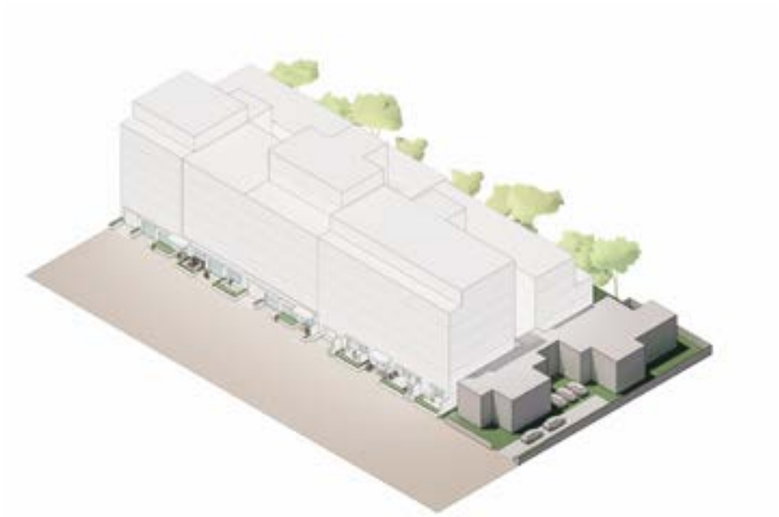
The proposed type incorporates a 2-3 storey street wall with a zero setback, boundary-to-boundary street wall that will complement the existing vibrant and memorable character created by low-rise, continuous, active streetscapes.

The street wall is articulated to reflect the existing fine-grain character and activated by commercial ground floor uses.

Above the street wall, upper levels are set back to ensure an appropriate balance between openness and enclosure in the street, along with good solar access.

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

Urban Infill 1



Urban Infill 2

Hybrid Perimeter

The Urban Infill 1 & 2 development types deliver highly adaptable buildings able to accommodate commercial and/or residential uses.

This development type delivers moderately high-density in accordance with Strategy UF3.1: Accessibility, without the adverse impacts of taller buildings. Importantly, it can be developed on the vast majority of the lots found in these urban form areas without the need for lot amalgamation.

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.

New Urban Infill development will represent a substantial change in character and its sheer on-boundary side walls will likely adversely affect the amenity of any neighbouring low-rise dwellings to the side, particularly any to the immediate south. The lack of side setbacks is necessary to enable viable development of appropriate density on single lots, and represents a trade-off for a generous rear setback. The rear setbacks will ultimately combine to form a large green space in the middle of the block.

The amenity impacts of high on-boundary side walls are considered to be part of the inevitable and reasonable cost associated with the transformation of the precinct. This is consistent with other transforming areas such as the Brunswick Activity Centre, Cremorne and Box Hill between Whitehorse Road and Box Hill Hospital. Low-rise dwellings will no longer represent the preferred character, and will increasingly become anomalies.

The building height and upper level street setbacks vary based on street width. The streetwall height is limited to a human scale to ensure an appropriate balance between openness and enclosure in the street, along with reasonable solar access.

This development type includes a landscaped front setback and generous rear setback, providing for canopy trees, good internal amenity and equitable development opportunities on neighbouring properties. The requirement for a generous rear setback will mitigate the impact of development on neighbouring rear gardens. This typology provides a 15 per cent deep soil area across the front and rear of the lot.

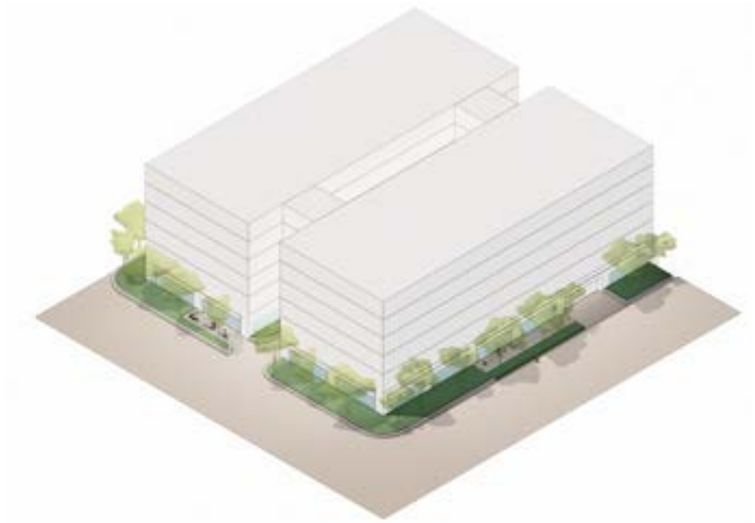
The proposed use-mix varies with the role and function of the urban form area.

Hybrid Perimeter development type provides an inviting public realm character, potential for varied visual experience, uses and housing choices, excellent communal amenity and plentiful space for tree canopy cover.

The arrangement of built form along the street edge provides a strongly-framed and engaging public realm. The central garden provides a high standard of communal amenity, and space for tree planting. This typology provides a 25 per cent deep soil area.

The format enables varied building types and heights, providing for a range of uses and household types including families.

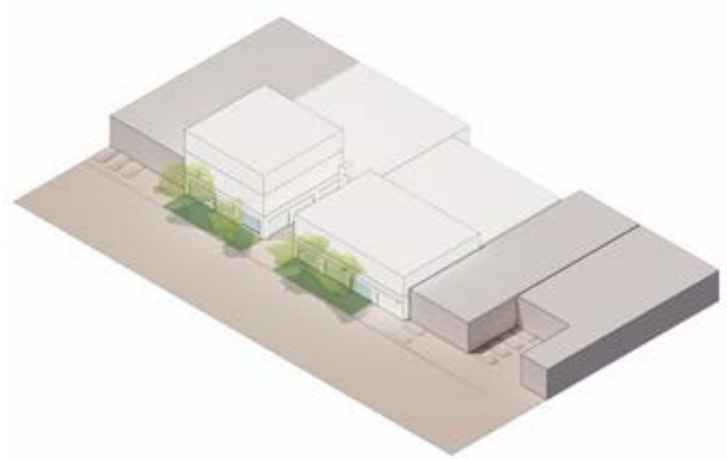
Large freestanding building



The ‘Large freestanding building’ development type provides the large floor plates typically required for education or employment uses. Its moderate building height contributes to memorable, well-framed spaces with good amenity.

The large area of these buildings provides opportunities for these larger footprint buildings and generous tree planting. This typology provides a 25 per cent deep soil area in the front setback and consolidated garden areas.

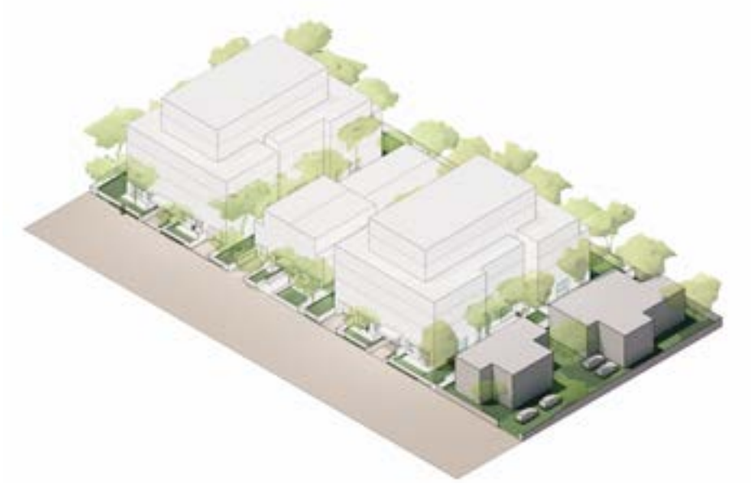
Hybrid Employment



The Hybrid Employment development type can host a wide range of employment uses. It can take the form of a freestanding building on larger or amalgamated lots, or a boundary-to-boundary infill building on narrower lots.

Importantly, the development type positions loading and servicing activities away from the street frontage, and instead addresses the street with its most active uses and incorporates a modest landscaped setback. This will contribute to a more inviting streetscape, attracting new businesses to the area. This typology provides a 5-10 per cent deep soil area at the front of the lot. This typology provides a 5 per cent deep soil area across the front of the lot.

Garden Apartments and Townhouses



Garden Apartment (amalgamated lots) and Townhouses (single lots) can host a range of residential unit types and densification of existing residential areas. .

The Garden Apartment development type incorporates landscaped setbacks from all boundaries, which will provide for the retention of the leafy character, high quality 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 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.

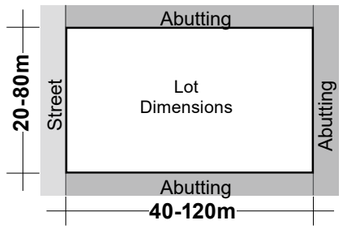
4-6 storey garden apartments rely on the amalgamation of two typical lots, which is necessary to deliver higher density while providing good quality internal amenity, avoiding unreasonable impacts on the amenity of neighbouring properties and providing a well-landscaped perimeter.

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. This typology provides a 15 per cent deep soil area across the front and rear of the lot.

2. Podium-Tower

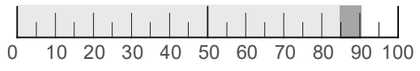
2.1 Podium-Tower Development Type

Lot dimension range



Floor Area Ratio (FAR): **8.3-10 FAR**

Site coverage per cent: **86-92 per cent**



Description	This type is typically used in high-density locations that require Mixed-uses. This type can deliver urban street wall definition and a “human-scale” at street level, while providing significant density set back from street level. Sleeving the podium levels in single-loaded apartments can contribute passive surveillance and activation to the streets.
Use mix potential	 Great for mixed-uses with high flexibility for commercial and retail in the podium levels
Interfaces	 Built to all boundaries - defining consistent street wall.
Accommodation types	Typically single level units in a range of sizes.
Open space amenity	Podium gardens.
Public realm amenity	Active street frontages.
Parking logic	Typically parking provided in podium or underground when a large amount of retail is needed.
Testing summary	This development type is appropriate in Central Core areas where density is a main priority and around significant transport amenity. Key learning from our assessment of case studies: • Performs well on delivering high-density and mixed-uses • Good street definition and opportunities for flexible and active uses on podium levels. • Publicly accessible ground floor uses can contribute to street amenity • Slender tower forms with appropriate tower separation increase solar amenity in public realm and outlook and privacy from buildings • Generally poor tree canopy cover • Generally poor flexibility in future use adaptation and dwelling personalisation • High embodied carbon in construction materials.

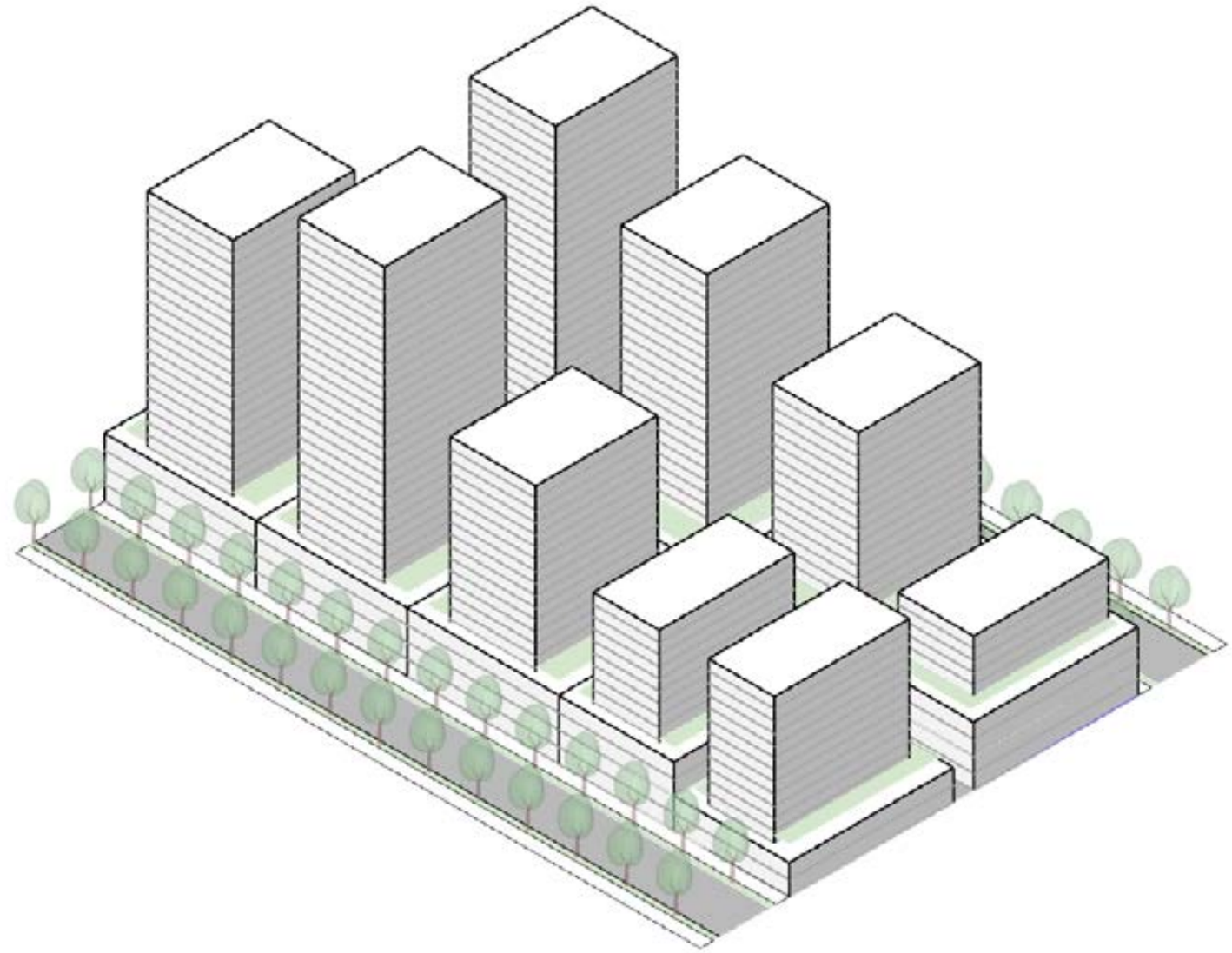


Figure 2-1 Indicative Podium-Tower development type

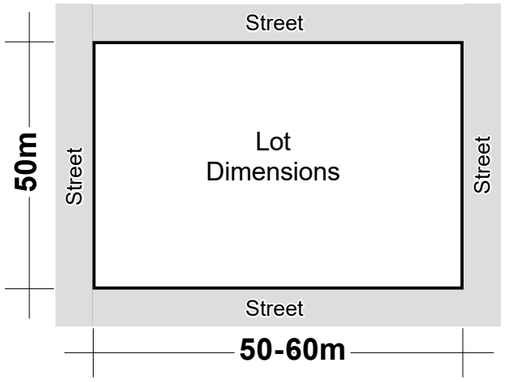
2.2 Podium-Tower case studies

Case Study:

Escala

Urban Development Type:

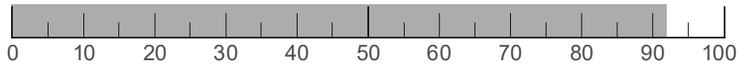
Podium-Tower



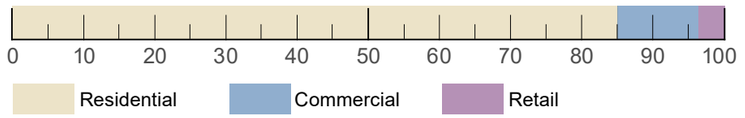
Location	Docklands, Melbourne
Architect/Developer	Six Degrees
Building height	20 storeys
Land use mix	Retail GF, Commercial, Residential
Tenure types	-
Open space amenity	Public courtyard, small public space on corner, private terrace, private rooftop garden
Public realm amenity	Highly Activated GF with through links, lots of concrete, not much vegetation
Parking logic	Podium
Heritage	-
Concise description	Podium tower complex comprised of 6 buildings designed to look separate, giving a sense of a block thats emerged from separate parts over time. Central to Escala's community life is a small square and lane way integrated into the ground plane. It's a natural meeting point and social springboard that launches an authentic neighbourhood vibe. As well as a gathering place, the square is a prominent forecourt and activated public realm with specialty retail and commercial tenancies that complement the residential tower. Escala's thickened edge to the north incorporates three boutique ground-floor commercial tenancies, a small piazza, and a pedestrian lane way that cuts through the block. Site: 2,400 square metres, 173 apartments, 2400 square metres commercial & Parking.

Floor Area Ratio (FAR) **10 FAR**

Site coverage per cent: **92 per cent**



Land Use Mix



Urban development-criteria:

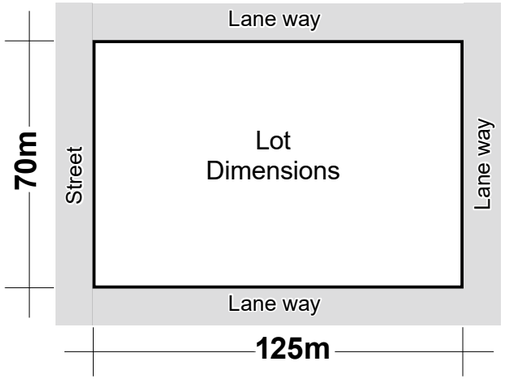
Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

AJM
Joint Venture

Case Study:
One40William

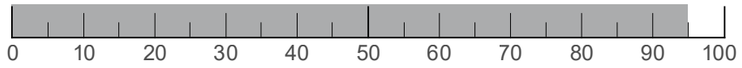
Urban Development Type:
Podium-Tower



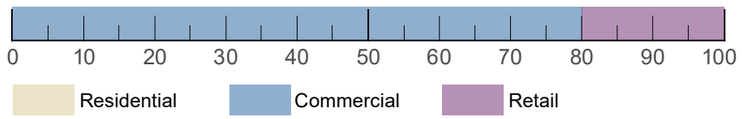
Location	140 William Street, Perth, WA
Architect/Developer	Hassell
Building height	23 storeys
Land use mix	Commercial, retail, rail station
Tenure types	Retail and commercial
Open space amenity	Roof top terraces for commercial tenants.
Public realm amenity	Publicly accessible retail ground floor/civic space. Active ground floor frontages.
Parking logic	Basement, street frontage loaded
Heritage	Maintained heritage listed building incorporated into the design
Concise description	Located directly above Perth underground railway station, the site context is unusual in that it includes historic building fabric, major street frontages and a pedestrian mall. The design celebrates heritage, promotes new linkages between workplace, retail and public transportation and creates a positive shared civic space. The built form is articulated in a composition of separate floating boxes intended to break down the volume to set better with surrounding finer grain context.

Floor Area Ratio (FAR) **6.3 FAR**

Site coverage per cent: **95 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

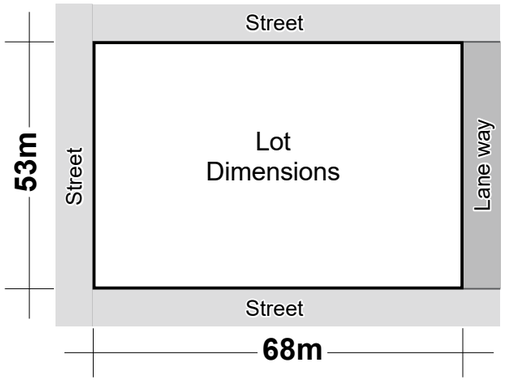
Where not relevant left blank

Case Study:

Zuidas 2 - Commercial Building

Urban Development Type:

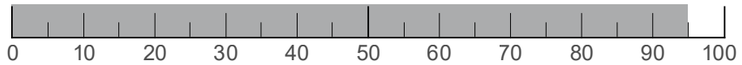
Podium Tower



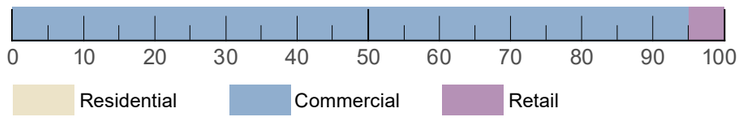
Location	Zuidas, Amsterdam, Netherlands
Building height	30 storeys
Land use mix	Commercial office
Tenure types	Multiple tenant
Open space amenity	Shared podium garden, roof top and green roofs.
Public realm amenity	Active ground floor retail and commercial
Parking logic	Basement parking
Heritage	
Concise description	Commercial perimeter block with an extruded tower along one side.

Floor Area Ratio (FAR) **21 FAR**

Site coverage per cent: **95 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

2.3 Podium-Tower testing

Urban Development Type:
Podium-Tower

Medium-high rise towers in the form of podium-tower buildings can deliver the significant 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 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.

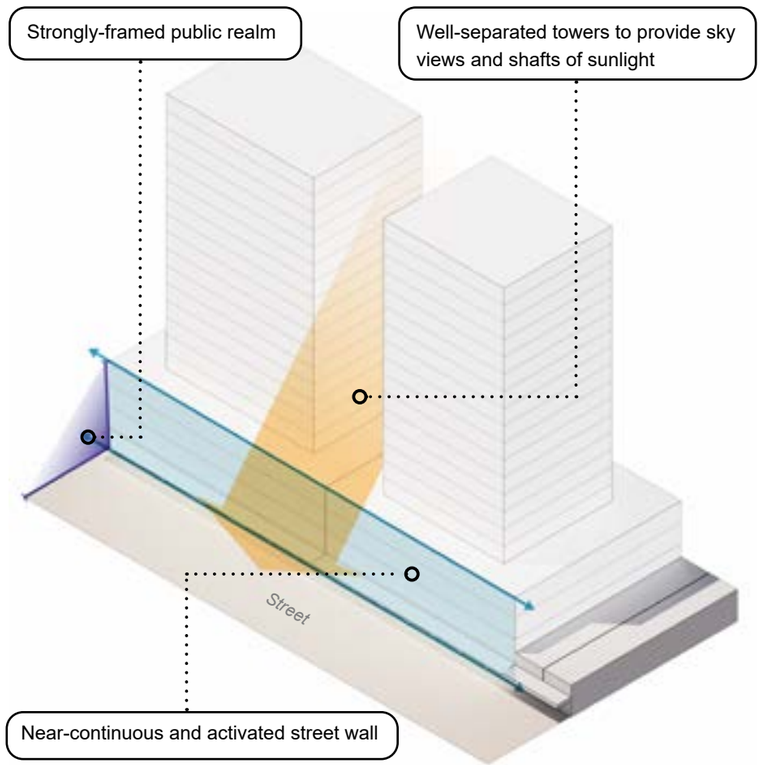


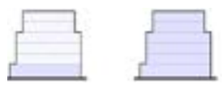
Figure 2-1 Typical massing volume

Description:

Existing place type	The commercial core of the activity centre and area immediately around the SRL station
Role and function rationale	Significant intensification of built form, delivering mixed-use neighbourhoods which provide space for jobs growth and local services
Future character drivers rationale	• Recognise existing moderate to high level of intensification • High level of activation to the street • Maintain solar amenity to key public spaces
Accommodation types	Great flexibility in podium level for retail, commercial floor plates or parking sleeved with residential. Residential dwellings typically single storey apartments with single or corner orientation in varying sizes. Apartments typically on single level with covered balconies within the building envelope.
Parking logic	Vehicular parking located in basement or podium levels sleeved by other active uses. Parking and service entrance from rear or side lane way.

Development properties:

Floor Area Ratio (FAR) range: **5.5-13 FAR**

Use mix		Great mixed-use potential. Retail or commercial use in podium level. Tower can accommodate residential or commercial uses.
Interfaces		Built to all side boundaries.
Building height		
Building height	10-30 storeys	Maintain adequate daylight and sunlight in street and rear-facing buildings.
Street wall height	11-24 metres (2-6 storeys)	To frame street. Upper level setback to improve micro-climatic conditions and avoid wind down wash to street level.
Open space		
Open space amenity	Communal	Located on podium level
Deep soil area	0 per cent	No deep soil area on lots in core areas.
Canopy cover area	0 per cent	

Precedent examples

Urban Development Type:
Podium-Tower

Setbacks		
Front setback	0 metres	Zero setback for urban character and active ground floors.
Front above street wall	3 metres	To mark consistent street wall and prevent wind down pour
Side and rear. One sheer building face. Setback determined by total building height. (not a tiered form)	4,5 metres	Above 11 metres
	6 metres	Above 27 metres
	7.5 metres	Above 40 metres
	10 metres	Above 66 metres
	12. 5 metres	Above 100 metres

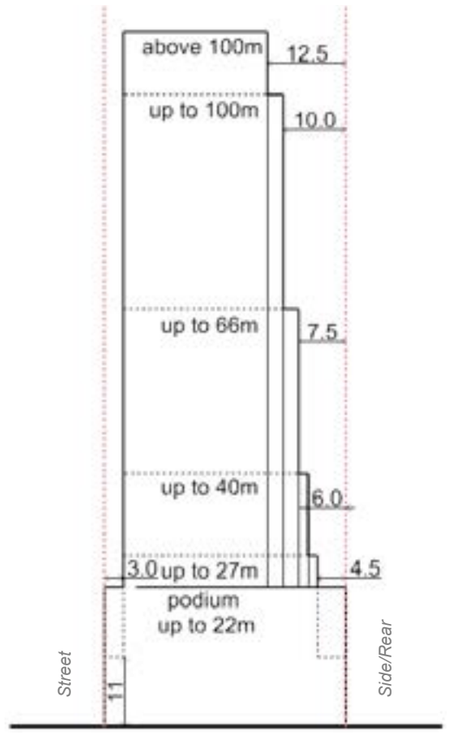
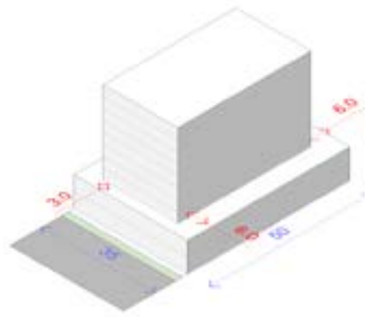
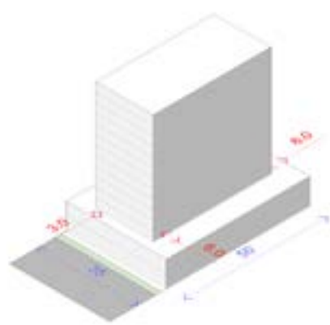
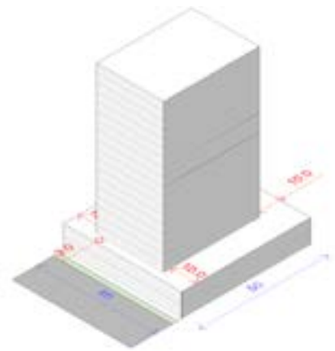


Figure 2-2 Podium-Tower Section setbacks sides and rear

Locations					
Burwood		**Cheltenham**		**Glen Waverley/Clayton**	
Area	1,750 square metres	Area	1,750 square metres	Area	2,300 square metres
Width	35 metres	Width	35 metres	Width	46 metres
Depth	50 metres	Depth	50 metres	Depth	50 metres

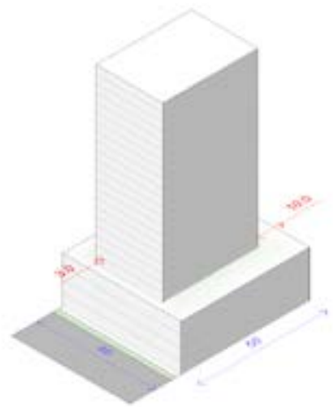


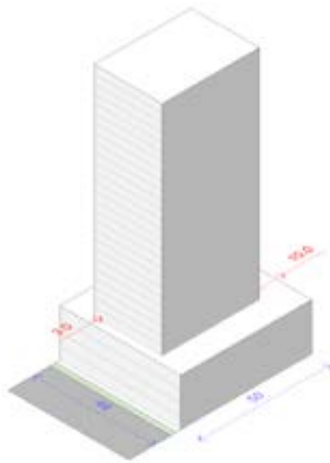




Height (storeys)	**10**	**Height (storeys)**	**14**	**Height (storeys)**	**20**
FAR	**5.6**	**FAR**	**6.6**	**FAR**	**8.5**

Monash		**Box Hill**	
Area	2,300 square metres	Area	2,300 square metres
Width	46 metres	Width	46 metres
Depth	50 metres	Depth	50 metres



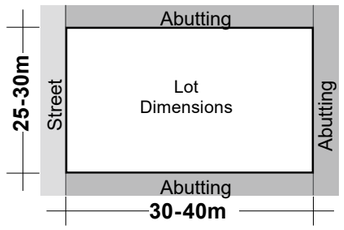


Height (storeys)	**25**	**Height (storeys)**	**30**
FAR	**11**	**FAR**	**13**

3. Mid-rise Podium-Tower

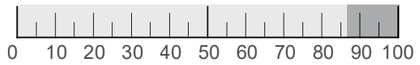
3.1 Mid-rise Podium-Tower Development Type

Lot dimension range



Floor Area Ratio (FAR): **4.3-6.4 FAR**

Site coverage per cent: **88-100 per cent**



Description	This type is typically used in high-density locations that require mixed-uses. This type can deliver urban street wall definition and a “human-scale” at street level, while providing significant density set back from street level. Sleeving the podium levels in single-loaded apartments can contribute passive surveillance and activation to the streets.
Use mix potential	 Mixed and commercial uses
Interfaces	 Narrow front and rear setbacks and to all boundaries.
Accommodation types	Typically single level units in a range of sizes.
Open space amenity	Communal open space on podium level or roof top. Large private terraces on setback levels.
Public realm amenity	Active street frontages and moderate ground floor setback for to contribute to street landscaping.
Parking logic	Rear or front-loaded vehicular entrance to parking located in basement or sleeved podium.
Testing summary	This development type is appropriate in central areas where density is a high priority balanced with public realm amenity outcomes. Key learning from our assessment of case studies: • Performs well on delivering high-density and mixed-uses at a human scale • Provide relatively high-density balanced with public realm amenity • Good opportunity for active ground floor uses • Tower form creates relatively high proportion of corner dwellings with dual orientation • Good private dwelling amenity with multiple setback levels allowing for large terraces • Relatively poor flexibility in future use adaptation and dwelling personalisation.

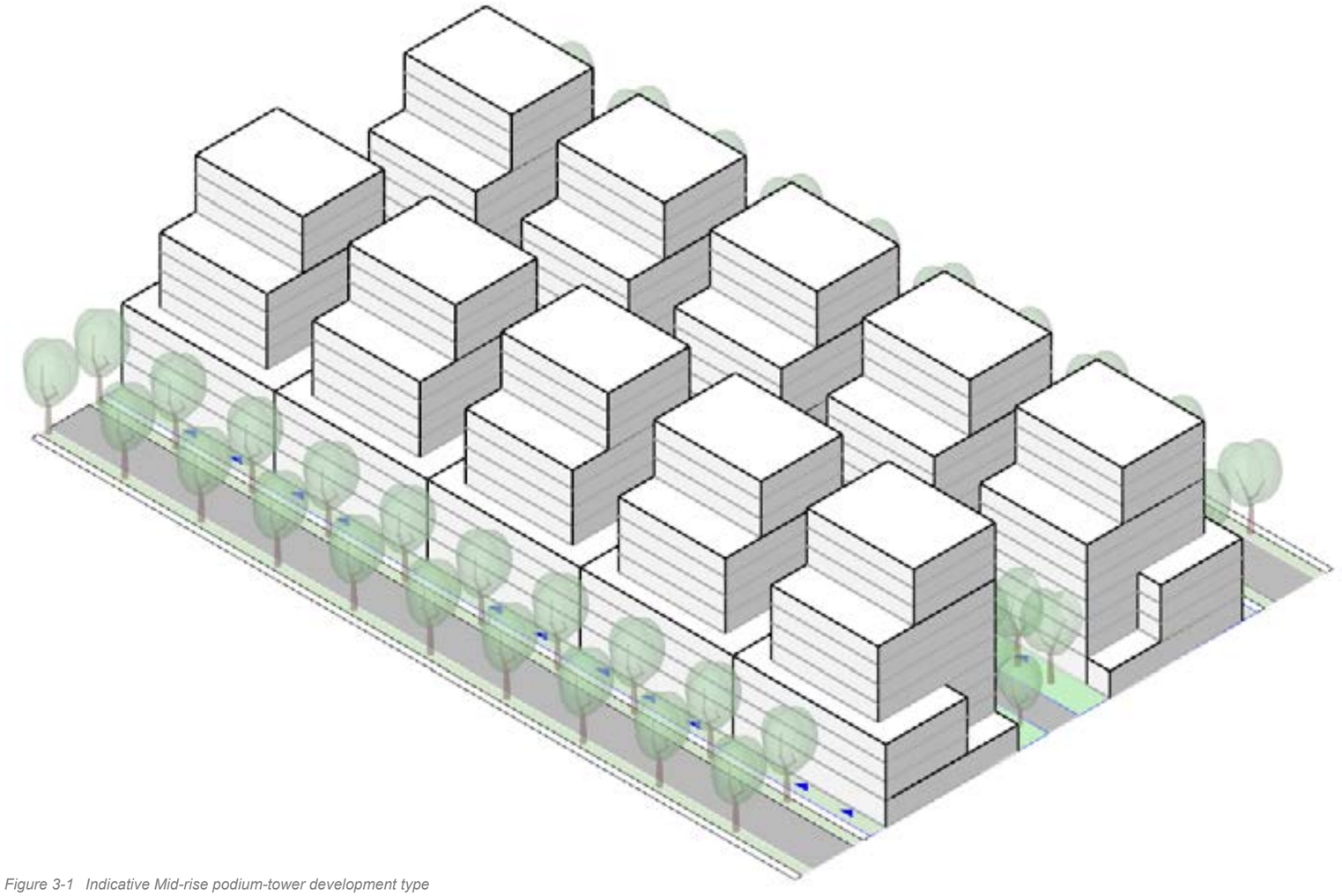


Figure 3-1 Indicative Mid-rise podium-tower development type

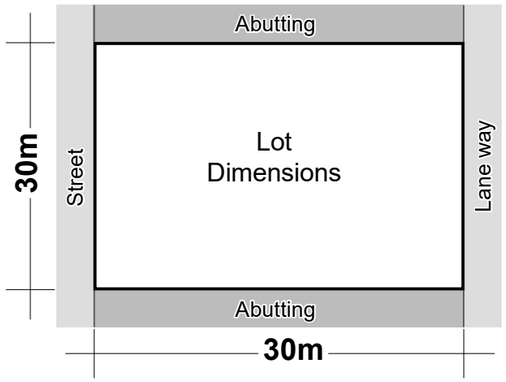
3.2 Mid-rise Podium-Tower case studies

Case Study:

‘The Parade’ Box Hill, VIC

Urban Development Type:

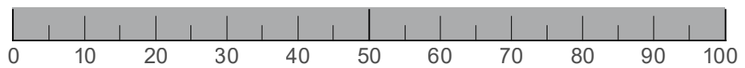
Mid-rise Podium-Tower



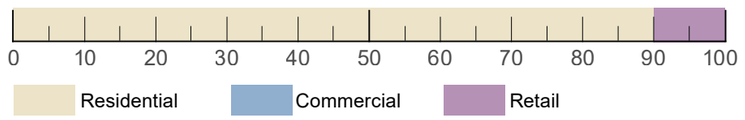
Location	9 Ellingworth Parade, Box Hill, Melbourne VIC
Architect/Developer	Hayball and Pomeroy Pacific
Building height	11 storeys
Land use mix	Residential, retail ground floor
Tenure types	Market apartments
Open space amenity	Private terraces
Public realm amenity	Active retail ground floor
Parking logic	Underground and podium parking entrance from Ellingworth Parade
Heritage	
Concise description	Mixed-use development with a 4-storey street wall with a step back residential tower perpendicular to the street. The tower chamfers to allow sunlight to the street level south of the development.

Floor Area Ratio (FAR) **6.4 FAR**

Site coverage per cent: **100 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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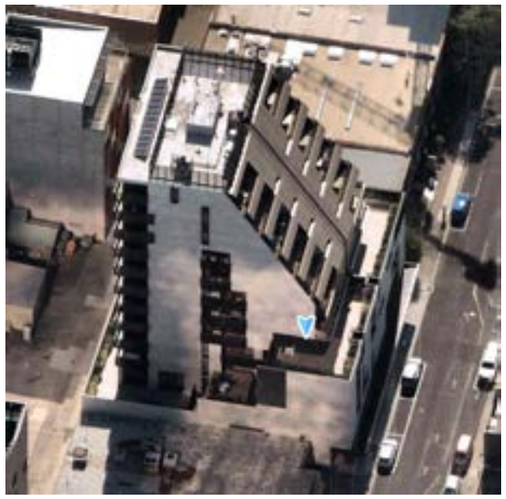
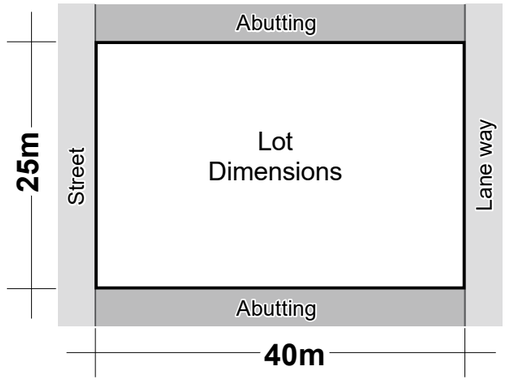


Case Study:

324 Centre Road

Urban Development Type:

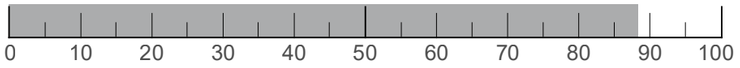
Mid-rise Podium-Tower



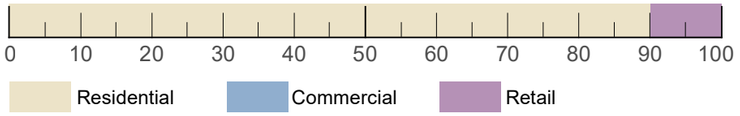
Location	324 Centre Rd Bentleigh, Melbourne VIC
Building height	8 storeys
Land use mix	Residential, retail ground floor
Tenure types	Market apartments
Open space amenity	Private terraces and shared roof top terrace
Public realm amenity	Active retail ground floor
Parking logic	Underground and podium parking
Heritage	-
Concise description	Mixed-use development along High Street with retail ground floor. A 3 storey street elevation runs the whole width of the site, creating a continuous street wall. A step-back residential tower extends up to 7 storeys creates courtyards along both side boundaries.

Floor Area Ratio (FAR) **4.7 FAR**

Site coverage per cent: **88 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

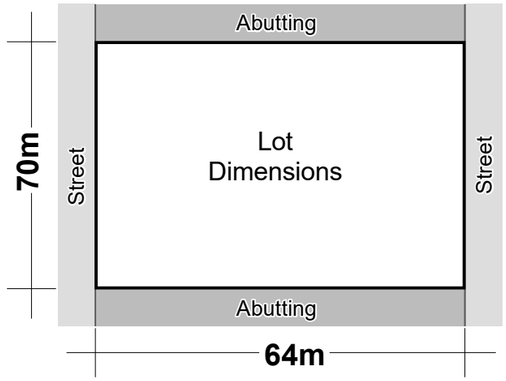
Where not relevant left blank

Case Study:

Oxley

Urban Development Type:

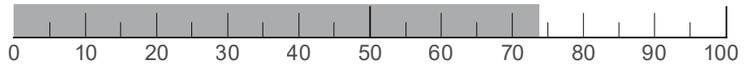
Mid-rise Podium-Tower



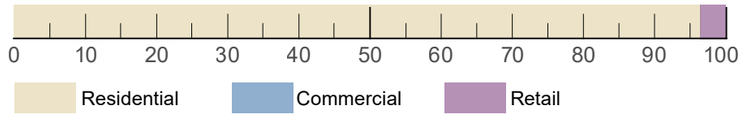
Location	46-74 Stanley Street, Collingwood, Melbourne VIC
Architect/Developer	Elenberg Fraser
Building height	8 storeys
Land use mix	Residential, retail ground floor
Tenure types	Market apartments
Open space amenity	Private terraces and shared roof top terrace
Public realm amenity	Active retail ground floor
Parking logic	Underground and podium parking
Heritage	-
Concise description	Mixed-use development with retail ground floor. A 4 storey street wall runs the whole width of the site, creating a continuous street wall with three towers extending perpendicular to the street. The development also includes a separate apartment building of double-loaded corridor to the rear facing Napoleon Street. The whole development shares a communal courtyard and podium swimming pool.

Floor Area Ratio (FAR) **4.3 FAR**

Site coverage per cent: **73 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

3.3 Mid-rise Podium-Tower testing

Urban Development Type:
Mid-rise Podium-Tower

The mid-rise podium-tower development type delivers high-density whilst 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 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.

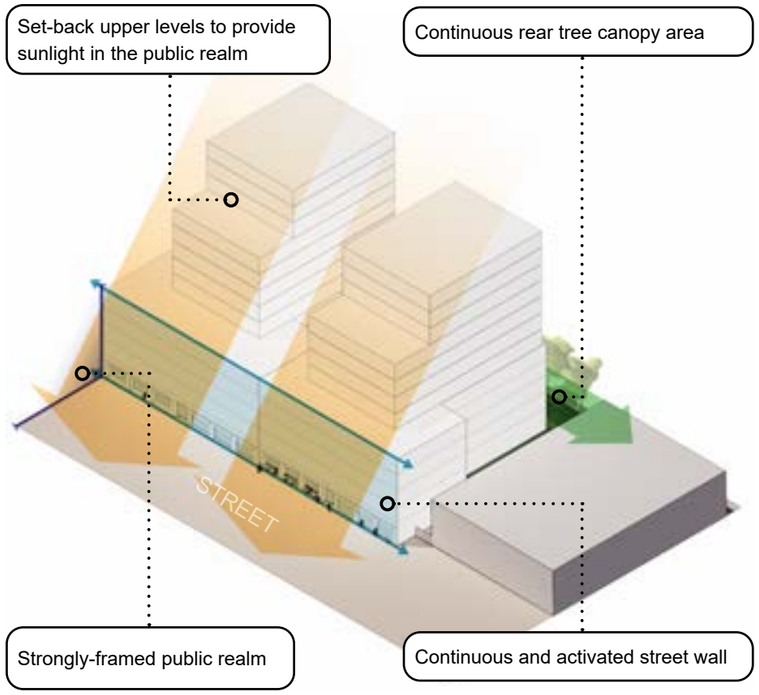


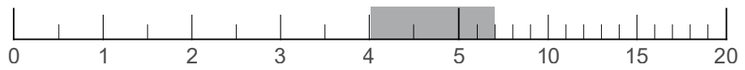
Figure 3-1 Typical Mid-rise podium-tower massing volume

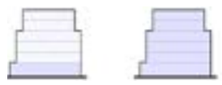
Description:

Existing place type	Activity centre (commercial area) beyond the Core
Role and function rationale	High intensification of built form providing space for jobs growth, local services and housing surrounding the core
Future Character drivers rationale	• High level of activation to the street • Maintain sunlight amenity to the public realm • Recognise existing moderate to high level of intensification.
Accommodation types	Residential dwellings typically single storey apartments with single or corner orientation in varying sizes. Apartments typically on single level. Private outdoor space on balconies or covered balconies within the building envelope.
Parking logic	Vehicular and service entrance from rear lane way. Parking located in basement or ground floor podium.

Development properties:

Floor Area Ratio (FAR) range: **4-7 FAR**



Use mix		Potential for mixed-use. Retail or small scale commercial at ground floor.
Interfaces		Built to side boundaries. Contribute to street green character, while retaining engaging interface with ground floor uses.
Building height		
Building height	9-15 storeys	Maintain adequate daylight and sunlight in street and rear-facing buildings.
Street wall height	4-6 storeys (15-22 metres)	Maintain human scale while creating enclosure of street approximately 1:1 balancing openness and enclosure of street.
Open space		
Deep soil area	5-10 per cent	Primarily rear of lot.
Canopy cover area	5-10 per cent	Canopy trees in rear deep soil zone and front garden setback.
Open space amenity	Communal	Rear garden and roof top
	Private	Balconies and terraces on setback levels

Precedent examples

Urban Development Type:
Mid-rise Podium-Tower

Setbacks		
Front setback	0 metres	On streets wider than 16 metres
	3 metres	On streets narrower than 16 metres
Front above street wall	3 metres	
	Equinox sun plane	From southern footpath when building is located on northern side of east/west going street.
Rear setback	6 metres	15 per cent of lot depth (which ever is greater) To provide deep soil zone minimum dimension 6m for large canopy trees.[1]
	Equinox sun plane	From top of rear fence of adjacent property if residential use.

1 In the urban form recommendations, the rear setback is rationalised to minimum 6 metres regardless of lot depth.

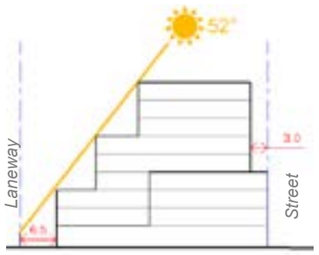


Figure 3-2 Section north of residential

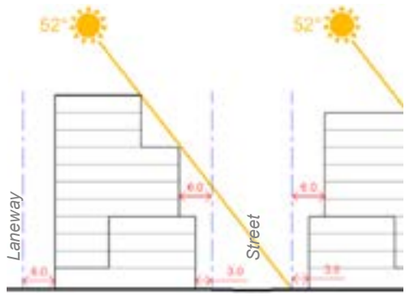
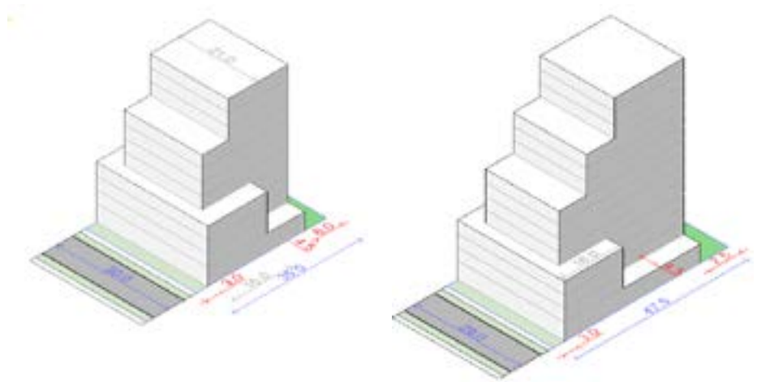


Figure 3-3 Section North of street

Location					
Clayton/Glen Waverley		**Box Hill 15th per centile**		**Box Hill 85th per centile**	
Lot sizes					
Area	1,320 square metres	Area	1,050 square metres	Area	1,377 square metres
Width	30 metres	Width	30 metres	Width	29 metres
Depth	44 metres	Depth	35 metres	Depth	47.5 metres
15m street width					



	Height (storeys)	**11**	**Height (storeys)**	**14**
	FAR	**5**	**FAR**	**6**
20m plus Street width				

Height (storeys)	**9**	**Height (storeys)**	**15**
FAR	**4**	**FAR**	**7**

3.4 Mid-rise Podium-Tower testing - Health and Education

Urban Development Type:
Mid-rise Podium-Tower (Health and Education)

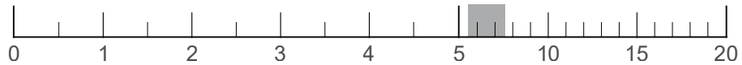
Further testing of mid-rise podium tower has been undertaken to determine the appropriteness of this urban develop type for health and education uses specifically in Box Hill.

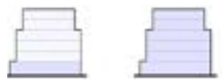
Description:

Existing place type	Activity centre (commercial area) beyond the Core
Role and function rationale	High intensification of built form providing space for jobs growth, local services and housing surrounding the core
Future Character drivers rationale	• High level of activation to the street • Maintain sunlight amenity to the public realm • Recognise existing moderate to high level of intensification.
Accommodation types	Residential dwellings typically single storey apartments with single or corner orientation in varying sizes. Apartments typically on single level. Private outdoor space on balconies or covered balconies within the building envelope.
Employment types	Health and education uses require the provision of large floor plates for efficient use of the building and accommodate technical and mechanical requirements.
Parking logic	Vehicular and service entrance from rear lane way. Parking located in basement or ground floor podium.

Development properties:

Floor Area Ratio (FAR) range: **5.5-7.5 FAR**



Use mix			Potential for mixed-use. Retail or small scale commercial at ground floor.
Interfaces			Built to side boundaries. Contribute to street green character, while retaining engaging interface with ground floor uses.
Building height			
Building height	11-13 storeys	Maintain adequate daylight and sunlight in street and rear-facing buildings.	
Street wall height	3-4 storeys (11-20 metres)	Maintain human scale while creating enclosure of street approximately 1:1 balancing openness and enclosure of street.	
Open space			
Deep soil area	5-10 per cent	Primarily rear of lot.	
Canopy cover area	5-10 per cent	Canopy trees in rear deep soil zone and front garden setback.	
Open space amenity	Communal	Rear garden and roof top	
	Private	Balconies and terraces on setback levels	

Precedent examples

Urban Development Type:

Mid-rise Podium-Tower (Health and Education)

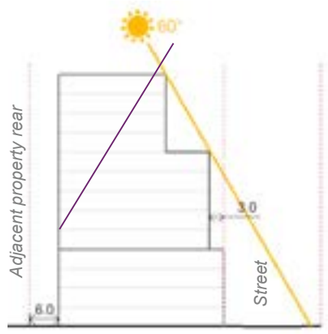


Figure 3-1 Section North/South street

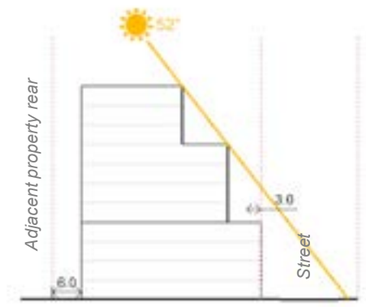


Figure 3-2 Section North of East/West street

Setbacks		
Front setback	0 metres	
Front above street wall	3 metres	
North/South going streets	60° sun plane	From opposite footpath to retain sun on opposite footpath between 10:30am and 1:30 pm.
East/West going streets	Equinox sun plane	When building is located on northern side of east/west going street. From southern footpath.
Rear setback	6 metres	To provide deep soil zone minimum dimension 6m for large canopy trees.
North/South going streets with rear residential interface	6 metres plus 0.6 metres per metre of height above 17 metres	

Health and Education in Box Hill

Location: North/South going streets

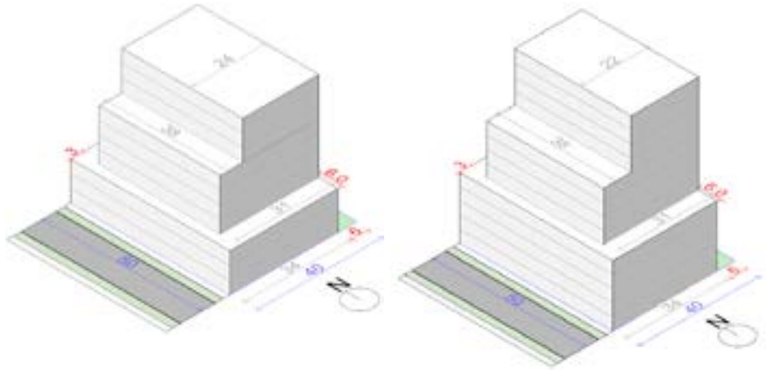
Lot sizes			
Area	1,170 square metres	Area	1,564 square metres
Width	30 metres	Width	34 metres
Depth	39 metres	Depth	46 metres
3 amalgamated residential lots		3 amalgamated residential lots	

15 metres wide street		20 metres wide street	
Height (storeys)	**10**	**Height (storeys)**	**13**
FAR	**6**	**FAR**	**7.5**

Location: East/West going streets

Lot sizes			
Area	1,170 square metres	Area	1,564 square metres
Width	30 metres	Width	34 metres
Depth	39 metres	Depth	46 metres
2 amalgamated lots		Existing Elgar Hill Medical suites	

South side of street (corner site)		North side of street (20 metres corner site)	
Height (storeys)	**11**	**Height (storeys)**	**11**
FAR	**6.5**	**FAR**	**7**

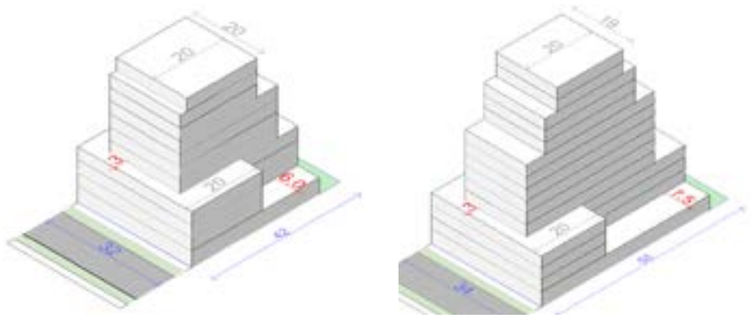


Clayton Road

Location: North/South going streets

Lot sizes			
Area	1,345 square metres	Area	1,980 square metres
Width	32 metres	Width	34 metres
Depth	42 metres	Depth	58 metres
2 amalgamated residential lots		2 amalgamated residential lots	

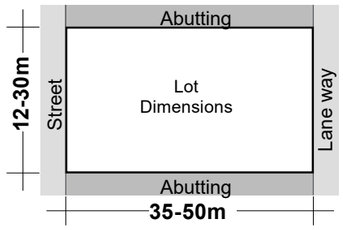
Narrow lots		Deep lots	
Height (storeys)	**11**	**Height (storeys)**	**15**
FAR	**5.5**	**FAR**	**6.5**



4. Shoptop Infill

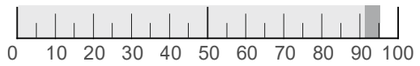
4.1 Shoptop Infill Development Type

Lot dimension range



Floor Area Ratio (FAR): **4-6 FAR**

Site coverage per cent: **92-95 per cent**



Description	Uplift of existing fine-grain retail streets with upper level extension. 2-3 storey street wall responding to context character and urban grain. This type increase housing growth and vibrancy outside retail hours.
Use mix potential	Non-residential uses. Light industrial and commercial uses.
Interfaces	 Front and rear landscaped setbacks
Accommodation types	Typically single level apartments with different layout configurations. Apartments oriented to front and rear. Occasionally, an internal light well enable cross-ventilated dwellings.
Open space amenity	Communal rooftop terrace and private balconies
Public realm amenity	Active retail street frontages
Parking logic	Basement parking with vehicular access from rear lane way
Testing summary	The Shoptop Infill type is appropriate along existing retail streets and high streets with existing fine-grain character. This development type is seen in many retail streets across Melbourne. Key learning from our assessment of case studies: • Performs well on delivering high-density and mixed-uses at a human scale • Provide good public realm amenity and interface while retain fine-grain shop front character • Increase density and diversity of uses along retail streets • Setback upper levels retain low street wall character.

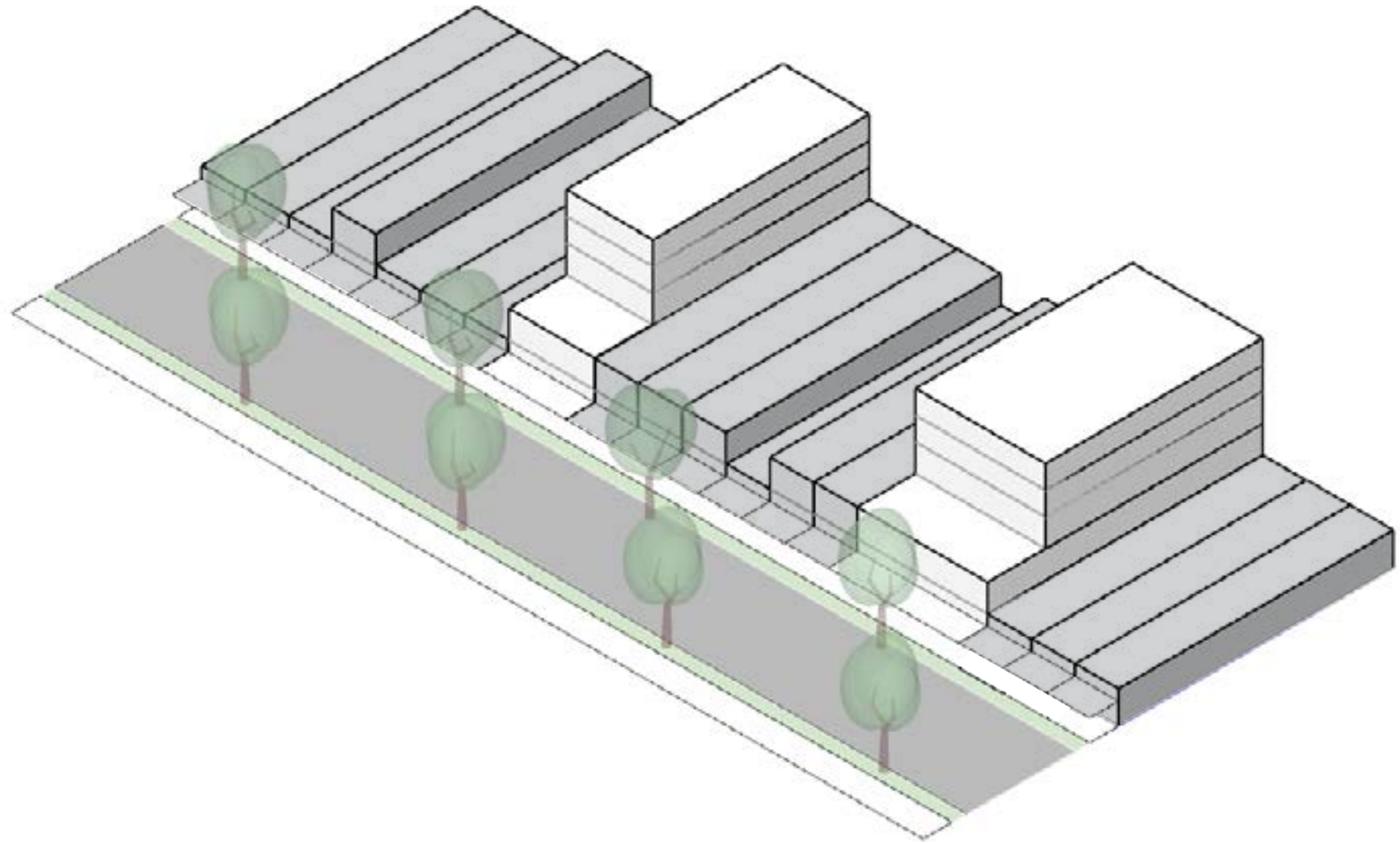


Figure 4-1 Indicative Shoptop Infill development type

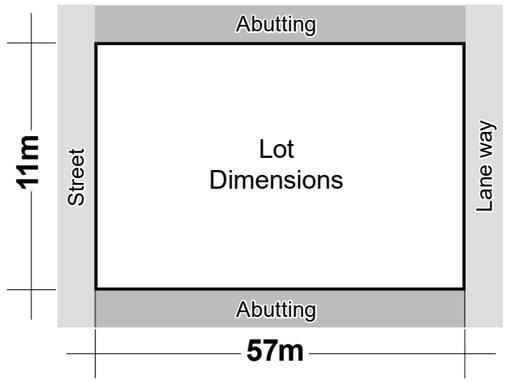
4.2 Shoptop Infill 1 case studies

Case Study:

Terrace House, Brunswick VIC

Urban Development Type:

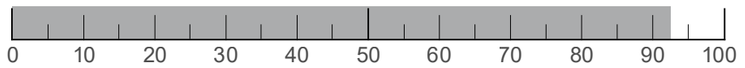
Shoptop Infill



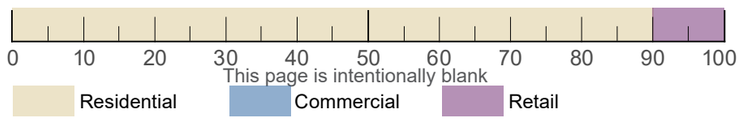
Location	209 Sydney Rd, Brunswick VIC 3056 Australia
Architect/Developer	Austin Maynard Architects
Building height	7 storeys
Land use mix	Mixed-use residential
Tenure types	Apartments (built -to-sell
Open space amenity	Communal roof top
Public realm amenity	Active ground floor interfaces
Parking logic	No car parking space provided
Heritage	-
Concise description	This scheme delivers dual/triple aspect apartments with a floor plan that resembles a classical Victorian cottage. The development sits on Sydney Road which is a busy retail street and provides two retail tenancies to the front and a small commercial tenancy to the rear. This scheme also includes communal facilities such as shared laundry, bike parking and roof top garden.

Floor Area Ratio (FAR) **5.5 FAR**

Site coverage per cent: **92 per cent**



Land Use Mix



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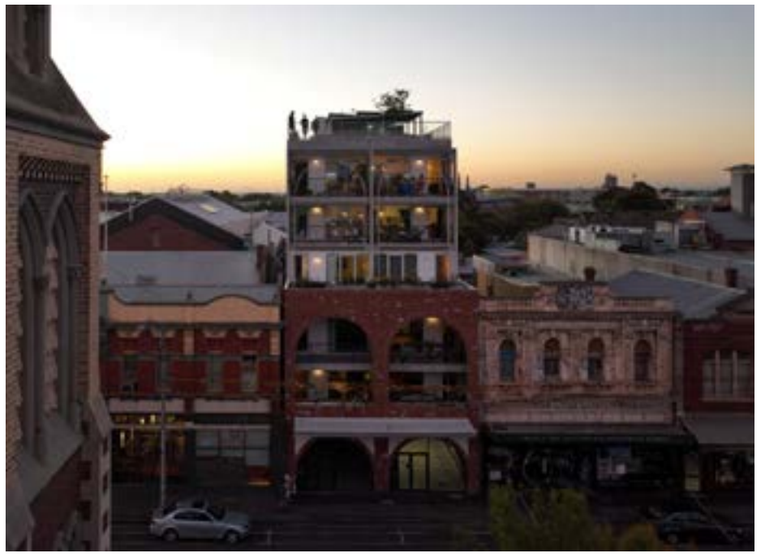
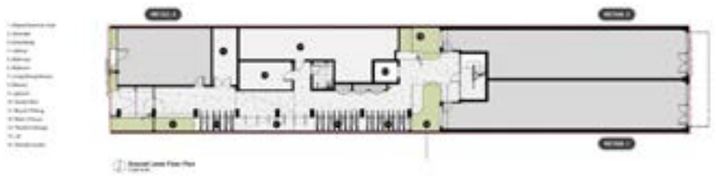
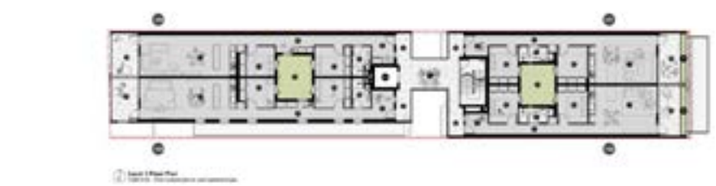
Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					





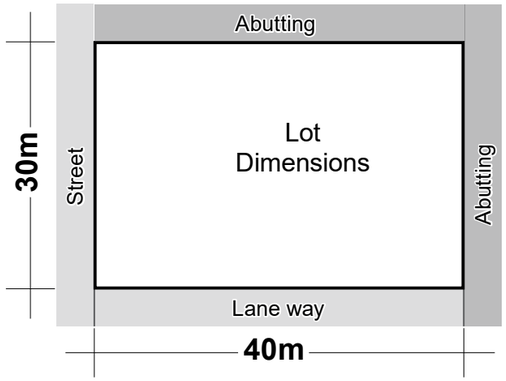


Case Study:

121 Lygon Street, Brunswick East VIC

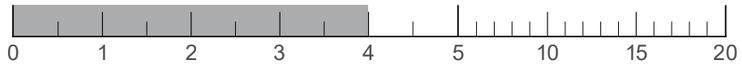
Urban Development Type:

Shoptop Infill

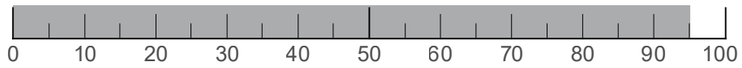


Location	121 Lygon Street , Brunswick East VIC 3056 Australia
Architect/Developer	Fieldwork Architects / Milieu
Building height	6 storeys
Land use mix	Mixed-use residential
Tenure types	Apartments (built -to-sell)
Open space amenity	Communal roof top
Public realm amenity	Active ground floor interfaces
Parking logic	Basement car parking with access through side laneway.
Heritage	-
Concise description	This scheme delivers ground floor retail along Lygon Street: a busy retail street in Brunswick East. Although a main retail street, the site does not have a rear laneway but in stead has car parking basement access from the side laneway. The residential apartments are entered around a central light well that also hosts an open staircase and lift for vertical circulation.

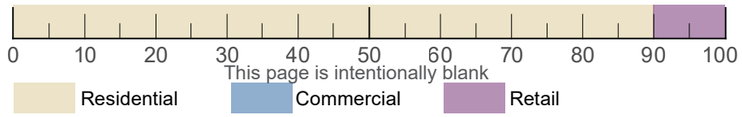
Floor Area Ratio (FAR) **4 FAR**



Site coverage per cent: **95 per cent**



Land Use Mix



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Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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4.3 Shoptop Infill testing

Urban Development Type:
Shoptop Infill

The Shoptop Infill development type provides for employment and housing growth and increased vibrancy, particularly outside retail hours, while complementing the existing character and providing a high level of pedestrian amenity.

It relies on the amalgamation of up to three typical lots, to create a feasible site width.

The proposed type incorporates a 2-3 storey, zero setback, boundary-to-boundary street wall that will complement the existing vibrant and memorable character created by low-rise, continuous, active streetscapes.

The street wall is articulated to reflect the existing fine-grain character and activated by commercial ground floor uses.

Above the street wall, upper levels are set back to ensure an appropriate balance between openness and enclosure in the street, along with good solar access.

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

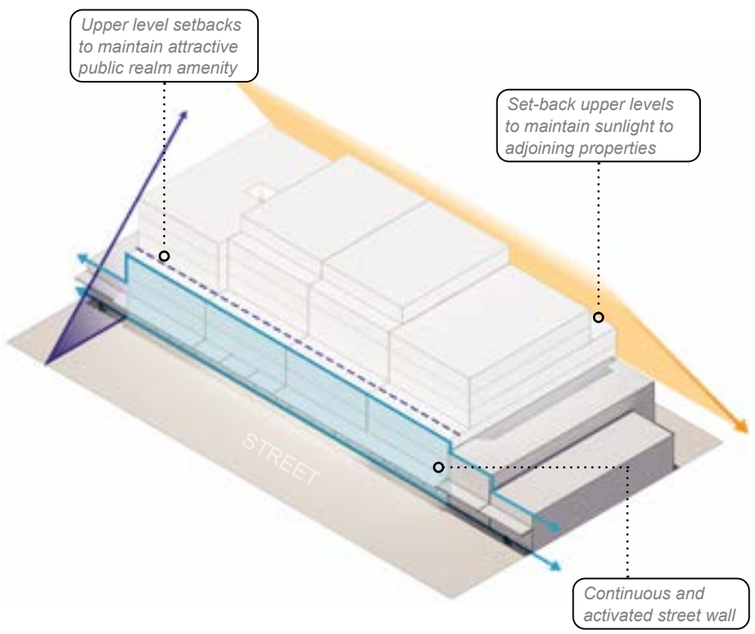


Figure 5.01: The diagram above shows the urban form outcomes for the Shoptop Infill typology.

Description:

Role and function rationale	Moderate intensification of built form providing space for more housing.
Future Character drivers rationale	• Balance between openness and enclosure of the street • Enhance landscape character and amenity within the street • Moderate level of activity to the street • Maintain sunlight amenity to the public realm.
Existing place type	• Areas immediately around the activity centre
Accommodation types	Great opportunity to provide wide range of accommodation types. This type can be configured with both single level apartments, duplexes, multi-storey townhouses and varying sizes appropriate for many household configurations including families.
Open space amenity	Great opportunity to leverage level ground floor access and roof top amenity for large proportion of dwellings. Communal open space often limited to side and larger rear setbacks, smaller communal courtyard, or shared rooftop garden.
Parking logic	In lots wider than approximately 18m, parking can be provided underground with vehicular access from rear laneway. No front vehicular entrances along mainstreets.

Development properties:

Floor Area Ratio (FAR) range: **3.5-5 FAR**

Use mix		Potential for mixed-use. Retail or small scale commercial at ground floor.
Interfaces		Built to side boundaries. Contribute to street green character, while retaining engaging interface with ground floor uses.

Building height		
Building height	6-7 storeys	Maintain adequate daylight and sunlight in street and rear-facing buildings.
Street wall height	2/4 storeys (8-14 metres)	Maintain human scale while creating enclosure of street approximately 1:1 balancing openness and enclosure of street.
Open space		
Deep soil area	0 per cent	-
Canopy cover area	0 per cent	-
Open space amenity	Communal	Roof top and podium level
	Private	Balconies and terraces on setback levels

Precedent examples

Urban Development Type:
Shoptop Infill

Setbacks		
Front setback	0 metres	Ground floor
	3 metres [1]	Above street wall to reduce perception of bulk and retain character
Side setback	0 metres	
Rear setback	0 metres	At ground level
	4.5 metres Equinox sun plane	From rear boundary or centre of rear laneway above ground level to ensure equitable development Further setback equal to equinox sun plane from top of rear fence of adjacent neighbours when located north of residential dwellings. No upper level setback to rear when adjacent to Core areas.

1 This has been refined to 3 metres plus 1 metre per metre of height above 21 metres during further testing

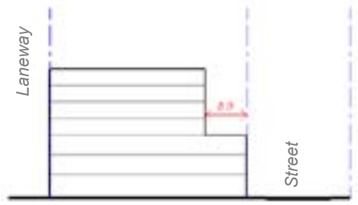


*Figure 4-1 Section - upper level setback**

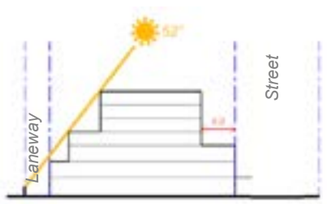
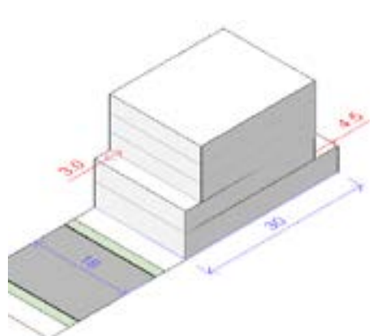


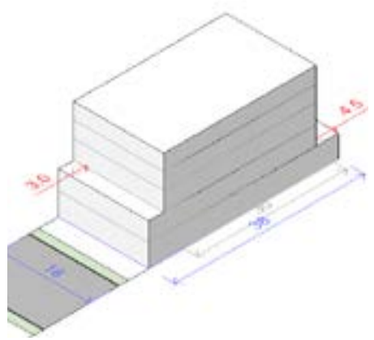
*Figure 4-2 Section - rear residential interface**

*Front upper level setback has since been refined to 3 metres plus 1 metres per metre of height above 21 metres during further testing

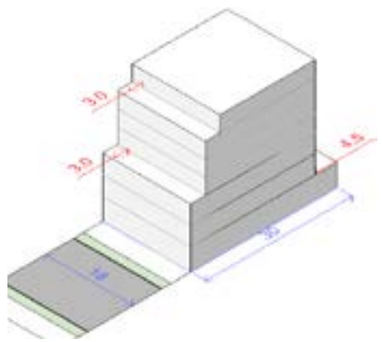
Lot sizes					
Shallow lots		**Median lots**		**Deep lots with rear sensitive interface**	
Lot sizes (consolidated 3 lots)					
Area	540 square metres	Area	684 square metres	Area	836 square metres
Width	18 metres	Width	19 metres	Width	19 metres
Depth	30 metres	Depth	38 metres	Depth	44 metres
5 Storeys					

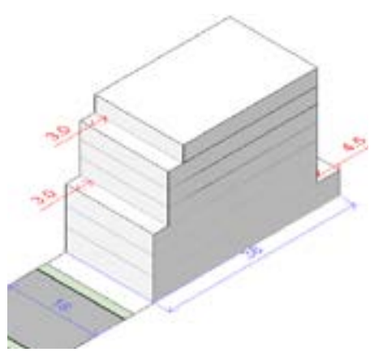
Five storey maximum height was not tested on deep lots with sensitive interfaces.

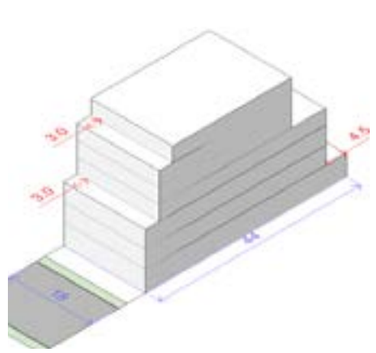




Height (storeys)	**5**	**Height (storeys)**	**5**		
FAR	**3.5**	**FAR**	**3.5**		
7 Storeys					





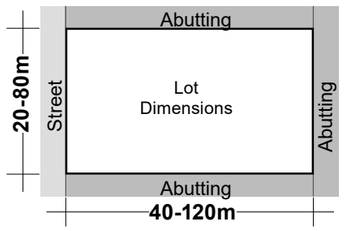


Height (storeys)	**7**	**Height (storeys)**	**7**	**Height (storeys)**	**7**
FAR	**5**	**FAR**	**5**	**FAR**	**4**

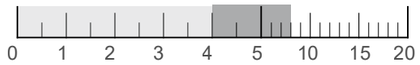
5. Urban Infill 1

5.1 Urban Infill 1 Development Type

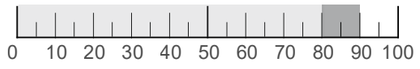
Lot dimension range



Floor Area Ratio (FAR): **4-8 FAR**



Site coverage per cent: **80-90 per cent**



Concise description	The urban infill type is highly adaptable to commercial and/or residential uses. the building is primarily oriented to the street and rear with zero side setbacks, creating a continuous urban form. This ultimately creates a closed perimetre block when deployed on all sites of an urban block. This is the best way to accommodate a diversity of building types and uses at a medium and high densities, while ensuring that building frontage relates positively to the public realm. The building type can have a different circulation logics: internal corridor, external corridor, or walk-ups with dual-aspect apartments.
Use mix potential	 Flexible mix of uses. Particularly suited to mixed-uses.
Interfaces	 Front and rear setback
Accommodation types	Flexible apartment layouts with good opportunity for dual aspect apartments. Ground floor units and roof tops has the opportunity for high amenity dwellings.
Open space amenity	Rear courtyard space that is spatially and acoustically separated from the street space.
Public realm amenity	Good urban edge and street definition. Building heights and setback retain a minimum 1:1 ratio of street to street wall height ensuring decent sun amenity in streets and public realm.
Parking logic	Basement or consolidated parking structure off-site
Testing summary	This type is suitable for significant built-form intensification densification in existing residential areas on larger single lots or lot amalgamation of just two lots along movement corridors. They offer high level of flexibility in use mix. This development type delivers moderately high-density without the adverse impacts of taller buildings. Importantly, it can be developed on the vast majority of the lots found in these urban form areas without the need for lot amalgamation. Key learning from our assessment of case studies: • Performs well on delivering high-density and mixed-uses at a human scale • Deliver amenity and landscaped areas • Opportunity for built form typologies suited to different uses • Defined and engaging public realm • Rear garden space creates spatially and acoustically separated open space amenity.

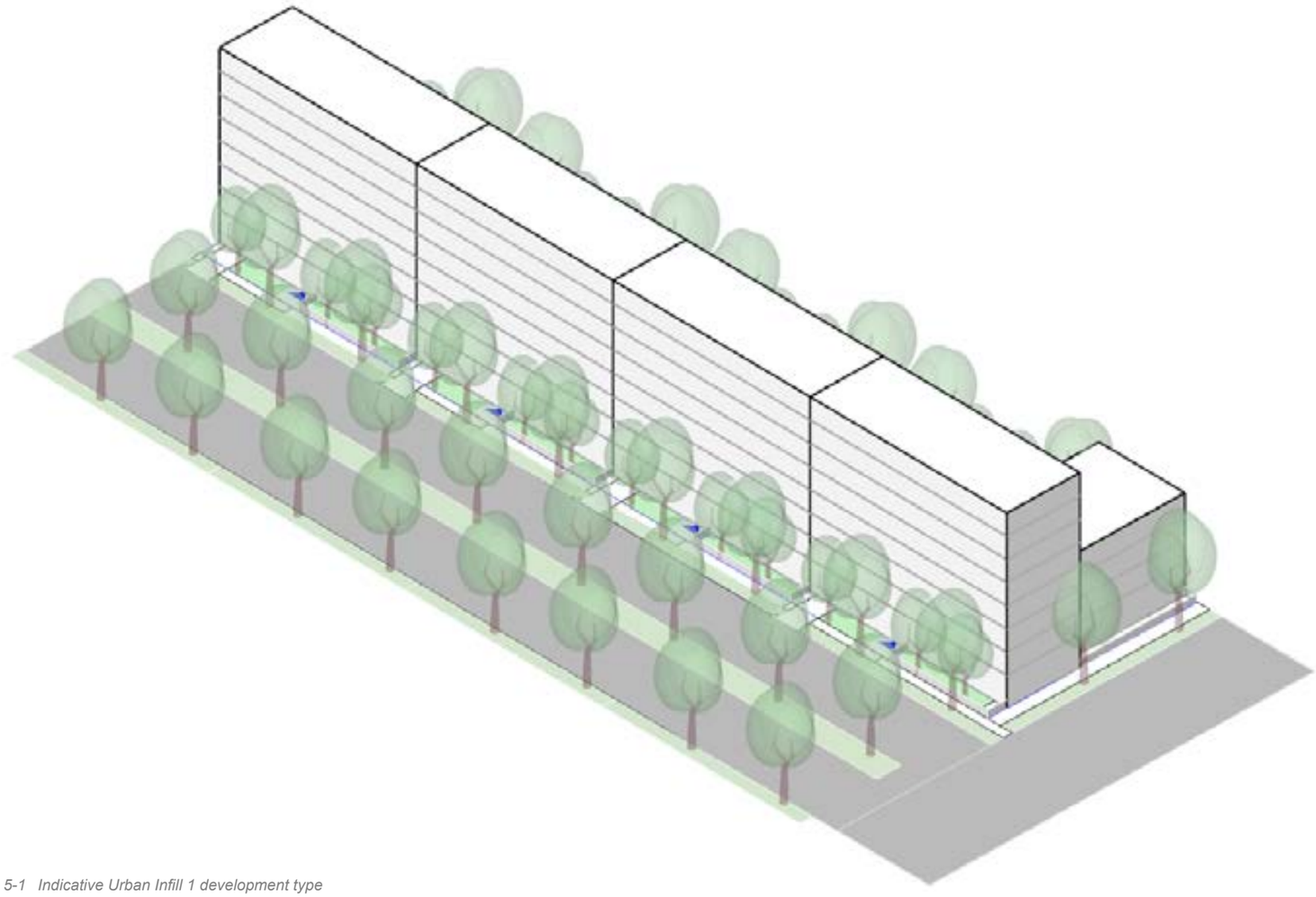


Figure 5-1 Indicative Urban Infill 1 development type

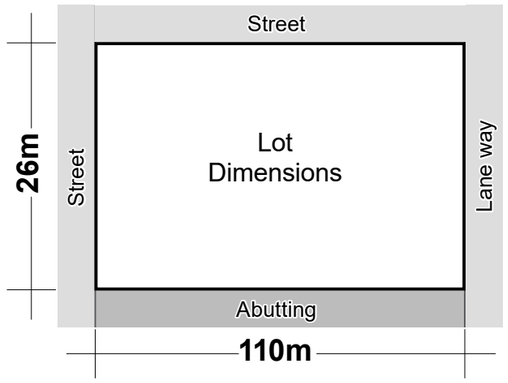
5.2 Urban Infill 1 case studies

Case Study:

Lumina Apartments, Sydney

Urban Development Type:

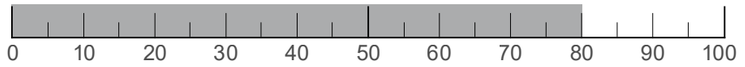
Urban Infill 1



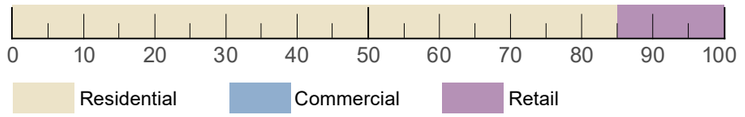
Location	210 Lord Sheffield Cct, Penrith NSW 2750, Australia
Architect/Developer	DKO Architecture
Building height	7-10 storeys
Land use mix	Mixed-use residential
Tenure types	Apartments (sell and built-to-rent)
Open space amenity	Communal roof tops
Public realm amenity	Active ground floor interfaces
Parking logic	Basement
Heritage	-
Concise description	Lumina is articulated in height, plan and facade to break down a single large building envelope into a collection of smaller buildings. It also serves the master plan requirement to mediate between the lower-density residential townhouses to the north of the site and the higher apartment developments to the south.

Floor Area Ratio (FAR) **4.4 FAR**

Site coverage per cent: **80 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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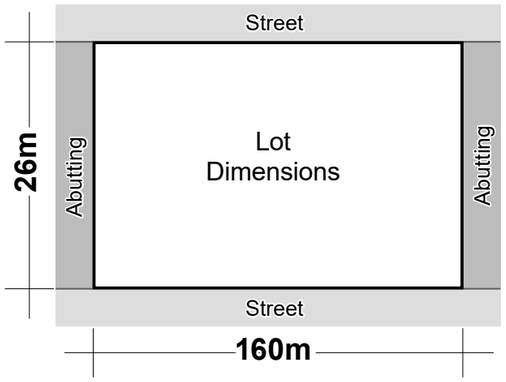
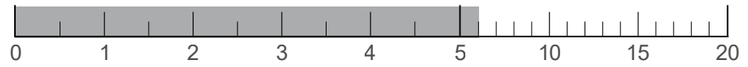
Case Study:
Victoria & Vine

Urban Development Type:
Urban Infill 1

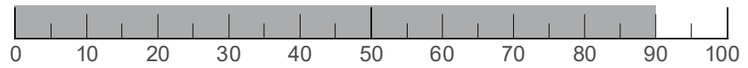


Location	Wellington Street, Collingwood VIC
Architect/Developer	COX for Gurner group
Building height	11 storeys
Land use mix	Residential units plus retail ground floor
Tenure types	Market apartments
Open space amenity	Balconies and roof tops
Public realm amenity	Active ground floor retail
Parking logic	Basement car parking
Heritage	Reference former warehouses on site
Concise description	This development is built as one cohesive building, but meant to look like multiple independent buildings to break down the built form scale and make it blend in better with the surrounding context of mixed urban grain. The building has no shared amenity at ground level and only provides shared open space on roof tops.

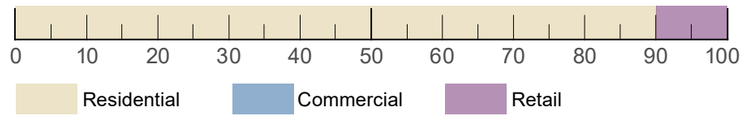
Floor Area Ratio (FAR) **6 FAR**



Site coverage per cent: **90 per cent**



Land Use Mix



Urban development assessment criteria:

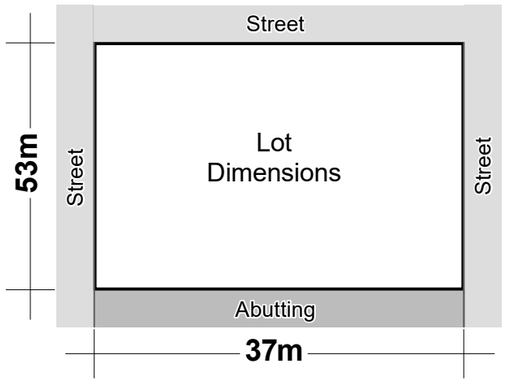
Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Case Study:

381 Cremorne

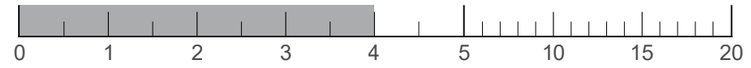
Urban Development Type:

Urban Infill 1

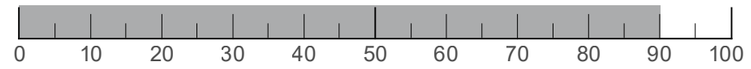


Location	Melbourne, Australia
Architect/Developer	A. Genser & Assoc.
Building height	6 storeys
Land use mix	Residential
Tenure types	-
Open space amenity	None
Public realm amenity	None
Parking logic	2 levels of basement parking
Heritage	-
Concise description	The 381 Cremorne addresses Punt Road (a busy movement corridor) with a single building volume of 6 storeys with a 7th storey invisible from the street. A secondary building volume consists of a row of townhouses along the rear lane way. The building ground floor interface is semi-active with slightly elevated ground level with limited active uses. The building establishes a defined street wall appropriate for the road scale and pace and diversity of dwelling types and built form.

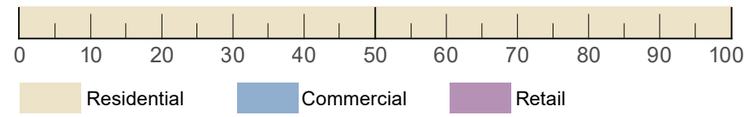
Floor Area Ratio (FAR) **4 FAR**



Site coverage per cent: **90 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed Use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

5.3 Urban Infill 1 testing

Urban Development Type:
Urban Infill 1

The Urban Infill 1 development types deliver highly adaptable buildings able to accommodate commercial and/or residential uses.

This development type delivers moderately high-density in accordance with Strategy UF3.1: Accessibility, without the adverse impacts of taller buildings. Importantly, it can be developed on the vast majority of the lots found in these urban form areas without the need for lot amalgamation.

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.

New Urban Infill development will represent a substantial change in character and its sheer on-boundary side walls will likely adversely affect the amenity of any neighbouring low-rise dwellings to the side, particularly any to the immediate south. The lack of side setbacks is necessary to enable viable development of appropriate density on single lots, and represents a trade-off for a generous rear setback. The rear setbacks will ultimately combine to form a large green space in the middle of the block.

The amenity impacts of high on-boundary side walls are considered to be part of the inevitable and reasonable cost associated with the transformation of the precinct. This is consistent with other transforming areas such as the Brunswick Activity Centre, Cremorne and Box Hill between Whitehorse Road and Box Hill Hospital. Low-rise dwellings will no longer represent the preferred character, and will increasingly become anomalies.

This development type includes a landscaped front setback and generous rear setback, providing for canopy trees, good internal amenity and equitable development opportunities on neighbouring properties. The requirement for a generous rear setback will mitigate the impact of development on neighbouring rear gardens. This typology provides a 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 areas.

Description:

Role and function rationale	Moderate intensification of built form providing space for more housing.
Future Character drivers rationale	• Balance between openness and enclosure of the street • Enhance landscape character and amenity within the street • Moderate level of activity to the street • Maintain sunlight amenity to the public realm.
Existing place type	• Areas immediately around the activity centre
Accommodation types	Great opportunity to provide wide range of accommodation types. This type can be configured with both single level apartments, duplexes, multi-storey townhouses and varying sizes appropriate for many household configurations including families.
Open space amenity	Great opportunity to leverage level ground floor access and roof top amenity for large proportion of dwellings. Communal open space often limited to side and larger rear setbacks, smaller communal courtyard, or shared rooftop garden.
Parking logic	In lots wider than approximately 18 metres, parking can be provided underground. Where possible, vehicular entrances should be located along side streets or rear of lots. Where not possible, vehicular enties are integrated into the built from from the front of the building.

Development properties:

Floor Area Ratio (FAR) range: **3-4.5 FAR**

Use mix		Potential for mixed-use. Retail or small scale commercial at ground floor.
Interfaces		Built to side boundaries. Contribute to street green character, while retaining engaging interface with ground floor uses.

Building height		
Building height	6-10 storeys	Maintain adequate daylight and sunlight in street and rear-facing buildings.
Street wall height	Minimum 4 storeys (14 metres) Maximum equal to width of the street.	Maintain human scale while creating enclosure of street approximately 1:1 balancing openness and enclosure of street.
Open space		
Deep soil area	10-15 per cent	Primarily rear of lot.
Canopy cover area	10-15 per cent	Canopy trees in rear deep soil zone and front garden setback.
Open space amenity	Communal	Rear garden and roof top
	Private	Balconies and terraces on setback levels

Precedent examples

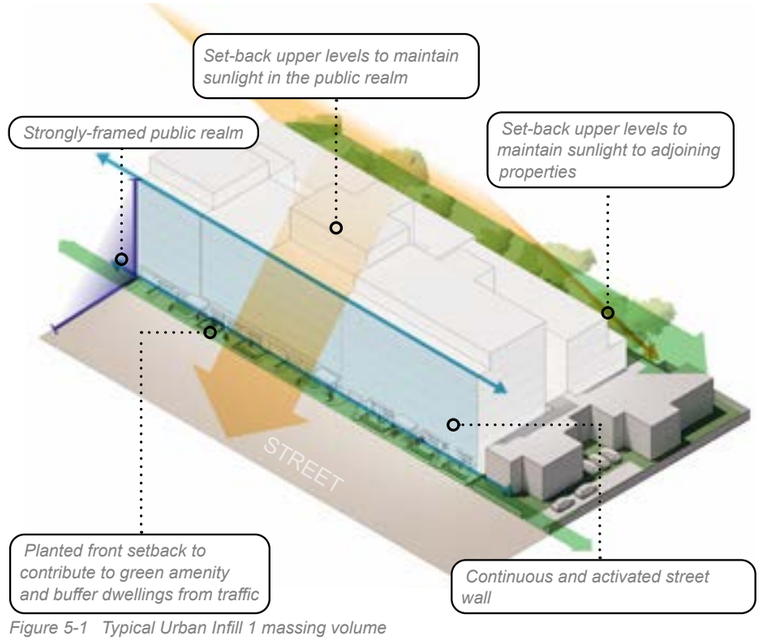


Figure 5-1 Typical Urban Infill 1 massing volume

Urban Development Type:
Urban Infill 1

Setbacks		
Front setback	3 metres	Ground floor to provide for landscaping in residential streets
Rear setback	6 metres	Or 15 per cent of lot depth (which ever is greater) To provide deep soil zone minimum dimension 6 metre for large canopy trees.[1]
	52° Equinox sun plane	From top of rear fence to protect solar amenity to adjacent neighbours plus rear setback where to the south of sensitive place.

1 This has been refined to minimum 6 metre during further application of the testing.

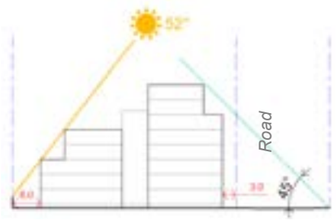


Figure 5-2 20 metre street width

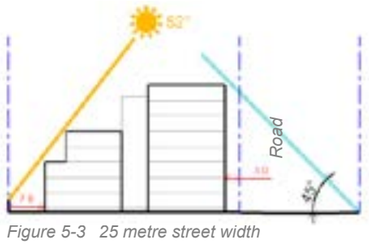


Figure 5-3 25 metre street width

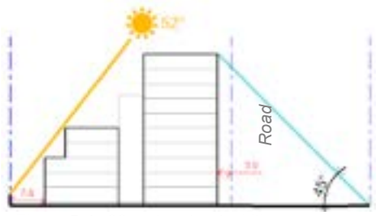
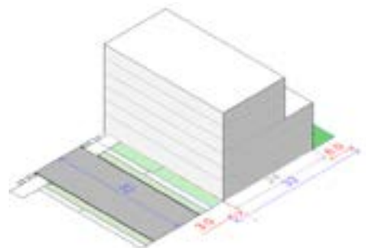
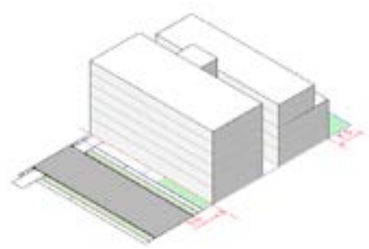


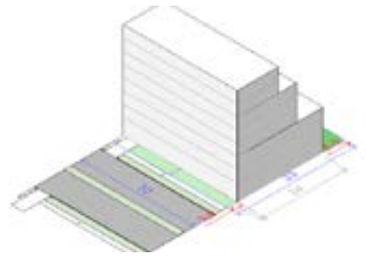
Figure 5-4 30 metre street width

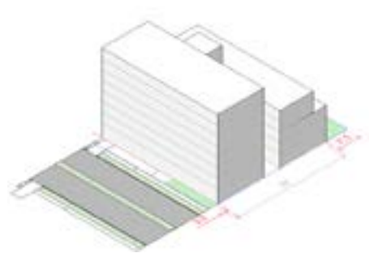
Lot sizes			
15th percentile lot size		**85th percentile lot size**	
Area	1,056 square metres	Area	1,920 square metres
Width	32 metres	Width	40 metres
Depth	33 metres	Depth	48 metres
2 small amalgamated lots		2 large amalgamated lots	
20 metre street width			
Height (storeys)	**6**	**Height (storeys)**	**6**
FAR	**3**	**FAR**	**3**



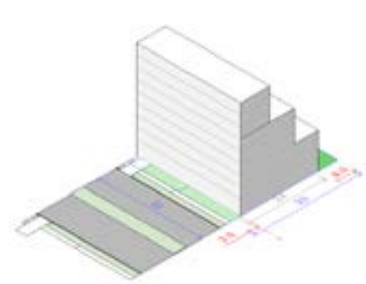


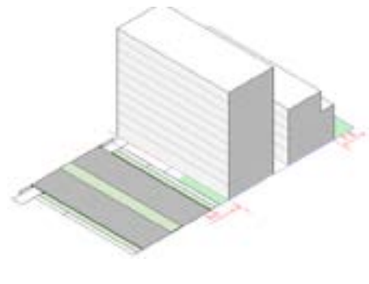
25 metre street width			
Height (storeys)	**8**	**Height (storeys)**	**8**
FAR	**3.5**	**FAR**	**3.5**





>30 metre street width			
Height (storeys)	**9**	**Height (storeys)**	**10**
FAR	**4**	**FAR**	**4.5**

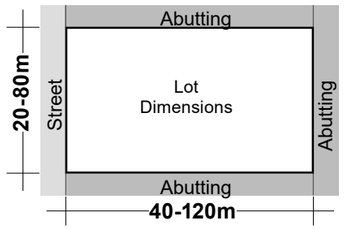




6. Urban Infill 2

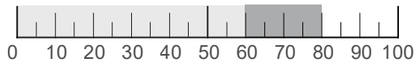
6.1 Urban Infill 2 Development Type

Lot dimension range



Floor Area Ratio (FAR): **2.6-5.5FAR**

Site coverage : per cent **60-80 per cent**



Description	The urban infill type is highly adaptable to commercial and/or residential uses. the building is primarily oriented to the street and rear with zero side setbacks, creating a continuous urban form. This ultimately creates a closed perimetre block when deployed on all sites of an urban block. This is the best way to accommodate a diversity of building types and uses at a medium and high densities, while ensuring that building frontage relates positively to the public realm. The building type can have different circulation logics: internal corridor, external corridor, or walk-ups with dual-aspect apartments.
Use mix potential	 Flexible mix of uses. Particularly suited to mixed-uses.
Interfaces	 Front and rear setback
Accommodation types	Flexible apartment layouts with good opportunity for dual aspect apartments. Ground floor units and roof tops provide the opportunity for high amenity dwellings.
Open space amenity	Rear courtyard space that is spatially and acoustically separated from the street space.
Public realm amenity	Good urban edge and street definition. Building heights and setback retain a minimum 1:1 ratio of street to street wall height ensuring decent sun amenity in streets and public realm.
Parking logic	Basement or consolidated parking structure off-site
Case study summary	This type is suitable for significant built-form intensification densification in existing residential areas on larger single lots or lot amalgamation of multiple lots. Key learning from our assessment of case studies: • Performs well on delivering high-density and mixed-uses at a human scale • Opportunity for built form typologies suited to different uses • Relatively high proportion of dwelling can have ground floor garden access and roof top access that contributes to dwelling diversity and quality • Defined and engaging public realm • Rear garden space creates spatially and acoustically separated open space amenity with areas for landscaping • Generous circulation areas with few apartments per floor creates meeting places for neighbours.

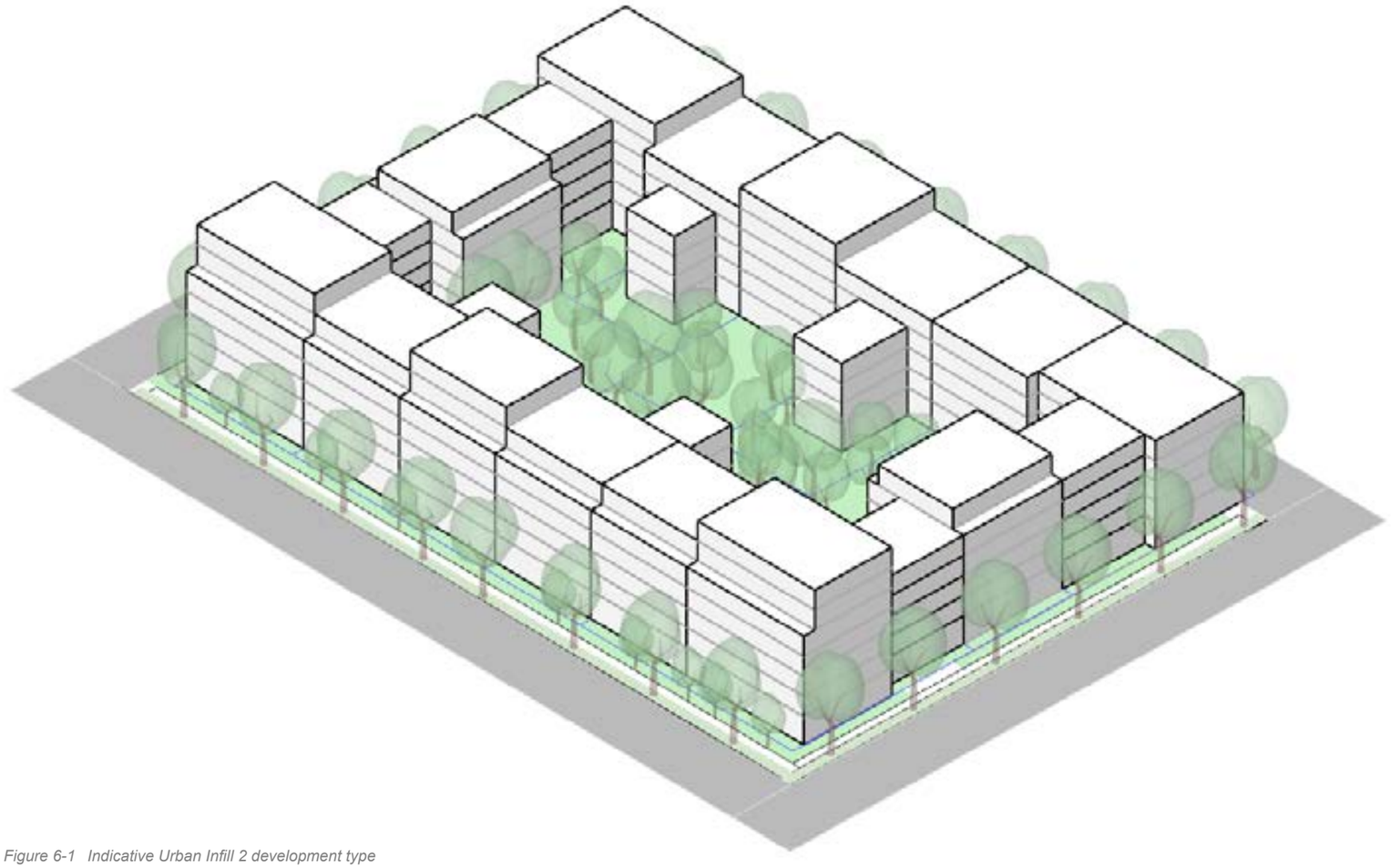


Figure 6-1 Indicative Urban Infill 2 development type

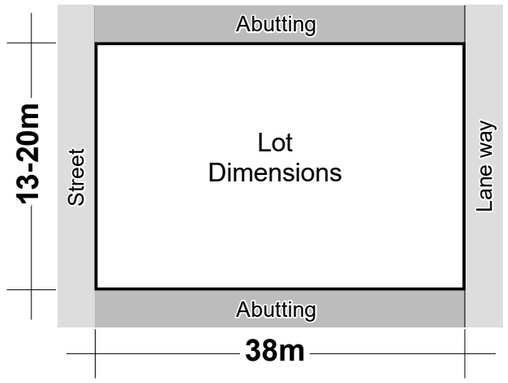
6.2 Urban Infill 2 Case studies

Case Study:

Nightingale Village

Urban Development Type:

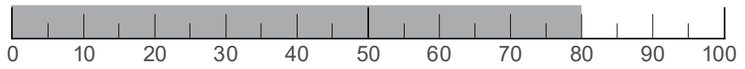
Urban Infill



Location	Melbourne, Australia
Architect/Developer	Hayball (Nightingale Village masterplan / collaboration), different architects for all 6 buildings
Building height	7-8 storeys
Land use mix	Residential with ground floor retail
Tenure types	Apartments
Open space amenity	Communal rooftop garden, semi-public mews, rooftop amphitheater
Public realm amenity	Defined street edge with ground floor active interface
Parking logic	Shared parking access
Heritage	-
Concise description	Built to foster community in and around its residences, this precinct in Melbourne's inner-north comprises six apartment buildings with diverse designs united by shared values. The site comprises 203 homes across six buildings, 27 of these dwellings are allocated to community housing providers Housing Choices Australia and Women's Property Initiatives.

Floor Area Ratio (FAR) **5.5 FAR**

Site coverage per cent: **80 per cent**



Land Use Mix

Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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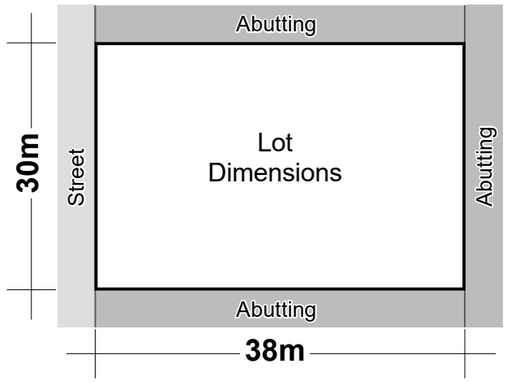
Case Study:

Berlin infill apartments

Urban Development Type:

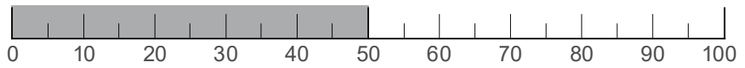
Urban Infill



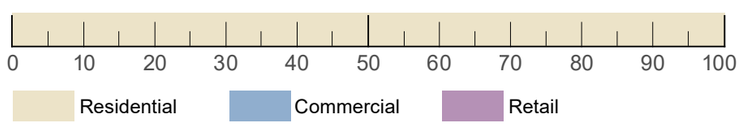
Location	Jablonskistraße Berlin
Building height	5 Storeys / 18 metres
Land use mix	Residential
Tenure types	Market apartments
Open space amenity	Shared green courtyard with play equipment and canopy trees
Public realm amenity	Defined street edge
Parking logic	On street parking
Heritage	-
Concise description	5 storey apartment building in T-shape plan. Some types have utilised the roof for a 6th residential storey. A small light well in the T-junction provides ventilation to the internal staircase and bath rooms.

Floor Area Ratio (FAR) **2.6 FAR**

Site coverage per cent: **50 per cent**



Land Use Mix



Urban development-criteria:

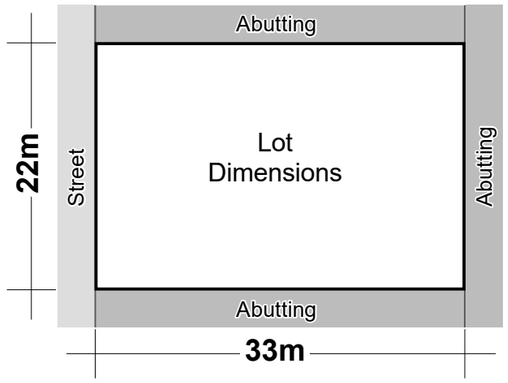
Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Case Study:

Fit Out House

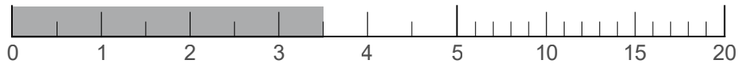
Urban Development Type:

Urban Infill

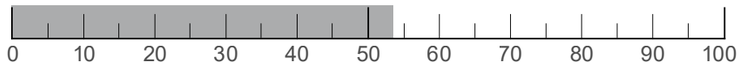


Location	Gotenstraße 44, 10829 Berlin, Germany
Architect/Developer	Praeger Richter Architekten
Building height	7 storeys
Land use mix	Residential, social housing and “neighbourhood living room”
Tenure types	Built for sell and social housing
Open space amenity	Communal roof top, communal “neighbourhood living room” and communal garden.
Public realm amenity	Active ground floor
Parking logic	Provided off site
Heritage	-
Concise description	An attached apartment building that forms part of a perimeter block. The central core and staircase enables flexible layout between 2, 3 and 4 units per floor units, enabling dual aspect apartments facing both the street and rear garden. The ground floor neighbourhood living room features a mezzanine space and enables future adaptive ground floor uses. Sustainable cross-laminated timber panel construction.

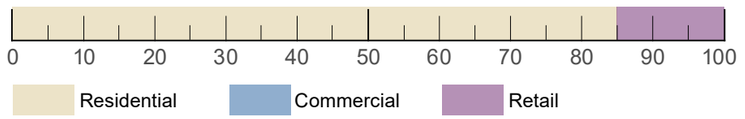
Floor Area Ratio (FAR) **3.5 FAR**



Site coverage per cent: **53 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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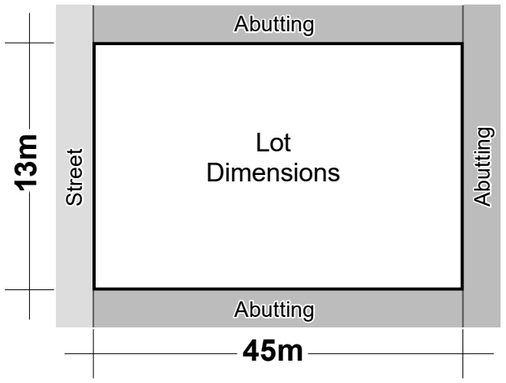
Case Study:

Eixample, Barcelona

Urban Development Type:

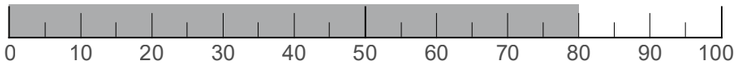
Urban Infill



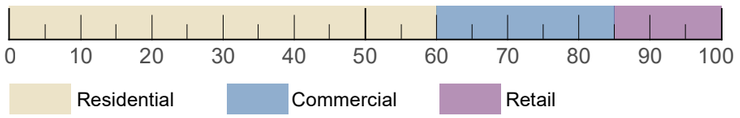
Location	Barcelona, Spain
Architect/Developer	Praeger Richter Architekten
Building height	6-9 storeys
Land use mix	Residential, commercial, retail
Tenure types	Mixed
Open space amenity	Internal residential courtyard with public access
Public realm amenity	Defined street edge with ground floor interface
Parking logic	Shared centralised above ground car park
Heritage	Integrated heritage buildings into perimeter blocks
Concise description	The urban block consists of smaller developments on individual lots with 15-40m street frontage. The building depth of more than 20 metres necessitates the use of up to three light shafts either in the middle parts of the house, attached to the staircase, peripheral towards the part walls or centrally shared with the neighbouring apartment.

Floor Area Ratio (FAR) **4.7 FAR**

Site coverage per cent: **80 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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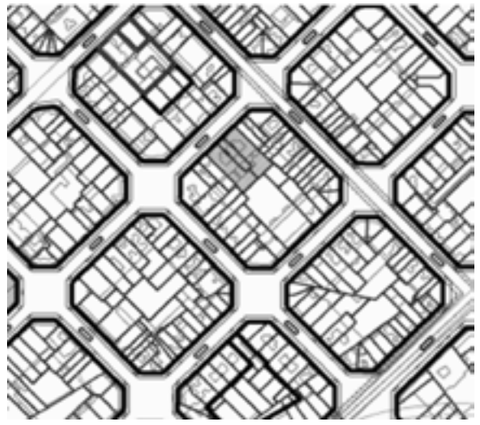

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6.3 Urban Infill 2 testing

Urban Development Type:
Urban Infill 2

The Urban Infill 2 development types deliver highly adaptable buildings able to accommodate commercial and/or residential uses.

This development type delivers moderately high-density in accordance with Strategy UF3.1: Accessibility, without the adverse impacts of taller buildings. Importantly, it can be developed on the vast majority of the lots found in these urban form areas without the need for lot amalgamation.

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.

New Urban Infill development will represent a substantial change in character and its sheer on-boundary side walls will likely adversely affect the amenity of any neighbouring low-rise dwellings to the side, particularly any to the immediate south. The lack of side setbacks is necessary to enable viable development of appropriate density on single lots, and represents a trade-off for a generous rear setback. The rear setbacks will ultimately combine to form a large green space in the middle of the block.

The amenity impacts of high on-boundary side walls are considered to be part of the inevitable and reasonable cost associated with the transformation of the precinct. This is consistent with other transforming areas such as the Brunswick Activity Centre, Cremorne and Box Hill between Whitehorse Road and Box Hill Hospital. Low-rise dwellings will no longer represent the preferred character, and will increasingly become anomalies.

This development type includes a landscaped front setback and generous rear setback, providing for canopy trees, good internal amenity and equitable development opportunities on neighbouring properties. The requirement for a generous rear setback will mitigate the impact of development on neighbouring rear gardens. This typology provides a 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 areas.

Description:

Role and function rationale	Moderate intensification of built form providing space for more housing.
Future Character drivers rationale	• Balance between openness and enclosure of the street • Enhance landscape character and amenity within the street • Moderate level of activity to the street • Maintain sunlight amenity to the public realm.
Existing place type	Areas immediately around the activity centre
Accommodation types	Great opportunity to provide wide range of accommodation types. This type can be configured with both single level apartments, duplexes, multi-storey townhouses and varying sizes appropriate for many household configurations including families. Narrower building volumes with external circulation areas enables apartments with dual orientation and natural cross-ventilation.
Open space amenity	Great opportunity to leverage level ground floor access and roof top amenity for large proportion of dwellings. Communal open space often limited to side and larger rear setbacks, smaller communal courtyard, or shared rooftop garden.
Parking logic	In lots wider than approximately 18 metres, parking can be provided underground. Where possible, vehicular entrances should be located along side streets or rear of lots. Where this is not possible, vehicular enties are integrated into the front facade of the building.

Development properties:

Floor Area Ratio (FAR) range: 2.5-3 FAR

0 1 2 3 4 5 10 15 20

Use mix		Potential for mixed-use. Retail or small scale commercial at ground floor.
Interfaces		Built to side boundaries. Contribute to street green character, while retaining engaging interface with ground floor uses.
Building height		
Building height	5-7 storeys	Maintain adequate daylight and sunlight in street and rear-facing buildings.
Street wall height	Minimum 4 storeys (14 metres)	Maintain human scale while creating enclosure of street. Maximum equal to the width of the street.
Open space		
Deep soil area	10-15 per cent	Primarily rear of lot.
Canopy cover area	10-15 per cent	Canopy trees in rear deep soil zone at rear and front garden setback.
Open space amenity	Communal	Rear garden and roof top. Generous circulation areas creates places for neighbours to meet.
	Private	Balconies and terraces on setback levels

Precedent examples

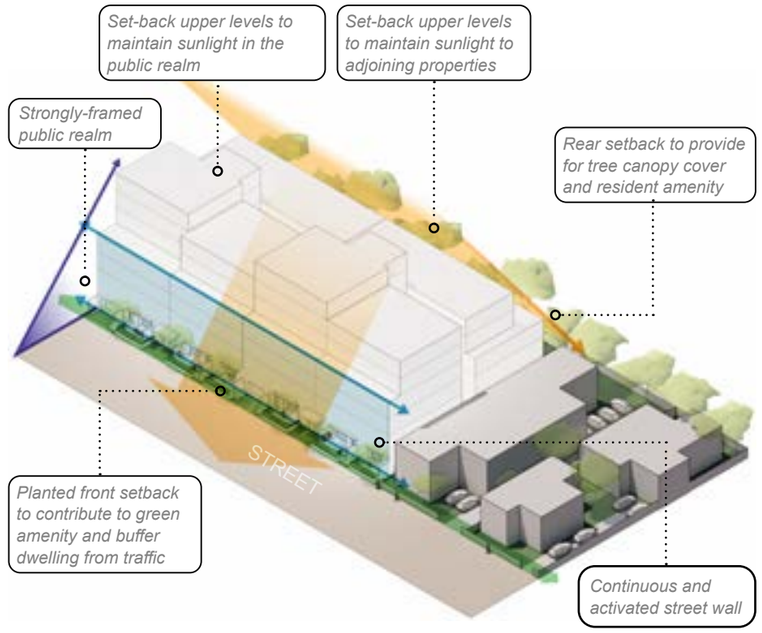


Figure 6-1 Typical Urban Infill 2 massing volume

Urban Development Type:

Urban Infill 2

Setbacks		
Front setback	Maximum 3 metres	Ground floor to provide for landscaping in residential streets
	Minimum 5.5 metres	Above 4 storeys to reduce perception of bulk and retain 1:1 proportion of street width to street height
Rear setback	Minimum 6 metres	Or 15 per cent of lot depth (which ever is greater) To provide deep soil zone minimum dimension 6 metres for large canopy trees.[1]
	52° Equinox sun plane	From top of rear fence to protect solar amenity to adjacent neighbours

1 This has been refined to minimum 6m during further testing

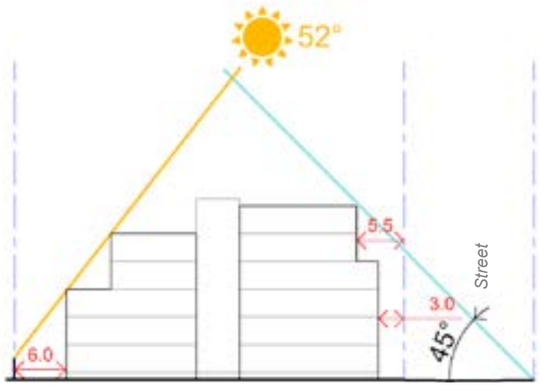
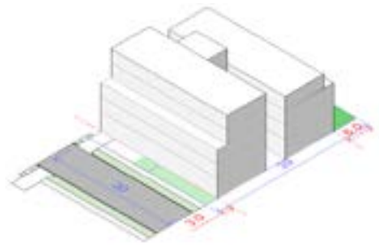
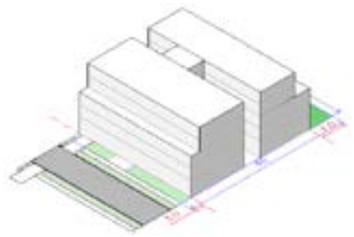


Figure 6-2 Section front and rear

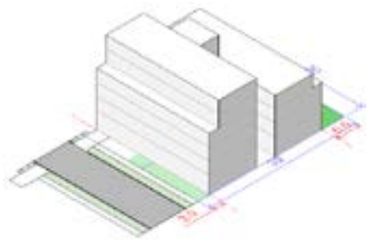
Lot sizes			
Area	1,170 square metres	Area	1,564 square metres
Width	30 metres	Width	34 metres
Depth	39 metres	Depth	46 metres
2 small amalgamated lots		2 large amalgamated lots	

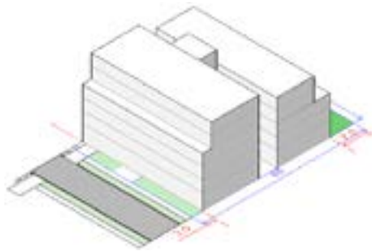
15 metre street width max 5 storey height (for testing only)			
Height (storeys)	**5**	**Height (storeys)**	**5**
FAR	**2.5**	**FAR**	**2.5**



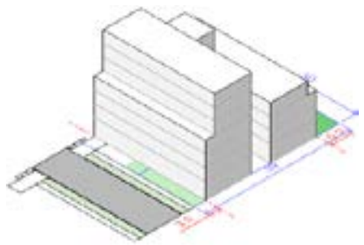


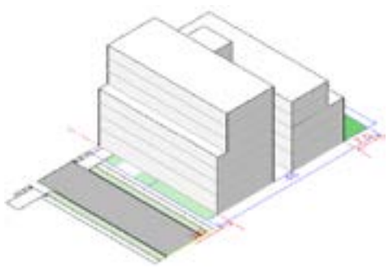
15 metre street width			
Height (storeys)	**6**	**Height (storeys)**	**6**
FAR	**3**	**FAR**	**3**





18 plus metre street width			
Height (storeys)	**7**	**Height (storeys)**	**7**
FAR	**3**	**FAR**	**3.5**

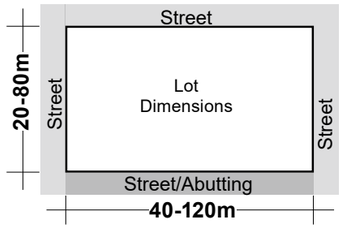




7. Hybrid Perimeter

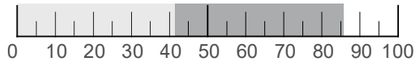
7.1 Hybrid Perimeter Development Type

Lot dimension range



Floor Area Ratio (FAR): **2.1-9 FAR**

Site coverage per cent: **43-86 per cent**



Description	The defining characteristic of the perimeter block is that the edges of the block are lined with buildings to create an enclosed open space and defining the public realm. This typology commonly incorporates varied heights including occasional 'punctuation' buildings with modest increases in height, and forms as low as 3 storeys to provide for townhouses. This format enables varied building types, providing for a range of uses and household types including families. This is the best way to accommodate a diversity of building types and uses at a medium and high densities, while ensuring that building frontage relates positively to the public realm.
Use mix potential	 Great mixed-use potential both horizontally and vertically.
Interfaces	 Building in landscape
Accommodation types	Flexible apartment layouts with good opportunity for dual aspect apartments. Ground floor units and roof tops has the opportunity for high amenity dwellings with direct access to courtyard garden or large roof top terraces.
Open space amenity	Internal courtyard space that is spatially, climatically and acoustically separated from the street space.
Public realm amenity	Good urban edge and street definition
Parking logic	Basement, podium, courtyard or off site.
Testing summary	This development type is generally performing very well and appropriate in the SRL East precincts on larger sites with multiple frontages. Key learning from our assessment of case studies: • Performs well on delivering high-density and mixed-uses and diversity of built form • Supports well-defined, legible and active streets and open spaces • Central courtyard space contributes to diversity of experiences in open space and can contribute to significant tree canopy cover • Enclosed central courtyard spaces create spatially and acoustically separated spaces that can act as a focal point to built community in a building block • Building heights can very to create great built diversity of built form and dwelling types while providing density and height in locations with the lest impact on adjacent streets and open spaces.

Figure 7-1 Indicative Hybrid Perimeter development type

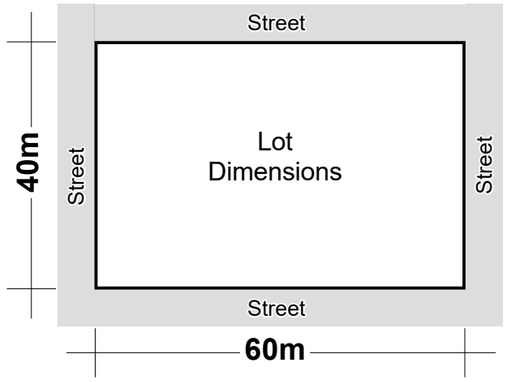
7.2 Hybrid Perimeter Case Studies

Case Study:

Nordhavn (North Harbour)

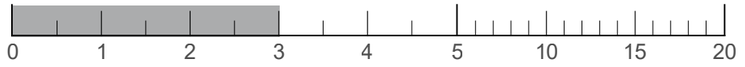
Urban Development Type:

Hybrid Perimeter

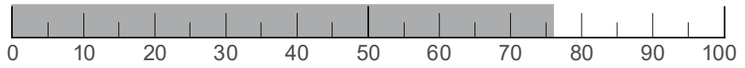


Location	Copenhagen, Denmark
Architect/Developer	Mangor Nagel Arkitekter
Building height	3-6 storeys
Land use mix	Residential with cafe GF on corners.
Tenure types	Market apartments
Open space amenity	Internal residential courtyard with public access.
Public realm amenity	Defined street edge with ground floor interface.
Parking logic	Shared centralised above ground car park.
Heritage	Integrated heritage buildings into perimeter blocks.
Concise description	An enclosed planted courtyard space is shared by residents. Public access through the courtyard is possible for pedestrian permeability. Building height varies from 4-6 storeys. Each building entrance service only 2 apartments per floor, creating many entrances and layers of community in the floor, staircase, courtyard and neighbourhood.

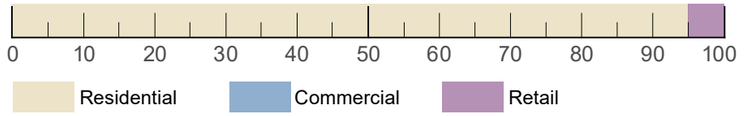
Floor Area Ratio (FAR) **3.0 FAR**



Site coverage per cent: **76 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

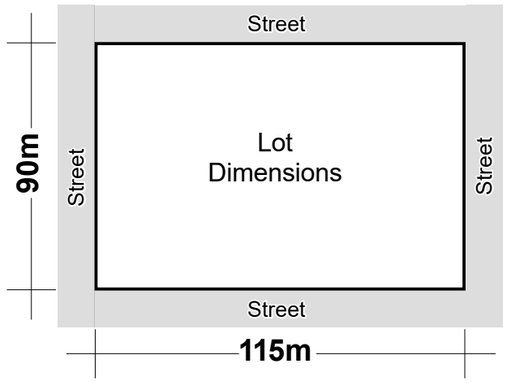
Where not relevant left blank

Case Study:

Imperium Zetland

Urban Development Type:

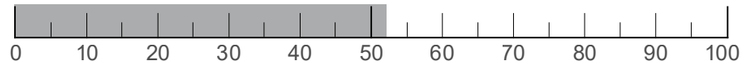
Hybrid Perimeter



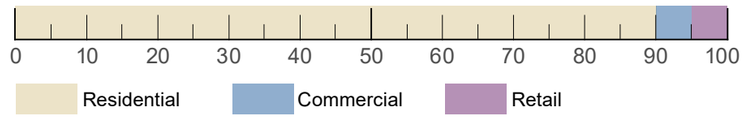
Location	Zetland, Victoria Park Precinct, Sydney NSW
Architect/Developer	Meriton
Building height	7,10, 14 storeys
Land use mix	Residential, childcare, retail
Tenure types	Built to rent
Open space amenity	Courtyard, lap pool, fitness,
Public realm amenity	Active ground floors and planted setback
Parking logic	Underground car park
Heritage	
Concise description	Six distinct building volumes organised in an open perimeter block. The courtyard spaces is elevated to make space for vehicular parking sleeved by retail uses at ground floor. Varying building heights allow for solar amenity in the courtyard spaces and personal balconies while providing significant building density. Two tower forms are place in each corner of the block.

Floor Area Ratio (FAR) **4.9 FAR**

Site coverage per cent: **52 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

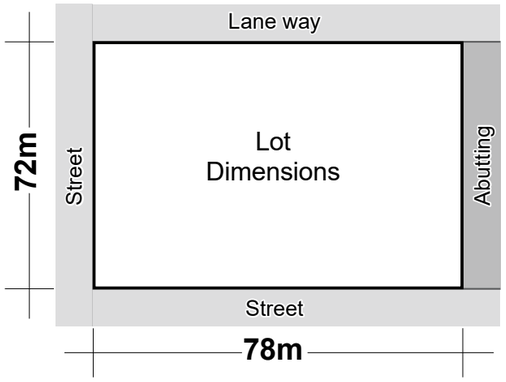
Where not relevant left blank

Case Study:

The Finery

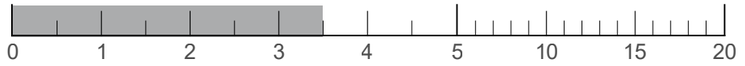
Urban Development Type:

Hybrid Perimeter

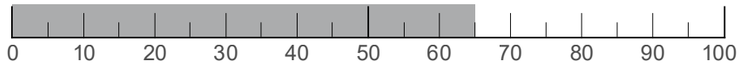


Location	Waterloo, Dyuralya Square, Sydney NSW
Architect/Developer	Mirvac
Building height	4-8
Land use mix	Residential, retail
Tenure types	Built to rent and market apartments
Open space amenity	Green courtyard on parking podium, roof top gardens
Public realm amenity	Active frontage and green planted verges
Parking logic	Podium car park in 2 storeys
Heritage	
Concise description	Three distinct building volumes organised in an open perimeter block. The courtyard spaces is elevated to make space for vehicular parking sleeved by retail uses at ground floor. Varying building heights allow for solar amenity in the courtyard spaces and personal balconies while providing significant building density.

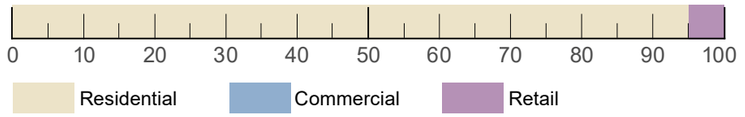
Floor Area Ratio (FAR) **3.5 FAR**



Site coverage per cent: **65 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

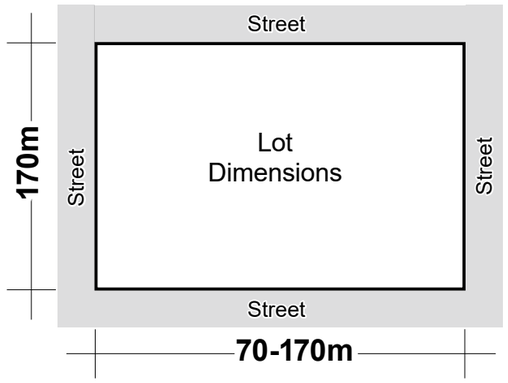
Where not relevant left blank

Case Study:

King's Cross, Pancras Square

Urban Development Type:

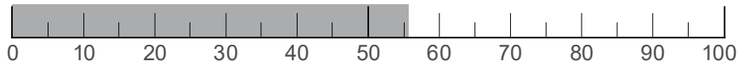
Hybrid Perimeter



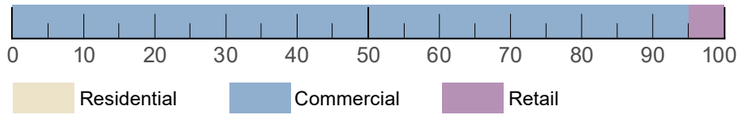
Location	Pancras Road, London, UK
Architect/Developer	Allies and Morrison (KX masterplan)
Building height	5-11 floors
Land use mix	Office, retail, leisure
Tenure types	Mixed
Open space amenity	Internal open space, rooftop gardens, plant rooms
Public realm amenity	Frontage to Pancras Square open space, active frontages with retail at ground floor and high quality public realm
Parking logic	Basement parking
Heritage	
Concise description	King's Cross will be the largest mixed-use development in single ownership to be master planned and developed in central London for over 150 years.

Floor Area Ratio (FAR) **7.5 FAR**

Site coverage per cent: **56 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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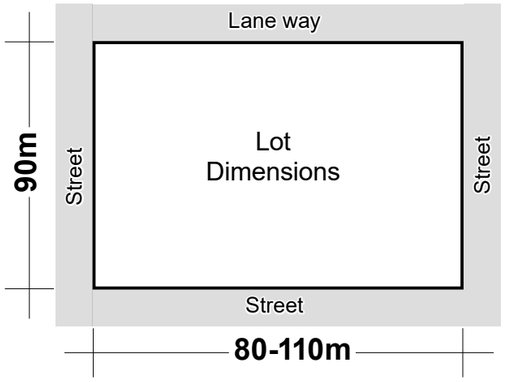
Case Study:

Plot H, Europaallee Zurich

Urban Development Type:

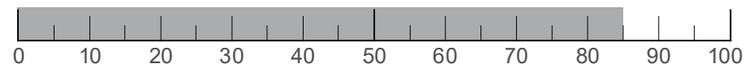
Hybrid Perimeter



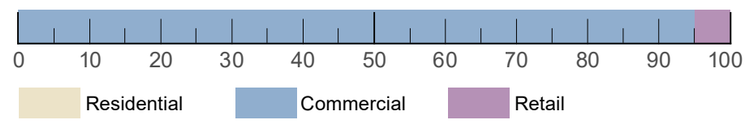
Location	Zurich, Switzerland
Architect/Developer	KCAP, Max Dudler et al
Building height	3-20
Land use mix	Mixed-use (retail, commercial, education, residential)
Tenure types	Mixed
Open space amenity	Leisure facilities, internal courtyards, terrace/rooftop gardens
Public realm amenity	Active frontages with retail at ground floor and high quality public realm, hards caped plaza spaces
Parking logic	Communal basement parking
Heritage	
Concise description	A key development site owing to its central position and excellent accessibility. In the masterplan, the morphology and block structure of the surrounding city is elaborated in order to insert the new development into its surroundings in a natural way.

Floor Area Ratio (FAR) **6.2 FAR**

Site coverage per cent: **85 per cent**



Land Use Mix



Urban development-criteria:

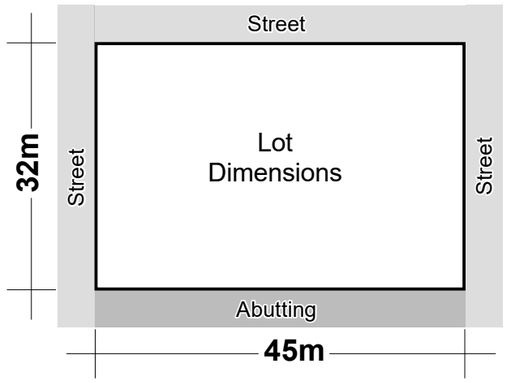
Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Case Study:

Zuidas 1 - Residential Building

Urban Development Type:

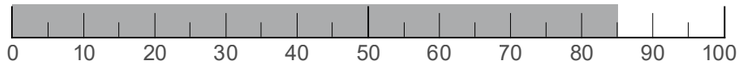
Hybrid Perimeter



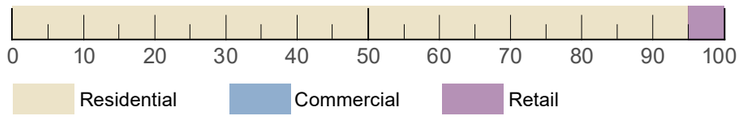
Location	Zuidas, Amsterdam, Netherlands
Architect/Developer	
Building height	4-12 storeys
Land use mix	Residential with restaurant ground floor
Tenure types	Market apartments
Open space amenity	Shared garden “lane way” with adjacent building plot.
Public realm amenity	Active ground floor retail
Parking logic	Basement (shared access between buildings)
Heritage	-
Concise description	U shaped residential courtyard jumping from 4 to 12 storeys.

Floor Area Ratio (FAR) **6.8 FAR**

Site coverage per cent: **85 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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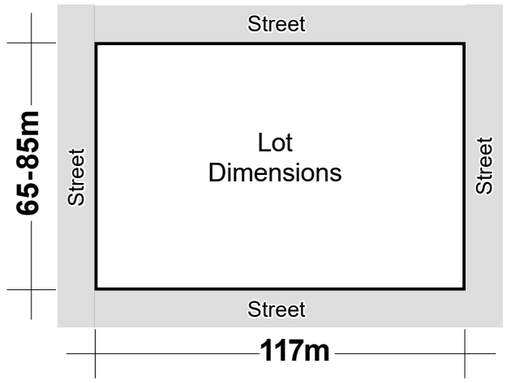
Case Study:

Central Saint Giles

Urban Development Type:

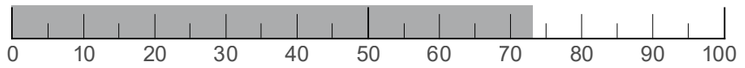
Hybrid Perimeter



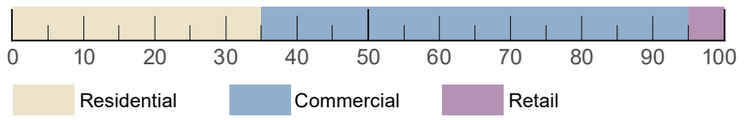
Location	St Giles, London
Architect/Developer	Renzo Piano
Building height	11- 15 storeys
Land use mix	Commercial office, Residential and retail
Tenure types	Multiple tenant
Open space amenity	Shared podium garden, roof top and green roofs.
Public realm amenity	Public courtyard lined with shops and restaurants.
Parking logic	Basement parking
Heritage	-
Concise description	Western block is 15 storeys residential building with 109 flats of which 53 are affordable. An 11 Storey U-shaped commercial building commercial offices.

Floor Area Ratio (FAR) **9 FAR**

Site coverage per cent: **73 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

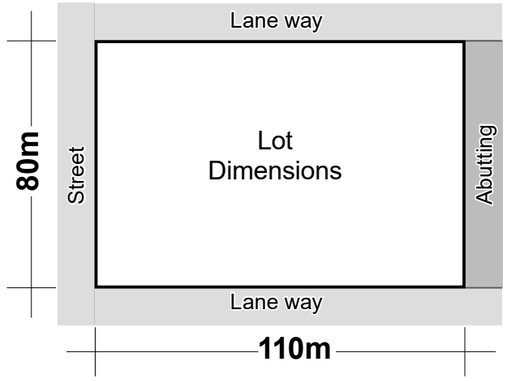
Where not relevant left blank

Case Study:

Sickla Quay

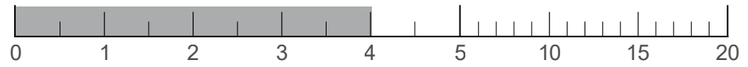
Urban Development Type:

Hybrid Perimeter

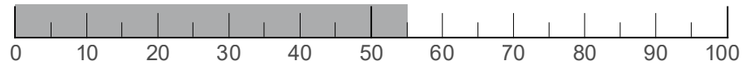


Location	Stockholm, Sweden
Building height	4-7
Land use mix	Primarily residential. Smaller retail active ground floors along light rail line.
Tenure types	60 per cent market units 40 per cent rental units of which some are social housing.
Open space amenity	Shared open courtyards and internal canal.
Public realm amenity	Waterfront promenade and publicly accessible internal canal. Active retail frontage along light rail line.
Parking logic	Underground parking basement.
Heritage	-
Concise description	A former industrial site south of Stockholm centre. The layout of the courtyards and buildings height are organised to take advantage of the canal views for as many dwellings as possible. Approximately 40,000 square metres per courtyard block.

Floor Area Ratio (FAR) **4 FAR**



Site coverage per cent: **55 per cent**



Land Use Mix

Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

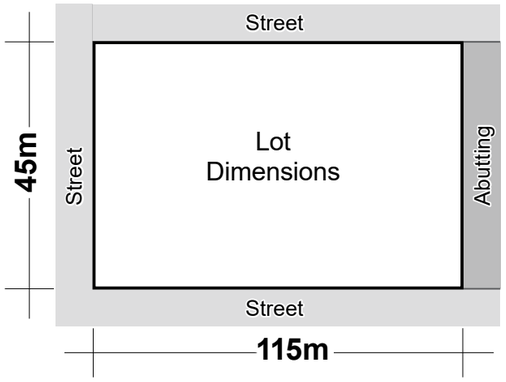
Where not relevant left blank

Case Study:

Arkadia

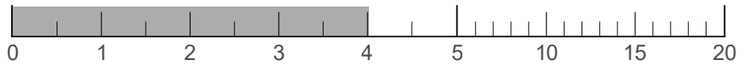
Urban Development Type:

Hybrid Perimeter

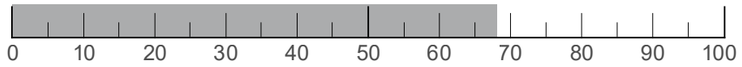


Location	Alexandria, NSW, Australia
Architect/Developer	DKO Architecture, Breathe Architecture
Building height	3-6 storeys
Land use mix	Residential
Tenure types	Market apartments
Open space amenity	Communal vegetable gardens and a rooftop recreational area
Public realm amenity	Seats, lawn, pathways
Parking logic	Basement (shared access between buildings)
Heritage	Inspired by the poetic gesture of recalling traces of history and that informed the façade proposition
Concise description	Heralded as one of the largest recycled brick building in Australia, the Arkadia development for Defense Housing Australia (DHA) occupies a 5,590m² site in the growing inner-city suburb of Alexandria, NSW. The development has been carefully integrated into the surrounding streets in a way that enhances the neighbourhood while offering a compelling model for urban living.

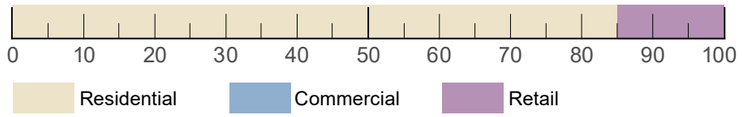
Floor Area Ratio (FAR) **3.8 FAR**



Site coverage per cent: **68 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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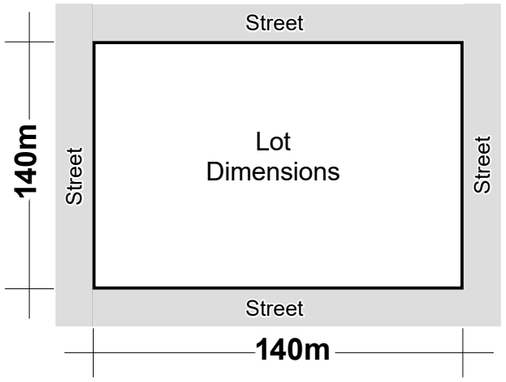
Case Study:

Mirvish Village

Urban Development Type:

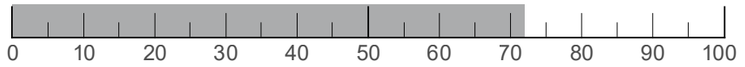
Hybrid Perimeter



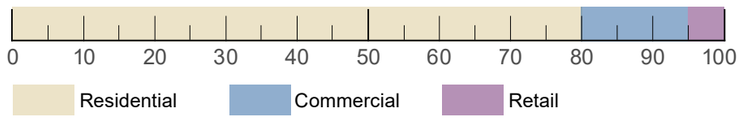
Location	Toronto, Canada
Architect/Developer	Henriquez Partners Architects
Building height	2-28 storeys
Land use mix	Residential, retail, commercial
Tenure types	Purpose built rental
Open space amenity	Public open space in the form of an on-site park approx. 1,150 square metres
Public realm amenity	Through site connectivity through publicly accessible walkways and lane ways. Widened sidewalks, tree plantings and public open space.
Parking logic	Underground car parking with sustainable transport options including bike and car co-op programs
Heritage	Includes heritage houses part of the 'Markham Street Art Colony'
Concise description	Mixed-use redevelopment with a range of building types, including the conservation of several low-rise heritage buildings, new mid-rise mixed-use residential buildings and a series of new slender 'micro' towers.

Floor Area Ratio (FAR) **7.6 FAR**

Site coverage per cent: **72 per cent**



Land Use Mix



Urban development-criteria:

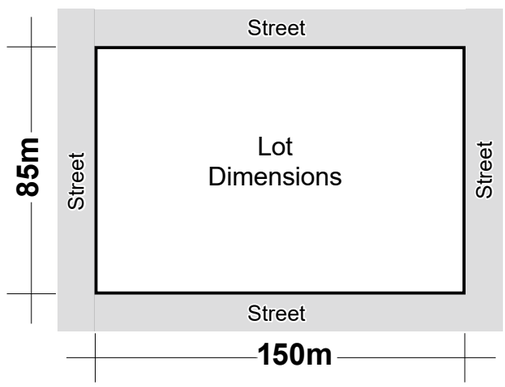
Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Case Study:

Kingsborough

Urban Development Type:

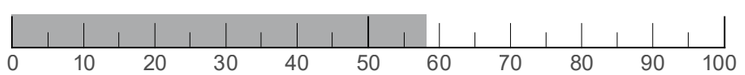
Hybrid Perimeter



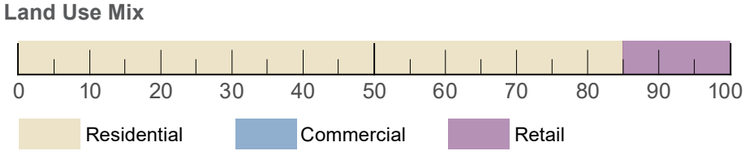
Location	Kingston, ACT
Architect/Developer	Developer: John Gasson. Five architects have worked on different buildings. COX Architecture Studio, Nathan Gibson Judd Architect and Kasparek Architects
Building height	4-7 storeys
Land use mix	Mixed-uses
Tenure types	Market housing apartments
Open space amenity	Balconies pool
Public realm amenity	Urban courtyard space in the centre of the development playground
Parking logic	Shared semi-underground car park.
Heritage	Reference
Concise description	A village square with a strip of shops. It is made up of 280 apartments, terrace homes and warehouse dwellings that provide a perfect retreat from city life. Service amenity: A yoga studio, bike shop, café, tap room and coffee roaster and small businesses. Around the village: shared gardens, playgrounds and open spaces. Great degree of flexibility to adapt dwellings such as putting up walls, design your own wet areas or choose your own colour scheme.

Floor Area Ratio (FAR) **2.9 FAR**

Site coverage per cent: **58 per cent**



Land Use Mix



Urban development-criteria:

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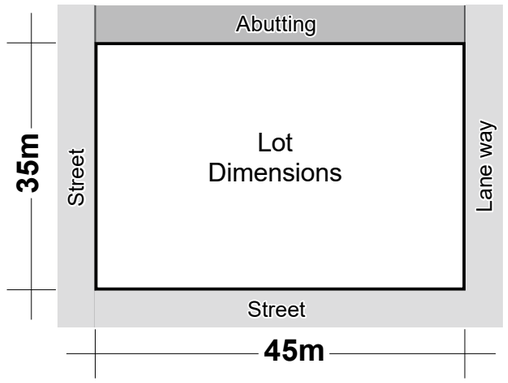
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Case Study:

Quartier Massena

Urban Development Type:

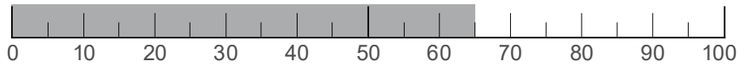
Hybrid Perimeter



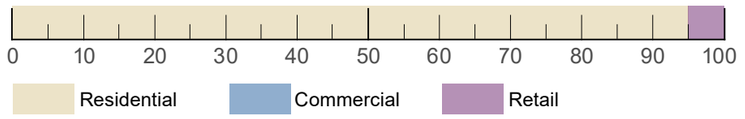
Location	Paris, France
Architect/Developer	Urban design: Christian De Portzamparc. Client: Ville de Paris (Paris City) Developer: SMEPA (Council development arm)
Building height	3-10
Land use mix	Residential and retail ground floor
Tenure types	-
Open space amenity	Roof top gardens and planted garden areas
Public realm amenity	Active ground floor to main street and lush garden areas to the street between the buildings
Parking logic	Underground car parking
Heritage	-
Concise description	Rather than a strict mass plan, Christian de Portzamparc conceives a set a rules allowing variations. At a district scale, Christian de Portzamparc makes use of a concept he developed during the 80s, that of the “open block” and its corollary luminous and diversified “open street”. The buildings are independent and apart, allowing the street to open onto the internal side of the open blocks where gardens are planted. The buildings sides all benefit from an exposure to sunlight. The wide variety of programs, volumes and materials is implemented along the entity of the street.

Floor Area Ratio (FAR) **5.2 FAR**

Site coverage per cent: **65 per cent**



Land Use Mix



Urban development-criteria:

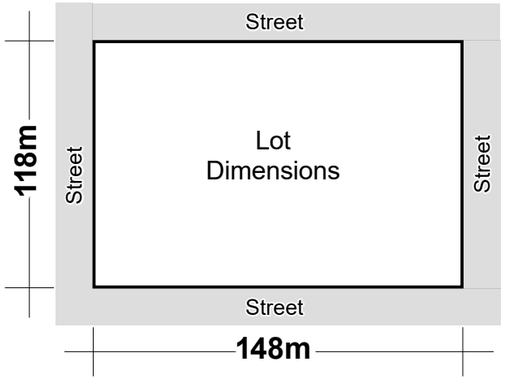
Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Case Study:

Trafalga Place

Urban Development Type:

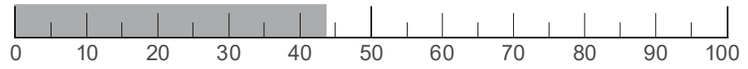
Hybrid Perimeter



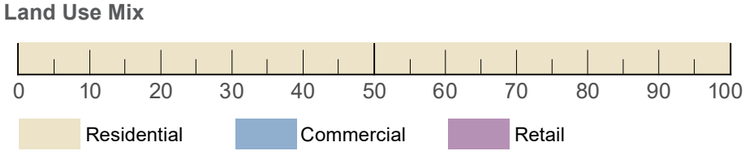
Location	London, UK
Architect/Developer	dRMM
Building height	10 storeys
Land use mix	Residential
Tenure types	-
Open space amenity	Internal pedestrian link, level 1 podium courtyard
Public realm amenity	1.5 metre tree-lined setback at ground floor with ground floor apartments at street level
Parking logic	Underground and within podium interior
Heritage	-
Concise description	Trafalga Place introduces four buildings which wrap around the perimeter of it's site, bisected by a new pedestrian link. It respects the surrounding heritage materiality and landscaping condition whilst correcting the areas modernist past of monolithic apartment blocks. To do this it has a diverse built forms along it's street edge, with a range of different dwelling/open space relationships like courtyard gardens, rooftop gardens, terraces, and projecting balconies which provide passive surveillance to the street.

Floor Area Ratio (FAR) **2.1 FAR**

43 per cent



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
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Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

7.3 Hybrid Perimeter testing

Urban Development Type:
Hybrid Perimeter

This development type provides an inviting public realm character, potential for varied visual experience, uses and housing choices, excellent communal amenity and plentiful space for tree canopy cover.

The arrangement of built form along the street edge provides a strongly-framed and engaging public realm. The central green open space provides a high standard of communal amenity, and space for tree planting.

This typology commonly incorporates varied heights including occasional 'punctuation' buildings with modest increases in height, and forms as low as 3 storeys to provide for townhouses. This format enables varied building types, providing for a range of uses and household types including families.

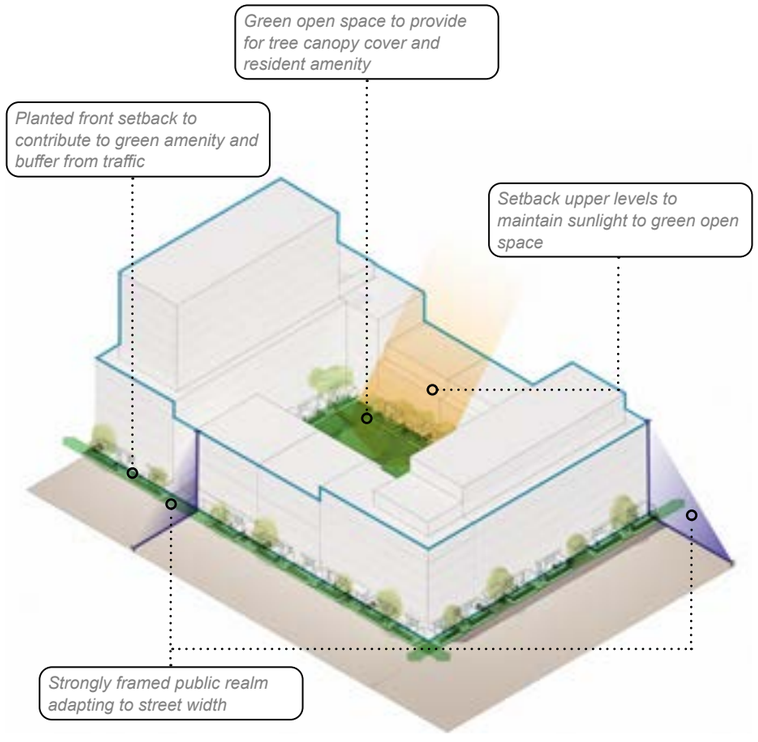


Figure 7-2 Typical Hybrid Perimeter massing volume

Description:

Existing place type	Activity centre (commercial area) beyond the Core
Role and function rationale	High intensification of built form providing space for jobs growth, local services and housing surrounding the core
Future Character drivers rationale	• High level of activation to the street • Maintain sunlight amenity to the public realm • Recognise existing moderate to high level of intensification
Accommodation types	Residential dwellings typically single storey apartments with single or corner orientation in varying sizes. Apartments typically on single level. Private outdoor space on balconies or covered balconies within the building envelope.
Parking logic	Parking located in basement or ground floor podium. Vehicular and service entrance from internal lane way on site or integrated into front building facade.

Development properties:

Floor Area Ratio (FAR) range: **2.5-4.5 FAR**

Use mix		Potential for mixed-use. Retail or small scale commercial at ground floor.
Interfaces		Built to side boundaries. Contribute to street green character, while retaining engaging interface with ground floor uses.
Building height		
Building height	3-15 storeys	Maintain adequate daylight and sunlight in street, and open space (including courtyards)
Street wall height	-	Respond to role and function of adjacent streets. Average maximum street wall height equal to width of street.
Open space		
Deep soil area	25 per cent	Consolidated green space on development sites
Canopy cover area	25 per cent	Canopy trees in rear deep soil zone and front garden setback and roof tops.
Open space amenity	Communal	Consolidated rear garden and roof tops
	Private	Inset balconies and rooftop terraces on setback levels

Precedent examples

FAR testing on Large Opportunity sites

Internal streets and spaces should be established on large opportunity sites to service the new buildings. We have assumed an FAR efficiency of 70 per cent on large opportunity sites to compensate for these. See diagram below.

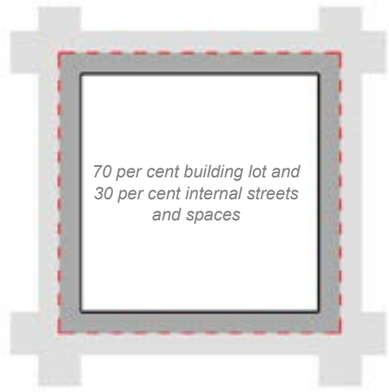


Figure 7-1 Large opportunity sites efficiency

Urban Development Type:
Hybrid Perimeter

Setbacks		
Front setback	0-3 metres	Respond to role and function to adjacent and created streets
Upper levels	-	Ensure appropriate solar amenity and micro-climatic conditions in adjacent streets and spaces.
Side and rear	4.5 metres	Landscaped
Internal courtyard	25 metres	Landscaped courtyard space for tree canopy and amenity.

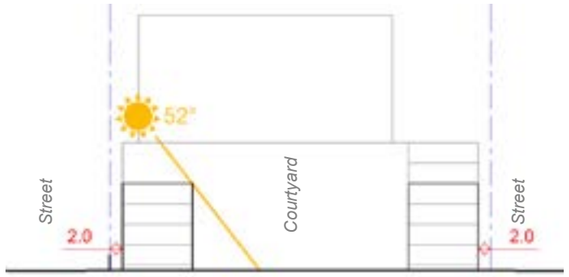
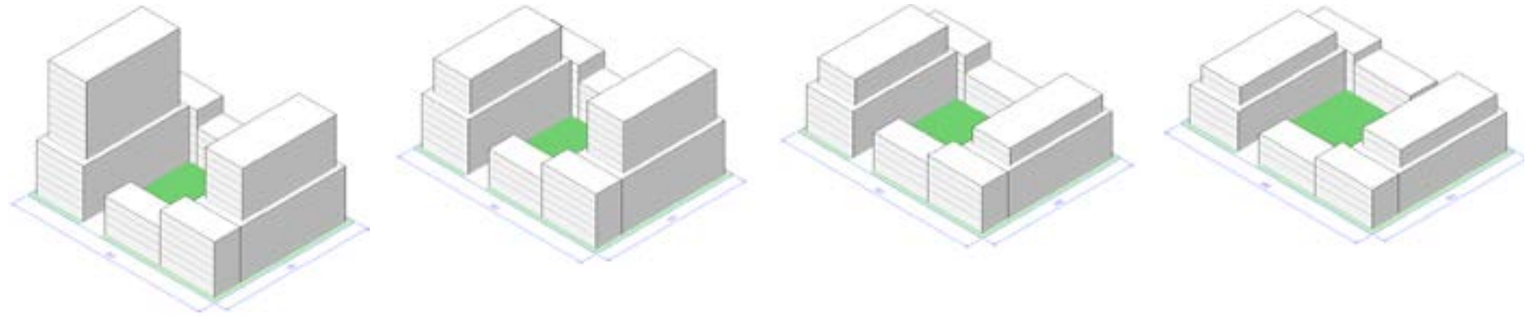
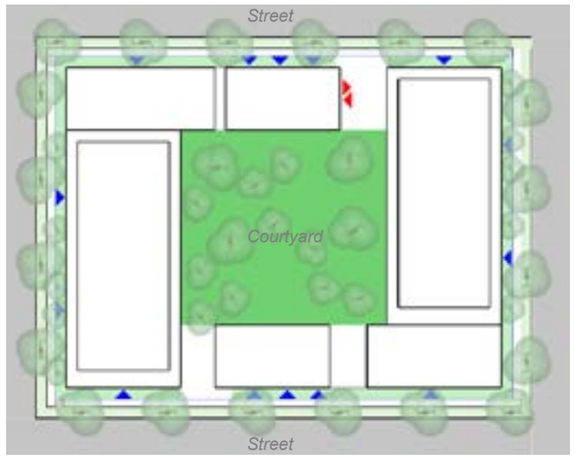


Figure 7-3 Section - ensuring solar amenity to courtyard space.

Typical lot							
The Hybrid Perimeter type/Large Opportunity Sites does not yet have a typical lot/urban block sizes. An appropriate typical lot/block size has been identified:							
Area	4,800 square metres						
Width	60 metres						
Depth	80 metres						
Height testing							
Height (storeys)	**4-15**	**Height (storeys)**	**4-12**	**Height (storeys)**	**4-8**	**Height (storeys)**	**3-6**
FAR	**4.5**	**FAR**	**4**	**FAR**	**3**	**FAR**	**2.5**



70 per cent efficiency for internal streets and open spaces (the FAR for an entire large opportunity site)							
FAR	**3.3**	**FAR**	**2.9**	**FAR**	**2.2**	**FAR**	**1.8**



Legend

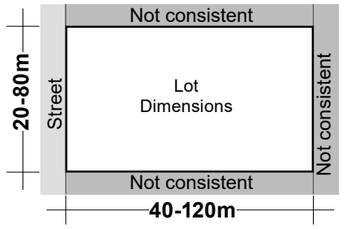
- Building entrance
- Vehicular entrance
- Deep soil zone (calculated)
- Landscaped area
- Tree (indicative)

Figure 7-4 Example block structure with full development

8. Large Freestanding Building

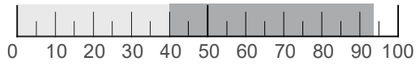
8.1 Large Freestanding Building Development Type

Lot dimension range



Floor Area Ratio (FAR): **2.4-11.3 FAR**

Site coverage per cent: **40-94 per cent**



Description	This type of development is characterised by freestanding buildings in a pedestrianised environment. This provides an opportunity for a moderate level of tree canopy cover to contribute to amenity and the precinct's environmental performance.
Use mix potential	 Commercial Education Research & Development Advanced manufacturing
Interfaces	 Building in landscape
Accommodation types	Large floor plates typically required for education, employment and special uses such as laboratories, research facilities and other innovative uses.
Open space amenity	Low-moderate building height contributes to memorable well-framed spaces with good amenity. Generous tree planting and tree canopy cover along edges of building or adjacent public realm.
Public realm amenity	Contribute to landscaped character of streets and public realm
Parking logic	Basement, surface or free standing parking structure off-site
Testing summary	Moderate intensification of built form providing space for education, innovation and advanced manufacturing uses. These uses tend to require low-moderate height buildings. However, there are opportunities for intensification to provide for jobs growth through the redevelopment of low-rise structures into mid-rise buildings Key learning from our assessment of case studies: • Performs well on delivering high-density and built-form diversity • Generally good public realm interfaces with landscaping in front setbacks • Often doesn't sit very well in it's natural context due to the nature of the large floor plates • Case studies lacking green landscaping and tree canopy cover.

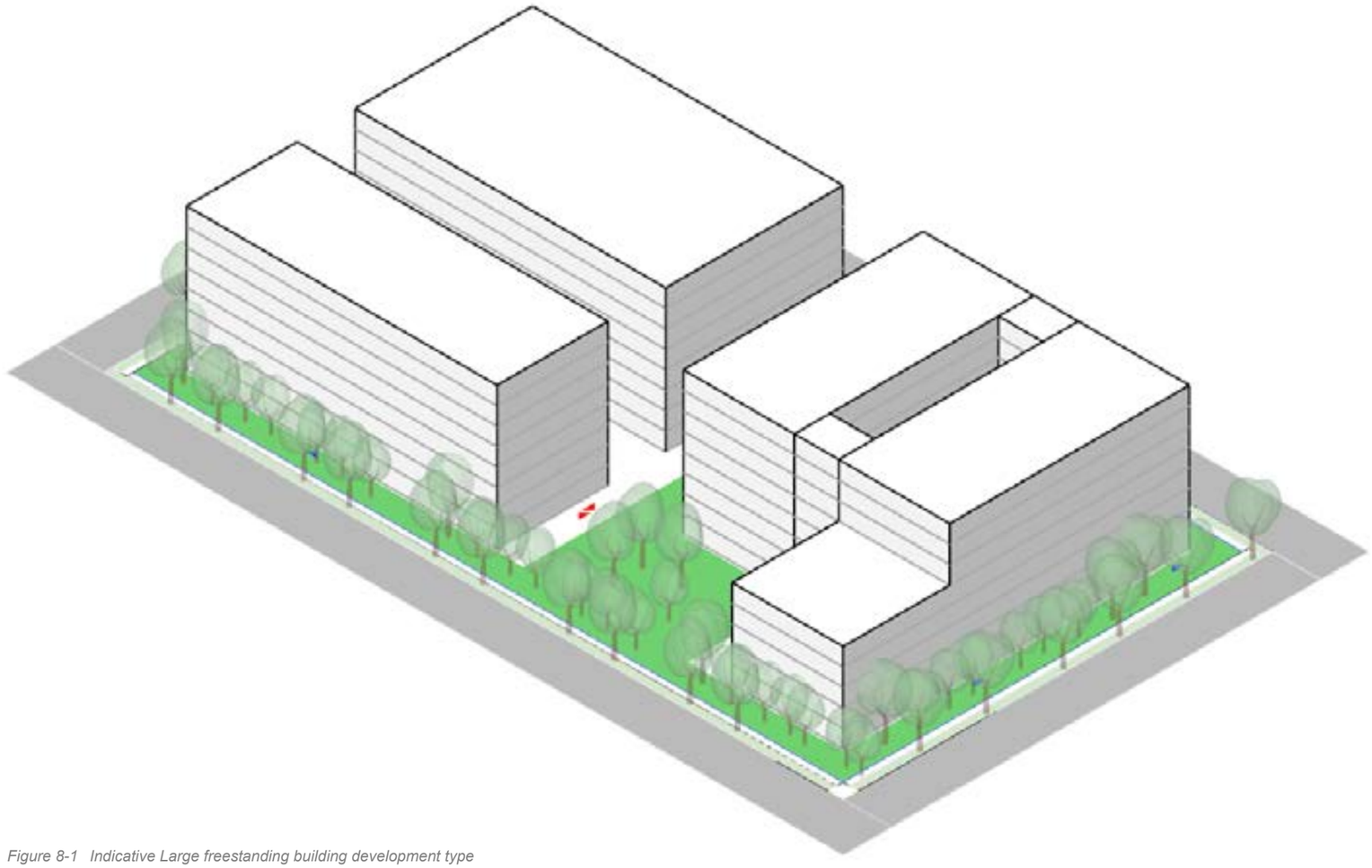


Figure 8-1 Indicative Large freestanding building development type

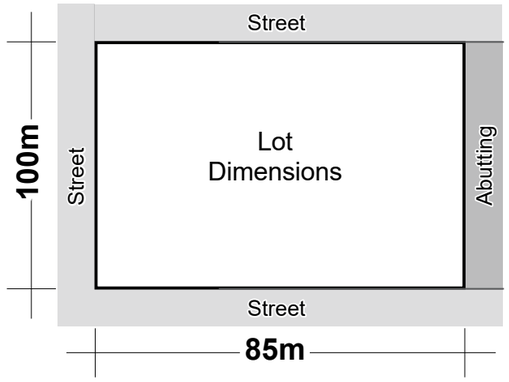
8.2 Large Freestanding Building case studies

Case Study:

Melbourne Connect

Urban Development Type:

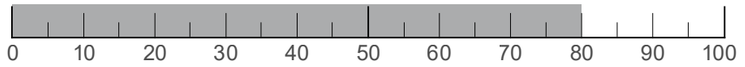
Large Freestanding Building



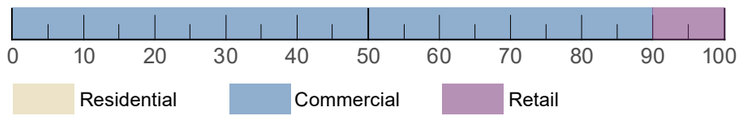
Location	Carlton, Victoria
Architect/Developer	Woods Bagot
Building height	12 storeys
Land use mix	Commercial/retail
Tenure types	-
Open space amenity	Internal pedestrian link
Public realm amenity	Built to boundaries with activated ground floor
Parking logic	Underground
Heritage	-
Concise description	Designed as a innovation precinct with university tenancy and co-working spaces, its form is three separate buildings that wrap around an interior courtyard. It has a well activated ground floor with an emphasis on light an view lines running through the building.

Floor Area Ratio (FAR) **9.0 FAR**

80 per cent



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
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Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

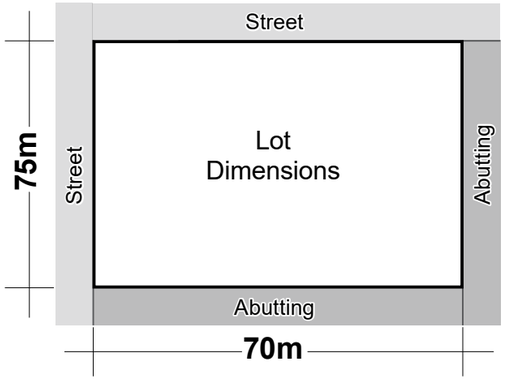
Where not relevant left blank

Case Study:

Ferntree Business Park

Urban Development Type:

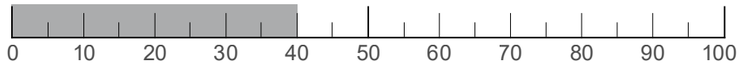
Large Freestanding Building



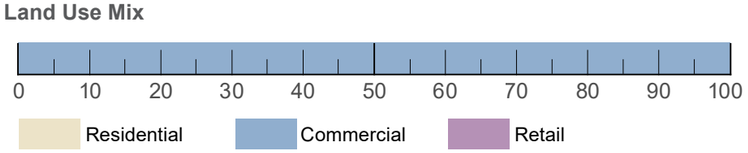
Location	Monash, Victoria
Architect/Developer	Gray Puksand
Building height	6 storeys
Land use mix	Commercial
Tenure types	-
Open space amenity	Front landscaped setback, rear semi-private park
Public realm amenity	
Parking logic	Underground
Heritage	-
Concise description	Box form commercial building with generous setbacks at all sides, maintaining established eucalyptus tree canopy of the area with entrances set off the main road.

Floor Area Ratio (FAR) **2.4 FAR**

40 per cent



Land Use Mix



Urban development-criteria:

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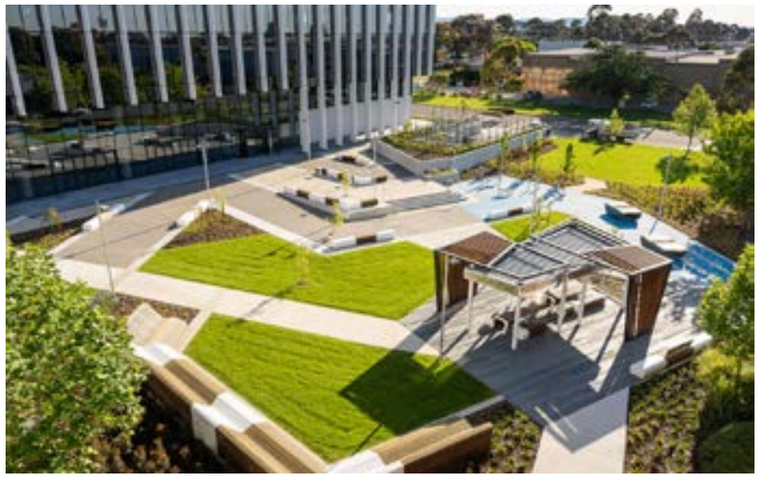
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

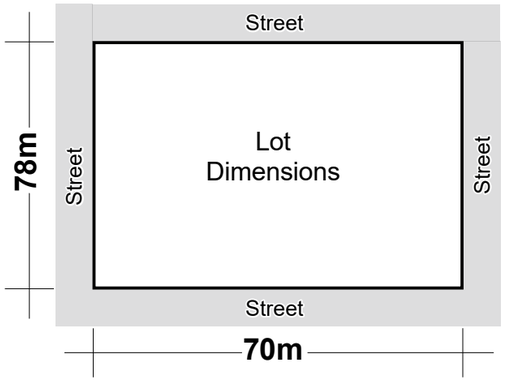


Case Study:

Westmead Innovation Quarter

Urban Development Type:

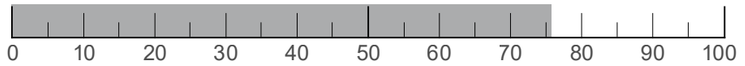
Large Freestanding Building



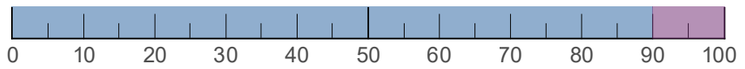
Location	Westmead, Sydney
Architect/Developer	Architectus
Building height	7 storeys
Land use mix	Commercial/retail
Tenure types	-
Open space amenity	Open space pedestrian link
Public realm amenity	Built to boundaries with activated ground floor
Parking logic	Underground
Heritage	-
Concise description	Designed as a university research facility, Westmead Innovation Quarter strikes a good balance between density and public realm amenity with an internal pedestrian link. Aims at combining it's university usage with complementary commercial tenants.

Floor Area Ratio (FAR) **5.3 FAR**

76 per cent



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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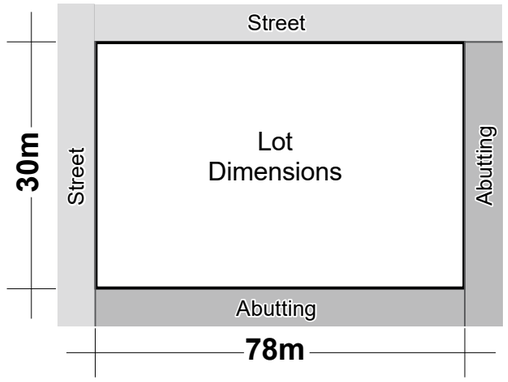
Case Study:

Paramatta Square

Urban Development Type:

Large Freestanding Building

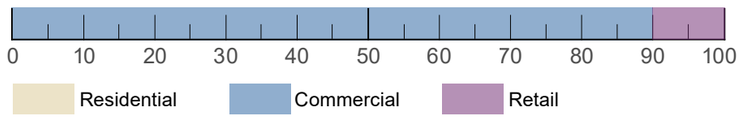


Location	Paramatta, Sydney
Architect/Developer	Architectus
Building height	15 storeys
Land use mix	Commercial/retail
Tenure types	-
Open space amenity	Internal pedestrian link
Public realm amenity	Built to boundaries with activated ground floor
Parking logic	Underground
Heritage	-
Concise description	1 Parramatta Square (also known as 1PS), houses the $220 million dollar Parramatta city campus for the Western Sydney University which opened in 2017. It's home to 10,000 students from the School of Business. It is designed to promote close relationships with the business community, and has allowed the University to expand and leverage its research expertise. The 15-storey building was developed in close collaboration with the University, which holds a 40-year lease to house its principal campus in the Parramatta CBD. The other tenants of 1PS are Australia's largest professional services firm, PwC, and government agency WaterNSW.

Floor Area Ratio (FAR) **11.3 FAR**

94 per cent

Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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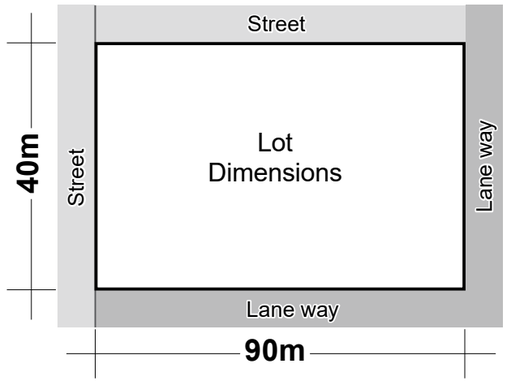
Case Study:

Arch Tech Lab

Urban Development Type:

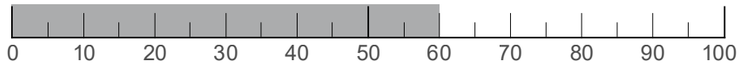
Large Freestanding Building



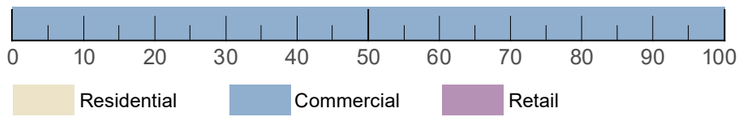
Location	ETH University Zurich, Switzerland
Building height	4 storeys
Land use mix	Fabrication and production
Tenure types	University fabrication building
Open space amenity	-
Public realm amenity	-
Parking logic	Built on the roof of existing car park
Heritage	-
Concise description	This building is a production and fabrication facility at the ETH University in Zurich. The building is resource-efficient, compact and emission-free construction. The building is built on the roof on an existing car park on campus. Wood was chosen for the roof construction and steel for the load-bearing system of the building because these materials have ideal stiffness-to-weight ratios. In addition, the steel structure gets by without supporting cores and shafts, which both allows for flexible use and makes it possible to adapt the interior design to changing needs.

Floor Area Ratio (FAR) **2.3 FAR**

Site coverage per cent: **60 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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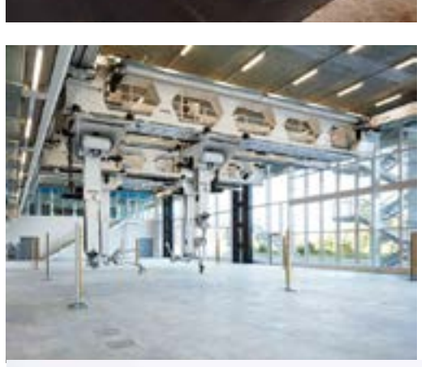


8.3 Large Freestanding Building testing

Urban Development Type:
Large Freestanding Building

The large freestanding building development type provides the large floor plates typically required for education or employment uses. Its moderate building height contributes to memorable, well-framed spaces with good amenity.

Larger lot sizes provide opportunities for these larger footprint buildings and generous tree planting. This typology provides a 25 per cent deep soil area in the front setback and consolidated garden areas.

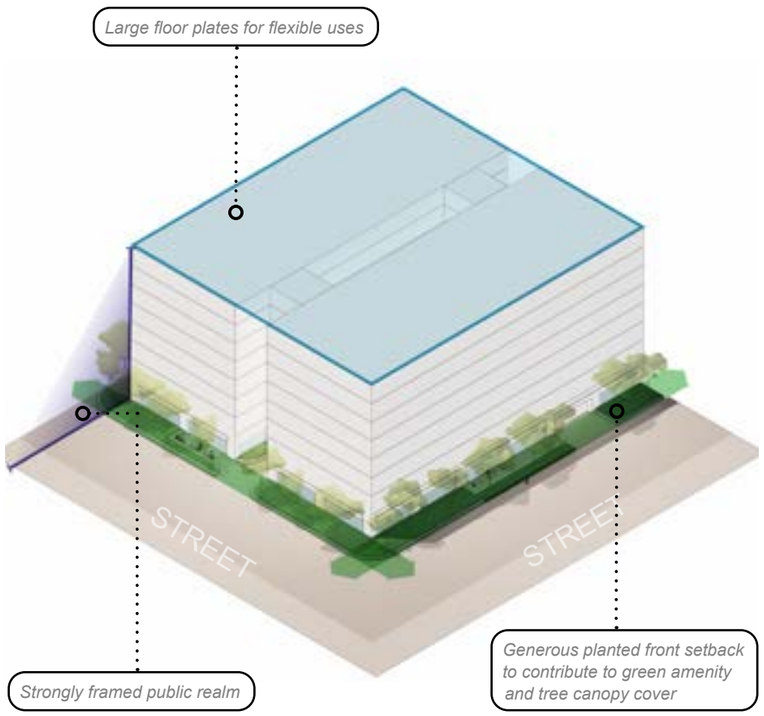


Figure 5.02: The diagram above shows the desired urban form outcomes for the large freestanding building typology.

Description:

Existing place type	Education or employment campus
Role and function rationale	Moderate intensification of built form providing space for education, innovation and advanced manufacturing uses
Future Character drivers rationale	• High level of activation to the street • Maintain sunlight amenity to the public realm • Recognise existing moderate to high level of intensification.
Accommodation types	Non-residential uses. This development type provides the large floor plates typically required for education or employment campus uses.
Parking logic	• Underground car parking • Multi-level car parking • Car parking off site.

Development properties:

Floor Area Ratio (FAR) range: **4-7 FAR**

Use mix		Commercial office Advanced manufacturing Research and Development Health and Education
Interfaces		Building in the landscape
Building height		
Building height	6-12 storeys	Maintain adequate daylight and sunlight in street and rear-facing buildings.
Street wall height	-	Retain 1:1 ratio between building height and street width
Open space		
Deep soil area	25 per cent	Perimeter of lot and consolidated courtyard garden area.
Canopy cover area	25 per cent	Canopy trees in rear deep soil zone and front garden setback.
Open space amenity	Communal	Green front setbacks, courtyard garden area

Precedent examples

Urban Development Type:
Large Freestanding Building

Setbacks		
Front	6 metres	Plus 1m per metre of height above the maximum street wall height.
Side and rear	6 metres	Landscaped
Front above street wall	1:1	Retain 1:1 ratio between building height and street width
Rear and side setback	6 metres	From any directly abutting properties, to provide for canopy trees.

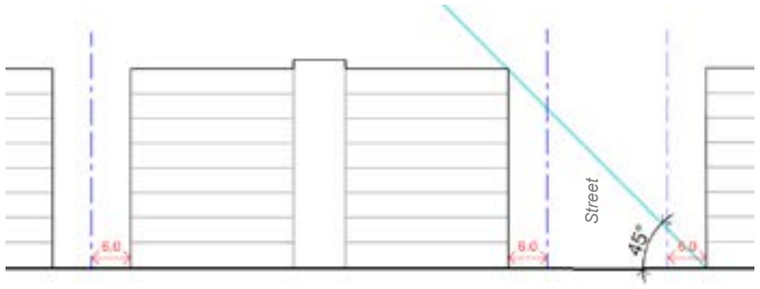
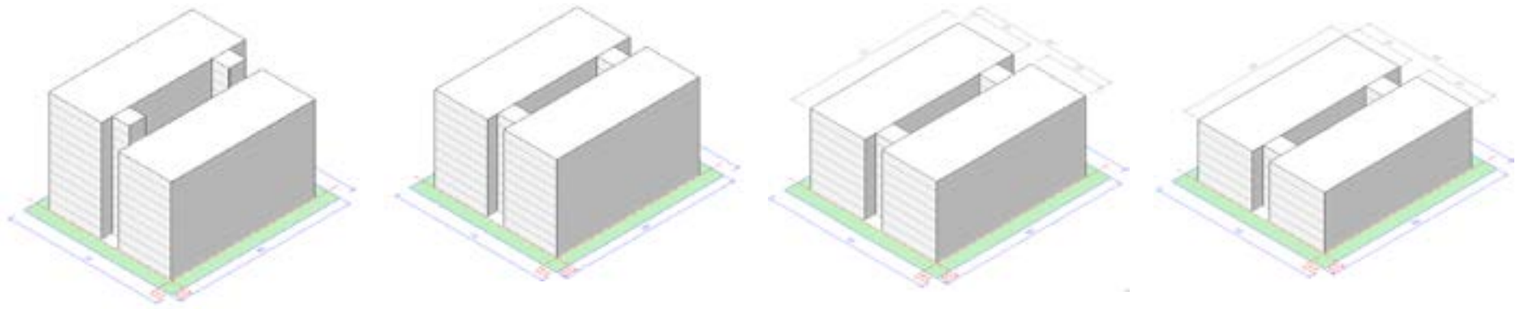
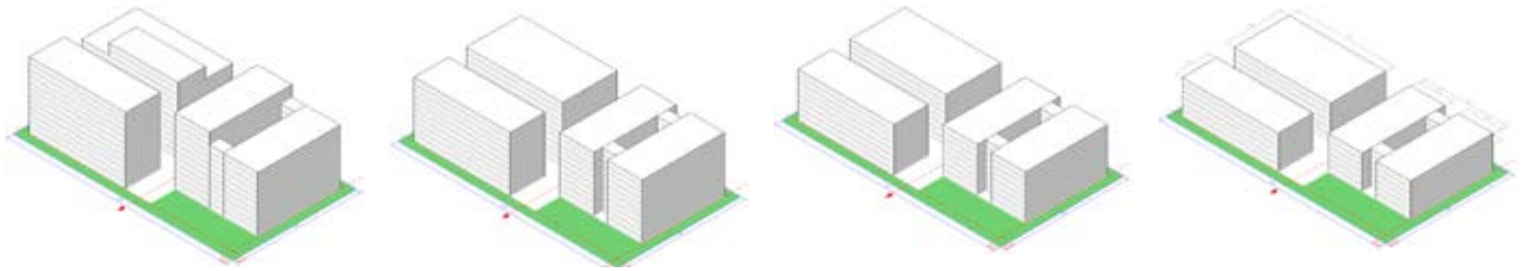


Figure 8-1 Section North of street

Typical lot							
Many locations of the Large freestanding building type does not yet have a defined urban grain or typical lot/urban block sizes. An appropriate typical lot/block size has been identified:							
Area	5,600 square metres						
Width	80 metres						
Depth	70 metres						
Typical lot							
Height (storeys)	**10-12**	**Height (storeys)**	**10**	**Height (storeys)**	**8**	**Height (storeys)**	**6**
FAR	**6.5**	**FAR**	**5.5**	**FAR**	**4.5**	**FAR**	**3.5**



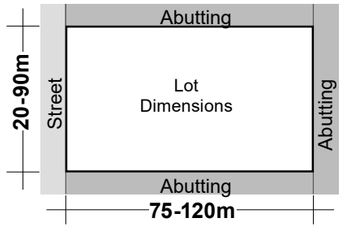
Large lot							
Some locations of the Large freestanding building type does not yet have a defined urban grain or typical lot/urban block sizes. Some uses require large adjacent buildings. An appropriate large lot/urban block size has been identified for these and should include a pedestrian link to ensure urban permeability and amenity.							
Area	14.400 square metres						
Width	160 metres						
Depth	90 metres						
Large lots with pedestrian link							
Height (storeys)	**12**	**Height (storeys)**	**10**	**Height (storeys)**	**8**	**Height (storeys)**	**6**
FAR	**5**	**FAR**	**4.5**	**FAR**	**4**	**FAR**	**3**



9. Hybrid Employment

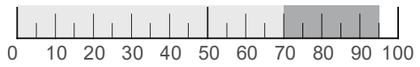
9.1 Hybrid Employment Development Type

Lot dimension range



Floor Area Ratio (FAR): **1.5-2.8 FAR**

Site coverage per cent: **70-95 per cent**



Description	Case studies are a mix of development uplift on former low-density industrial areas with a wide range of uses with activities of typically lower value such as service industry, car repair, small manufacturing, services and storage.
Use mix potential	Non residential uses.
Interfaces	 Front and rear setbacks or extending to all boundaries
Accommodation types	No accommodation.
Open space amenity	Improvement to adjacent public realm and landscaped front setbacks.
Public realm amenity	Improved street interfaces with active uses, landscaping and urban furniture.
Parking logic	Underground or within structure
Case study summary	The case studies see an uplift in employment with a greater mix of office spaces, experience and new types of services along with significant uplift in amenity to buildings and adjacent public realm. This type is appropriate in existing industrial areas located within the SRL East precincts. Key learning from our assessment of case studies: • A diversity of building sizes and heights that accommodates the specific uses in an industrial context • This type does not inherently create good urban outcomes and user amenity, but can be created in building interfaces • Large building site coverage lacking vegetation and permeable surfaces.

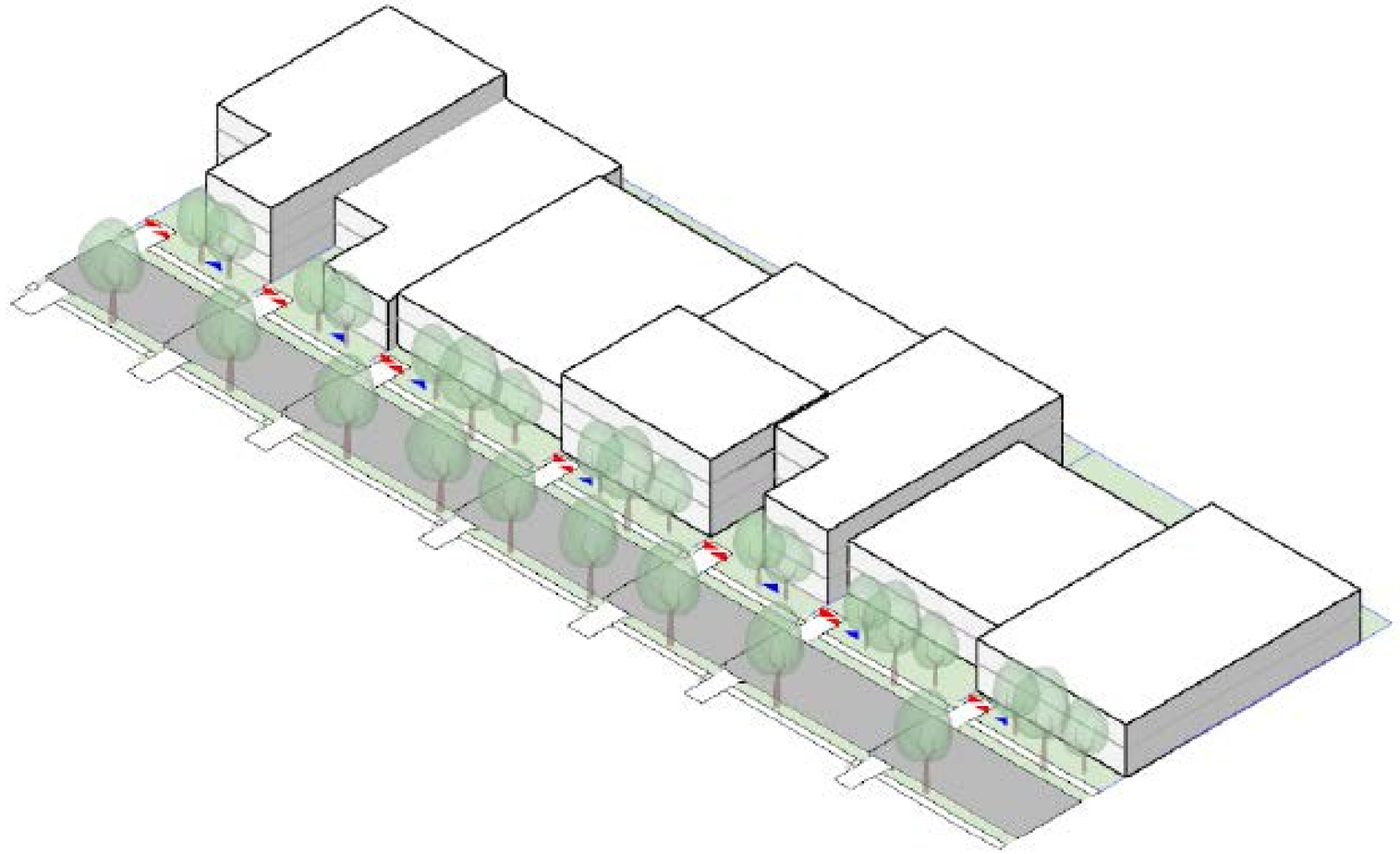


Figure 9-1 Indicative Hybrid Employment development type

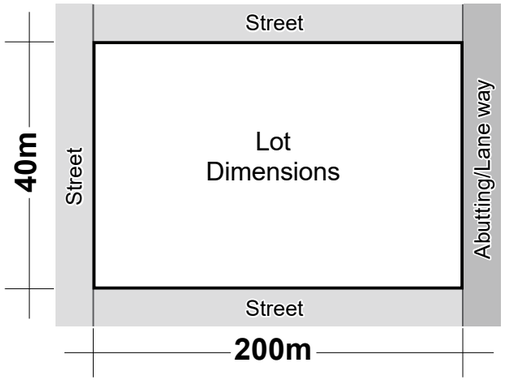
9.2 Hybrid Employment case studies

Case Study:

Goods Shed North

Urban Development Type:

Industrial Areas



Location	710 Collins, Melbourne
Architect/Developer	Abacus Group
Building height	2-3 storeys
Land use mix	Commercial and small part retail.
Tenure types	Mixed commercial and retail tenants.
Open space amenity	Internal atrium space.
Public realm amenity	Planted setback to Bourke street with street furniture and active frontage.
Parking logic	Car park under Collins Street bridge
Heritage	Integrated heritage warehouse
Concise description	Occupying a rectangular block of 7,800sqm spanning between Collins Street and Bourke Street. Heritage-listed former railway warehouse transformed into a two level commercial office building. A 4 storey retail and commercial building has been added at Collins Street - mitigating a significant level change. The current potential for redevelopment is being investigate to utilise potential yield on the site. Provides a relatively low site utilisation in a very highly utilised area. (tall buildings).

Floor Area Ratio (FAR) **1.5 FAR**

0 1 2 3 4 5 10 15 20

Site coverage per cent: **95 per cent**

0 10 20 30 40 50 60 70 80 90 100

Land Use Mix

0 10 20 30 40 50 60 70 80 90 100

Residential Commercial Retail

Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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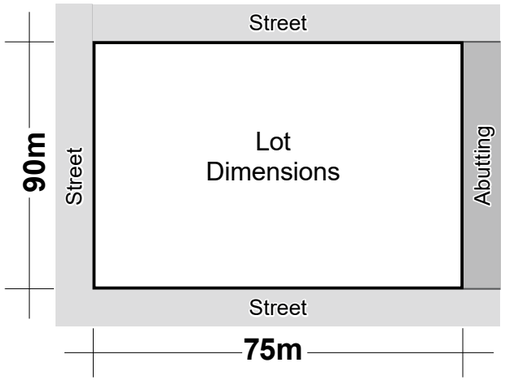
Case Study:

Seek Headquarters

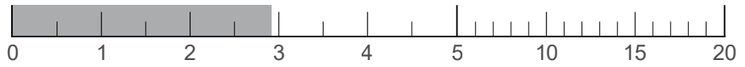
Urban Development Type:

Industrial Areas

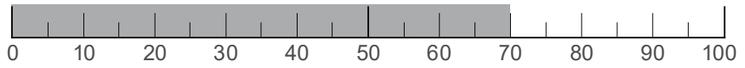


Location	Cremorne, VIC
Architect/Developer	Hassell Studio
Building height	9 storeys
Land use mix	Commercial
Tenure types	Single commercial tenant
Open space amenity	Courtyard spaces on ground floor and roof top for tenants
Public realm amenity	Active ground floor along main street. Green planted edge along lane way.
Parking logic	Basement car park
Heritage	-
Concise description	Unconventional offices and the local setting, this 'contemporary warehouse' concept resulted in a modern building that sits comfortably within its urban and historical context. Rising 7 storeys and incorporating over 19,000 square metres of floor space, the building is set back from all its boundaries to respect its residential neighbours, provide a generous garden for SEEK and the local community, and create a wider footpath.

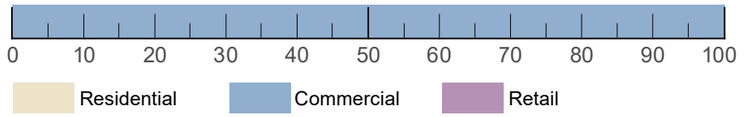
Floor Area Ratio (FAR) **2.9 FAR**



Site coverage per cent: **70 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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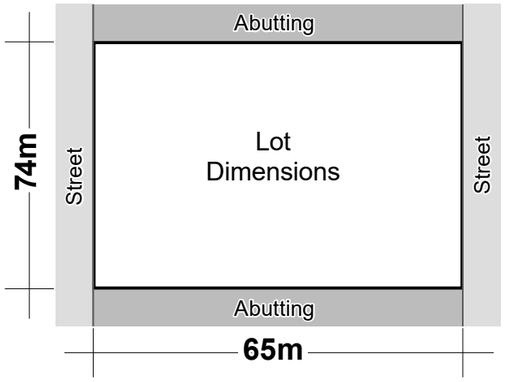
Case Study:

Carmen's Head Office

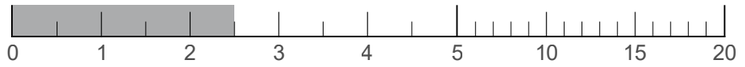
Urban Development Type:

Hybrid Employment

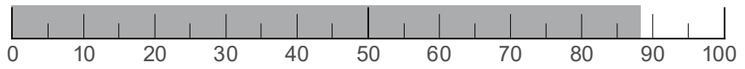


Location	Huntingdale, Melbourne, Australia
Architect/Developer	Ewert Leaf
Building height	3 storeys
Land use mix	Commercial
Tenure types	-
Open space amenity	Rooftop courtyard
Public realm amenity	Nothing of note, typical of the existing area
Parking logic	Rear of lot
Heritage	-
Concise description	Largely using the existing building form, this development improves on the standard industrial typology of the area with subtle improvements as opposed to a radical change in form. It atypically has an activated street engagement with a direct-to-consumer shop, a rooftop terrace garden for meetings and staff entertainment, and a material palette which makes the most of its industrial details, resulting in an uplift with a low environmental cost.

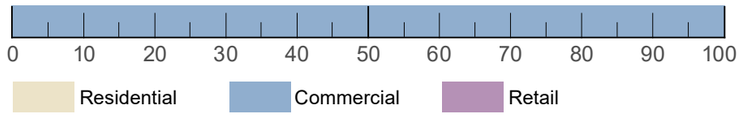
Floor Area Ratio (FAR) **2.5 FAR**



88 per cent



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

9.3 Hybrid Employment testing

Urban Development Type:
Hybrid Employment

The Hybrid Employment development type can host a wide range of employment uses. It can take the form of a freestanding building on larger or amalgamated lots, or a boundary-to-boundary infill building on narrower lots.

Importantly, the development type positions loading and servicing activities away from the street frontage, and instead addresses the street with its most active uses and incorporates a modest landscaped setback. This will contribute to a more inviting streetscape, attracting new businesses to the area. This typology provides a 5-10 per cent deep soil area at the front of the lot. This typology provides a 5 per cent deep soil area across the front of the lot.

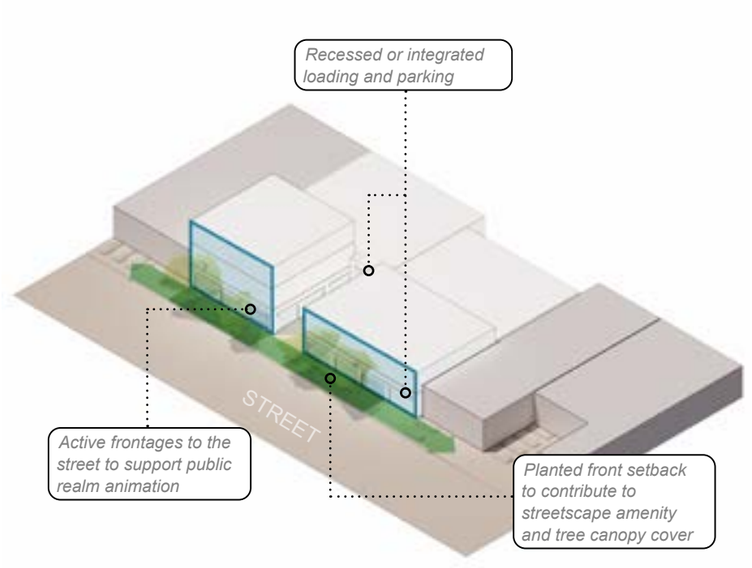


Figure 5.03: Urban form outcomes for the Hybrid Employment typology.

Description:

Existing place type	Light industrial areas
Role and function rationale	Moderate intensification of built form providing space for jobs growth. These areas currently host predominantly light industrial uses. However, given their proximity to the SRL station, they offer the potential for higher-order employment uses delivering a higher jobs density.
Future Character drivers rationale	• Enhance landscape character and amenity within the street • Moderate level of activation to the street • Capitalise on amenity provided by open space.
Accommodation types	No accommodation
Parking logic	Vehicular and service entrance in building frontage or narrow side lane way. Vehicular parking and loading areas to be located away from street.

Development properties:

Floor Area Ratio (FAR) range: **2.5-4.5 FAR**

Use mix		No residential uses
Interfaces		Built to side boundaries. Contribute to street green character, while retaining engaging interface with ground floor uses.
Building height		
Building height	2-4 storeys	Building height limited by solar plane to protect the amenity of opposite footpath. It is envisaged that most development will be in the order of 1-3 storeys high.
Street wall height	-	Retain 1:1 relation between street wall height and street space.
Open space		
Deep soil area	5 per cent	Located in front landscaped setbacks
Canopy cover area	5 per cent	Canopy trees in front landscaped setback should contribute to amenity and canopy cover in street space.
Open space amenity	Communal	Front setbacks

Precedent examples

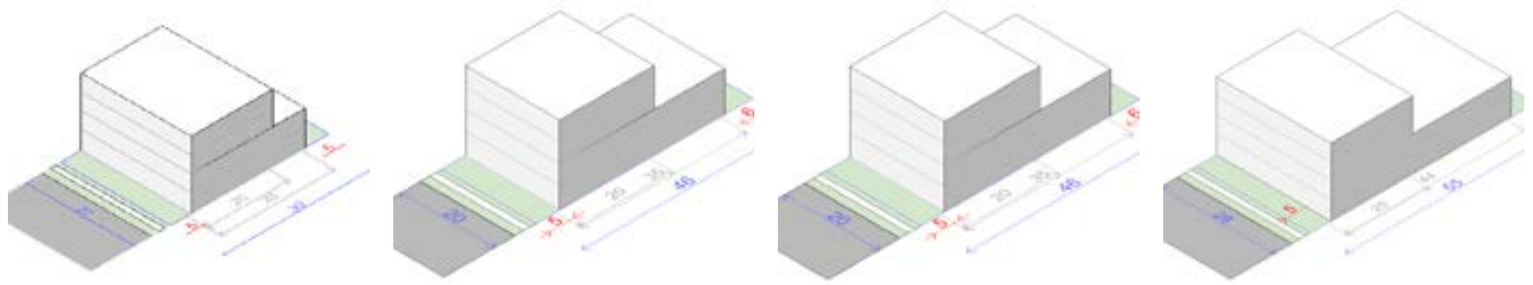
Urban Development Type:
Hybrid Employment

Setbacks		
Front setback	Minimum 4 metres	Generous planted front setback with canopy trees to improve landscape amenity in street scape.
	Maximum 5 metres	For 70 per cent of the lot width.
Rear setback	6 metres [1]	Deep soil zone.
Side setbacks	0-6 metres	Not required. Maximum 5 metres or 70 per cent of lot width can be setback to retain continuous street wall definition.

1 This has been refined to 0 metres or a rear setback where abutting non-industrial property equal to the height above ground floor level.

Figure 9-1 Section - front and rear setback

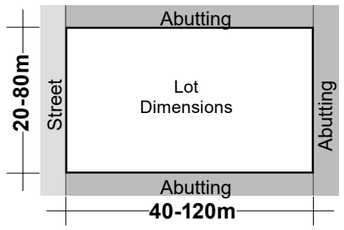
Location							
Clayton (James St)		**Burwood**		**Clayton (Audsley St)**		**Glen Waverley**	
Area	1,053 square metres	Area	920 square metres	Area	920 square metres	Area	1,540 square metres
Width	27 metres	Width	20 metres	Width	20 metres	Width	28 metres
Depth	39 metres	Depth	46 metres	Depth	46 metres	Depth	55 metres
Lot testing							
Height (storeys)	**2-4**	**Height (storeys)**	**2-4**	**Height (storeys)**	**2-4**	**Height (storeys)**	**2-4**
FAR	**2**	**FAR**	**2.4**	**FAR**	**2.4**	**FAR**	**2.3**



10. Garden Apartments

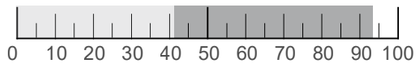
10.1 Garden Apartment Development Type

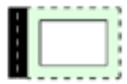
Lot dimension range



Floor Area Ratio (FAR): **1.4-2.8 FAR**

Site coverage per cent: **42-94 per cent**



Description	Freestanding apartment building in a landscaped setting. Characterised by relatively narrow street frontage and facing directly onto neighbouring lots at the rear and sides.
Use mix potential	 Limited opportunity for non-residential integration
Interfaces	 Building in landscape
Accommodation types	Great opportunity to provide wide range of accommodation types. This type can be configured with single level apartments, duplexes, multi-storey townhouses and varying sizes.
Open space amenity	Communal open space often limited to side setback shared with driveway or smaller communal courtyard. Great opportunity to leverage level ground floor access and roof top amenity for large proportion of dwellings.
Public realm amenity	Green front garden setback similar to other residential interfaces. Not a type conductive to creating a defined public domain.
Parking logic	Often side setback lane way to access individual car parking integrated into built form. In lots wider than approximately 17 metres, parking can be provided underground.
Testing summary	This type is suitable for significant densification in existing residential areas with lot amalgamation of just two lots. • Retains strong garden character typical of existing detached-housing areas • High tree canopy cover • Side elevations provides architecturally articulated elevations on all sides appropriate in context typically dominated by lower detached built form • Residential use only • Semi-active residential frontages.

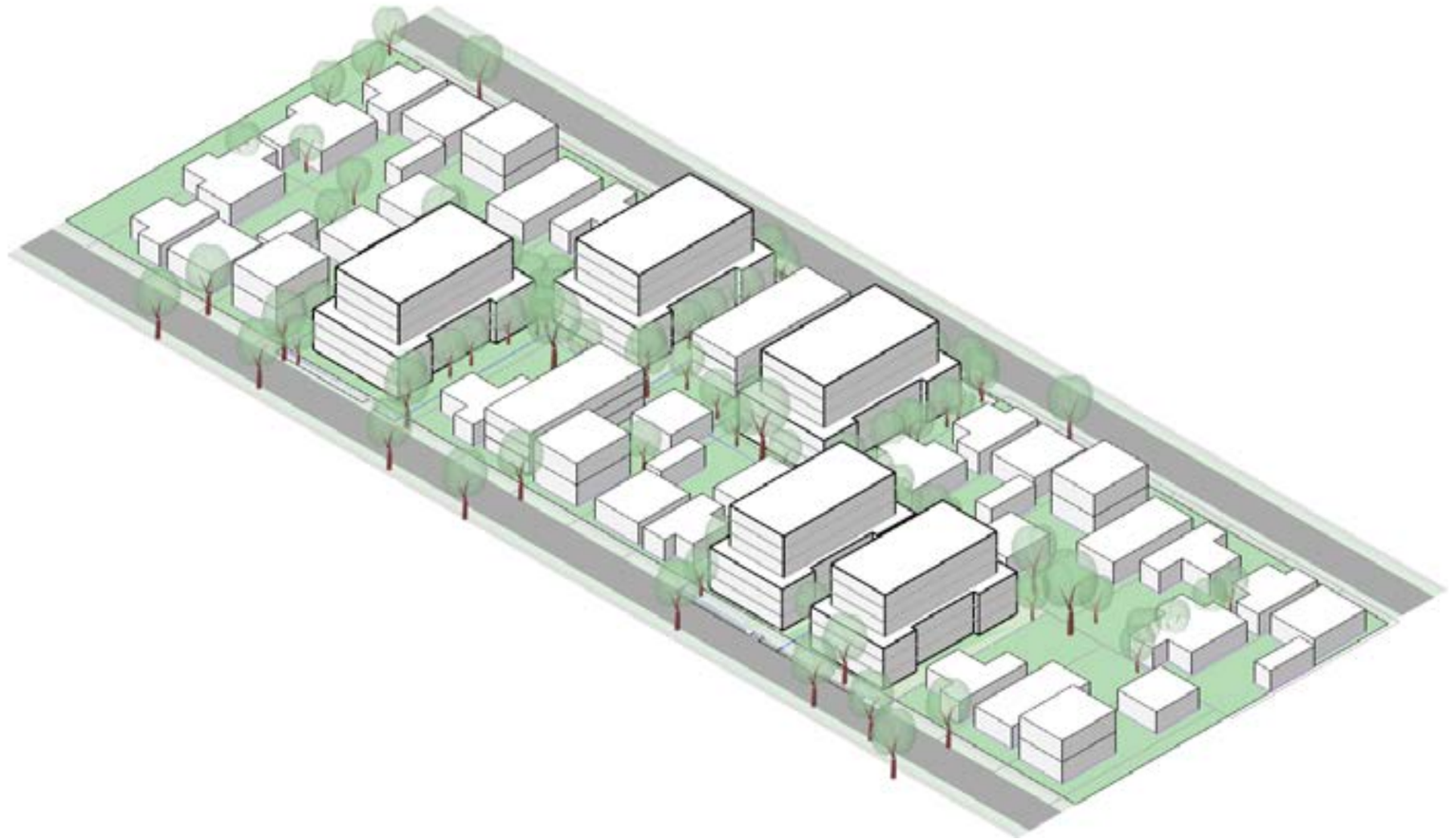


Figure 10-1 Indicative Garden Apartments development type

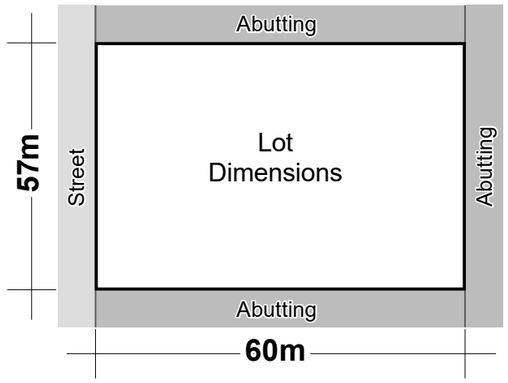
10.2 Garden Apartments case studies

Case Study:

‘Oasis’, 33-39 Veron St, Wentworthville

Urban Development Type:

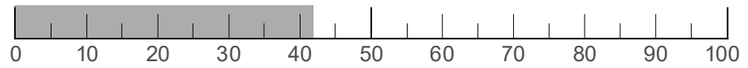
Garden Apartment



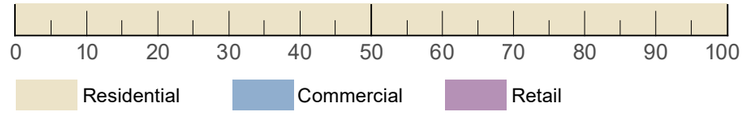
Description	Matching pair of 5 storey residential developments with a middle courtyard. Top level is recessed slightly from all sides on both. Situated on a street of similar developments which all were built in the same period around 2018.
Location	Wentworthville, NSW
Architect/Developer	Conquest
Building height	4 Storeys
Land use mix	Residential
Tenure types	Private market apartments
Open space amenity	Interior courtyard
Public realm amenity	
Parking logic	Underground car park
Heritage	-

Floor Area Ratio (FAR) **1.9 FAR**

Site coverage per cent: **42 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

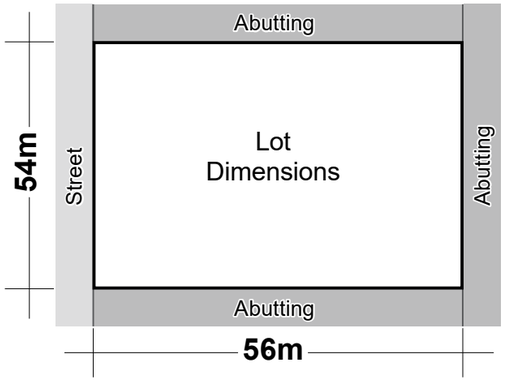
Where not relevant left blank

Case Study:

122 Roseneath St, Clifton Hill

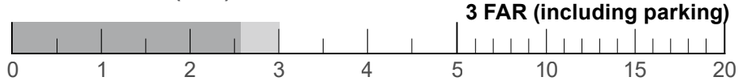
Urban Development Type:

Garden Apartment

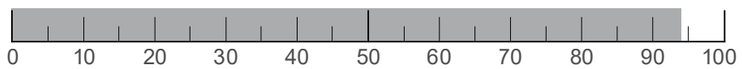


Location	Clifton Hill, Melbourne
Architect/Developer	Fieldwork, Icon and Assemble.
Building height	3-6 storeys
Land use mix	Residential with retail ground floor
Tenure types	Built-to-rent and built-to-rent-to own. (Assemble model)
Open space amenity	Podium garden and communal room
Public realm amenity	Activated street edge
Parking logic	Stacker parking in ground floor podium
Heritage	-
Concise description	Diversity in apartment types including 1, 2 and 3-bedroom apartments and 2 and 3 storey townhouses on the parking podium. The scheme includes internal and external communal areas, a workshop and communal laundry. The project is sensitive to its suburban context with a gradual increase of height in the centre of the development.

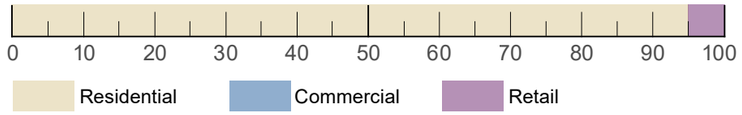
Floor Area Ratio (FAR) — **2.6 FAR**, **3 FAR (including parking)**



Site coverage per cent: — **94 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

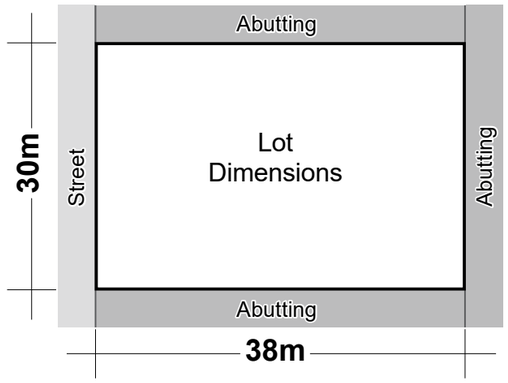
Where not relevant left blank

Case Study:

Vic Future Homes A

Urban Development Type:

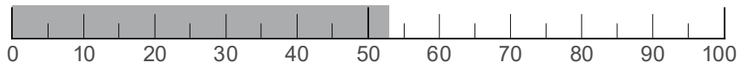
Garden Apartment



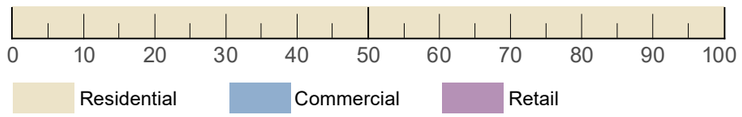
Location	-
Architect/Developer	VIC Gov Architect - Future homes
Building height	3 storeys
Land use mix	Residential
Tenure types	Market units - strata
Open space amenity	Private courtyards and balconies.
Public realm amenity	Green residential interface with multiple entrances.
Parking logic	Underground parking
Heritage	Requires demolition and new build.
Concise description	A pre-approved scheme for providing 15 units of varying sizes on two amalgamated lots. This configuration has underground parking basement and a lot with a north/south orientation. Each unit has a private open space as well as a access to a shared courtyard.

Floor Area Ratio (FAR) **1.5 FAR**

Site coverage per cent: **53 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

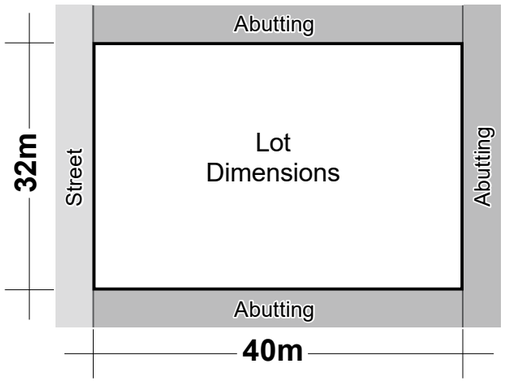
Where not relevant left blank

Case Study:

Vic Future Homes B

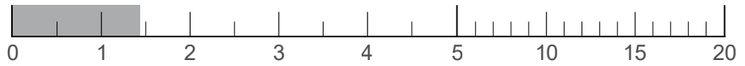
Urban Development Type:

Garden Apartment

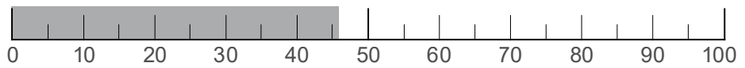


Location	-
Architect/Developer	VIC Gov Architect - Future homes
Building height	3 storeys
Land use mix	Residential
Tenure types	Market units - strata
Open space amenity	Private courtyards and balconies.
Public realm amenity	Green residential interface with multiple entrances.
Parking logic	Underground parking
Heritage	Requires demolition and new build.
Concise description	A pre-approved scheme for providing 16 units of varying sizes on two amalgamated lots.

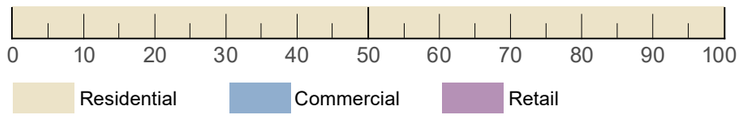
Floor Area Ratio (FAR) **1.4 FAR**



Site coverage per cent: **46 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

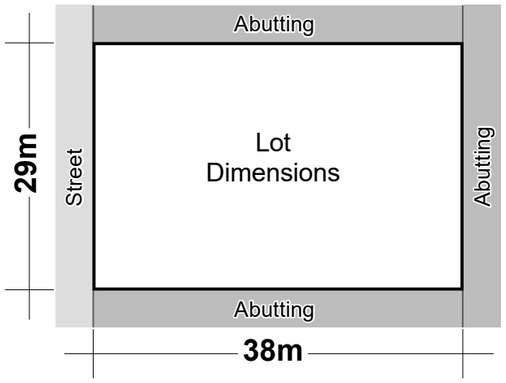
Where not relevant left blank

Case Study:

Vic Future Homes C

Urban Development Type:

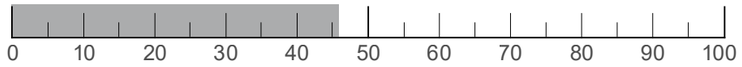
Garden Apartment



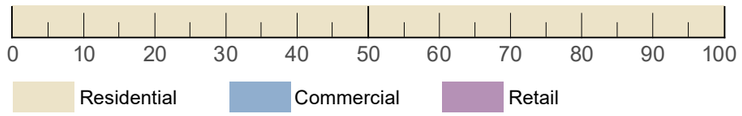
Location	-
Architect/Developer	VIC Gov Architect - Future homes
Building height	3 storeys
Land use mix	Residential
Tenure types	Market units - strata
Open space amenity	Private courtyards and balconies.
Public realm amenity	Green residential interface with multiple entrances.
Parking logic	Underground parking
Heritage	Requires demolition and new build.
Concise description	A pre-approved scheme for providing 16 units of varying sizes on two amalgamated lots.

Floor Area Ratio (FAR) **1.4 FAR**

Site coverage per cent: **46 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

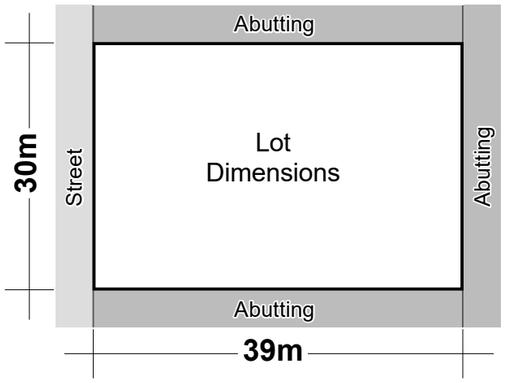
Where not relevant left blank

Case Study:

Vic Future Homes A

Urban Development Type:

Garden Apartment



Location	-
Architect/Developer	VIC Gov Architect - Future homes
Building height	3 storeys
Land use mix	Residential
Tenure types	Market units - strata
Open space amenity	Private courtyards and balconies.
Public realm amenity	Green residential interface with multiple entrances.
Parking logic	Underground parking
Heritage	Requires demolition and new build.
Concise description	A pre-approved scheme for providing 17 units of varying sizes on two amalgamated lots.

Floor Area Ratio (FAR) **1.4 FAR**

0 1 2 3 4 5 10 15 20

Site coverage per cent: **55 per cent**

0 10 20 30 40 50 60 70 80 90 100

Land Use Mix

0 10 20 30 40 50 60 70 80 90 100

Residential Commercial Retail

Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

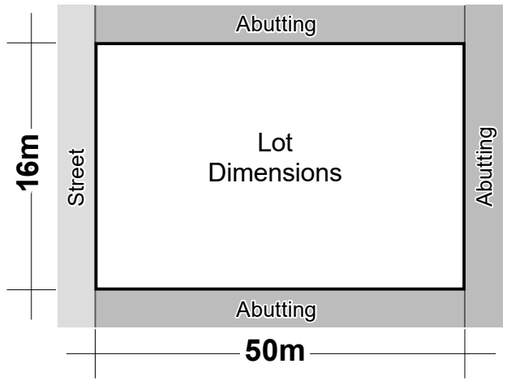
Where not relevant left blank

Case Study:

90 Ruskin Street, Elwood

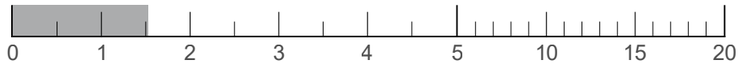
Urban Development Type:

Garden Apartment

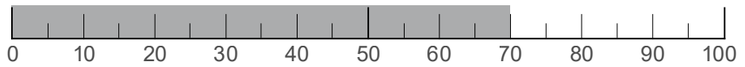


Location	90 Ruskin Street, Elwood, Melbourne VIC
Architect/Developer	Fieldwork Architects
Building height	3 storeys
Land use mix	Residential
Tenure types	Market townhouses
Open space amenity	Private courtyard gardens and roof top terraces
Public realm amenity	Green garden setback to street
Parking logic	Parking integrated in townhouse
Heritage	-
Concise description	A series of four new townhouses in Melbourne's leafy suburb of Elwood which provides a new model of medium-density living in the area. The scale, setback and materiality of the Ruskin Street frontage sits comfortably within its domestic context, while the northern interface revitalises the canal-edge.

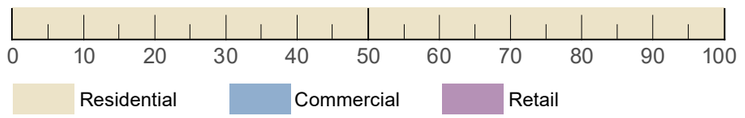
Floor Area Ratio (FAR) **1.6 FAR**



Site coverage per cent: **70 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

10.3 Garden Apartment testing

Urban Development Type:

Garden Apartment

The garden apartment development type (amalgamated lots) can host a range of residential unit types and ensification of existing residential areas.

The garden apartment development type incorporates landscaped setbacks from all boundaries, which will provide for the retention of the leafy character, high quality amenity and significant contribution to tree canopy cover. This typology provides a 35% deep soil area across the front, sides and rear of the lot.

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.

Garden apartments of 4-6 storeys rely on the amalgamation of two typical lots, which is necessary to deliver higher density while providing good quality internal amenity, avoiding unreasonable impacts on the amenity of neighbouring properties and providing a well-landscaped perimeter.

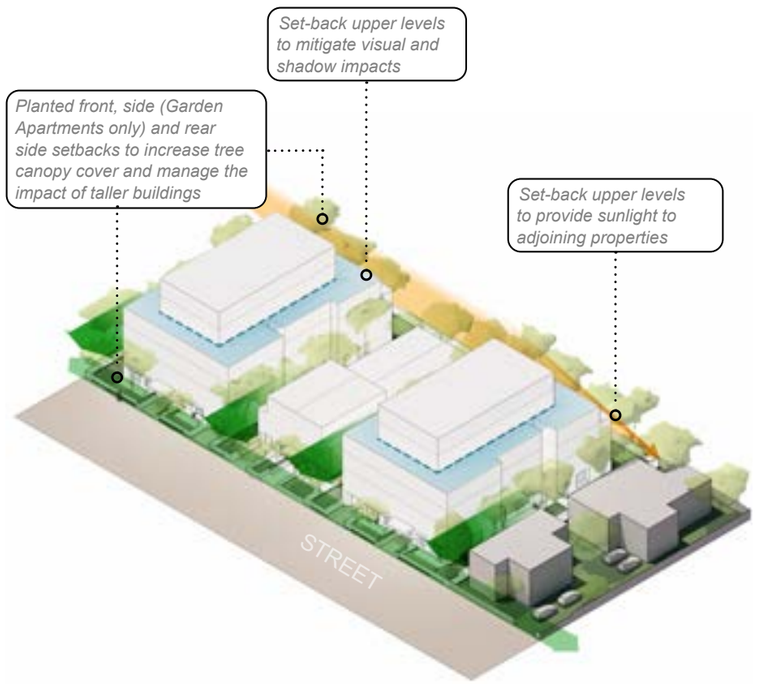
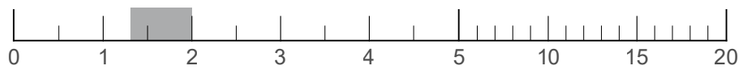


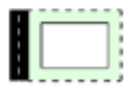
Figure 5.04: Urban form outcomes for the Garden Apartment typology.

Description:

Role and function rationale	Moderate intensification of built form providing space for more housing.
Future Character drivers rationale	• Retain garden setting • Maintain sense of openness in the street • Contribute to tree canopy cover • Respond to lower residential hinterland • Consolidation of 2 lots.
Existing place type	• Low-rise residential neighbourhood • Conventional lot sizes • Some unit development • Leafy streets and backyards • Typically zoned GRZ.
Accommodation types	Great opportunity to provide wide range of accommodation types. This type can be configured with both single level apartments, duplexes, multi-storey townhouses and varying sizes appropriate for many household configurations including families.
Open space amenity	Great opportunity to leverage level ground floor access and roof top amenity for large proportion of dwellings. Communal open space often limited to side and larger rear setbacks, smaller communal courtyard, or shared rooftop garden.
Parking logic	Parking is to be provided underground. Vehicular enties are integrated into the front of the building.

Floor Area Ratio (FAR) range: **1.3-2 FAR**



Use mix		Residential use only
Interfaces		Building in landscape
Building height		
Building height	4-6 storeys	Maintain adequate daylight and sunlight in streets and to rear abutting buildings while maintaining sense of openness in the street
Street wall height	4 storeys (14 metres) 3 storeys (11 metres) in sensitive areas	To complement the existing lower-rise buildings in these areas.
Open space		
Deep soil area	35 per cent	Located along perimeter of lot with minimum 3m dimension (out of the 4,5m setback zone) to allow for canopy trees)
Canopy cover area	35 per cent	Canopy trees along perimeter of lot including front garden setback.

Precedent examples

Urban Development Type:
Garden Apartment

Setbacks		
Front setback	4 metres	Ground floor to provide for landscaping in residential streets
	1.5 metres per floor	Above street wall to reduce perception of bulk and retain 1:1 proportion of street width to street height
Rear setback	6 metres	To provide deep soil zone
	Equinox sun plane	From top of rear fence to protect solar amenity to adjacent neighbours
Side setback	4.5 metres	Ground floor to create 9 metres separation to adjacent neighbour
	0.8 metres per metre of height above 14 metres	To lessen the visual and shadow impact of th upper form.

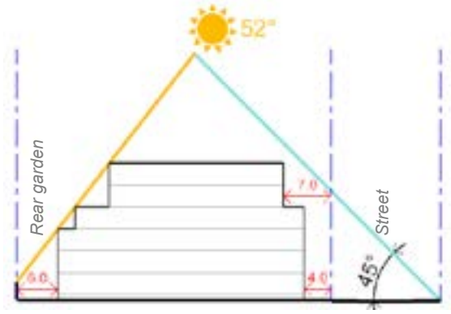


Figure 10-2 Section front and rear

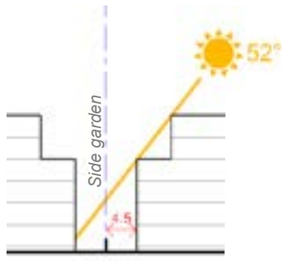


Figure 10-3 Section sides

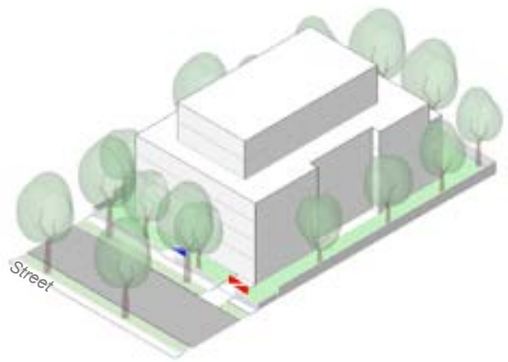
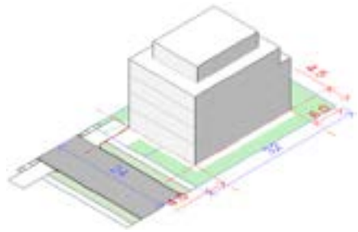
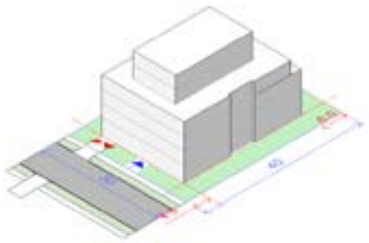


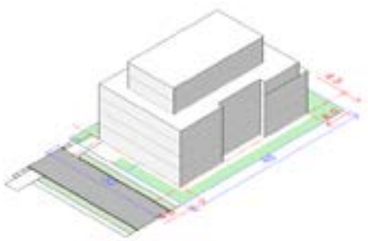
Figure 10-1 Typical Garden Apartment massing volume

LOT SIZES					
15th per centile lot size		**Median lot size**		**85th per centile lot size**	
Area	768 square metres	Area	1.200 square metres	Area	1.472 square metres
Width	24 metres	Width	30 metres	Width	32 metres
Depth	32 metres	Depth	40 metres	Depth	• 46 metres
2 small amalgamated lots		2 typical size amalgamated lots		2 large amalgamated lots	

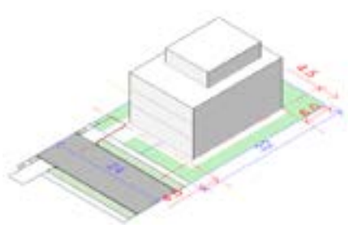
TYPICAL CONDITIONS					
Height (storeys)	**5**	**Height (storeys)**	**6**	**Height (storeys)**	**6**
FAR	**1.6**	**FAR**	**2**	**FAR**	**2**

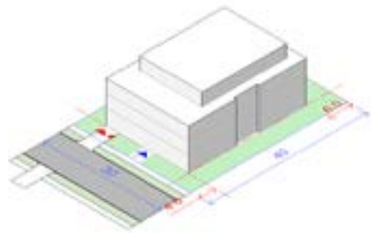


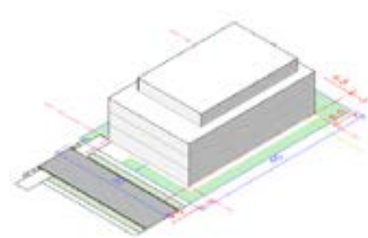




SENSITIVE AREAS					
Height (storeys)	**4**	**Height (storeys)**	**4**	**Height (storeys)**	**4**
FAR	**1.3**	**FAR**	**1.5**	**FAR**	**1.5**







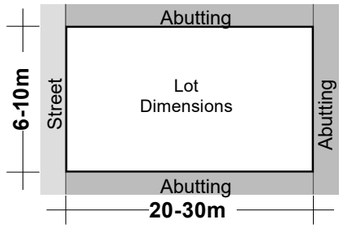
Legend

- Building entrance
- Vehicular entrance
- Deep soil zone (calculated)
- Landscaped area
- Tree (indicative)

11. Townhouse

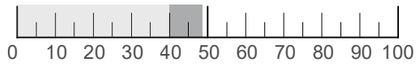
11.1 Townhouse Development Type

Lot dimension range



Floor Area Ratio (FAR): **0.8-1.4 FAR**

Site coverage per cent: **40-48 per cent**



Description	The terrace joins together individual plots in a line. Typically, each dwelling has it's own entrance to the street creating narrow multi-storey dwellings. By being joined together, they create an urban context with clear distinction between front and back. While front facades usually follow same building line, the backs are usually less formal with greater variation, reflecting individual needs and preferences.
Use mix potential	 Limited opportunity for mixed-uses Only small scale retail and community uses can be integrated
Interfaces	 Built to side boundaries. Front and rear garden
Accommodation types	Single family dwellings, multi-unit buildings
Open space amenity	Narrow front garden and generous rear garden
Public realm amenity	Active streets with many entrances and passive surveillance
Parking logic	On-lot parking reduces public realm amenity and street interface. Rear-loaded car parking requires lane way. In new terrace developments, shared car parking can be provided in underground or semi-underground configuration.
Testing summary	Terrace housing performs very well on a large range of criteria and is an appropriate urban development type in many suburban settings. They are typically limited to 2-4 storeys for each dwelling with their own entrance to the street. Terraces can be a supplement to other more efficient development types deployed in the SRL East Draft Structure Plan Area in existing residential areas where single lot development is required. • Legible streets with many entrances improves street activation • The terrace type is intrinsically limited to 2-4 storeys achieving relatively low density but human scale • Poor public realm interface when terraces are oriented perpendicular to the street.

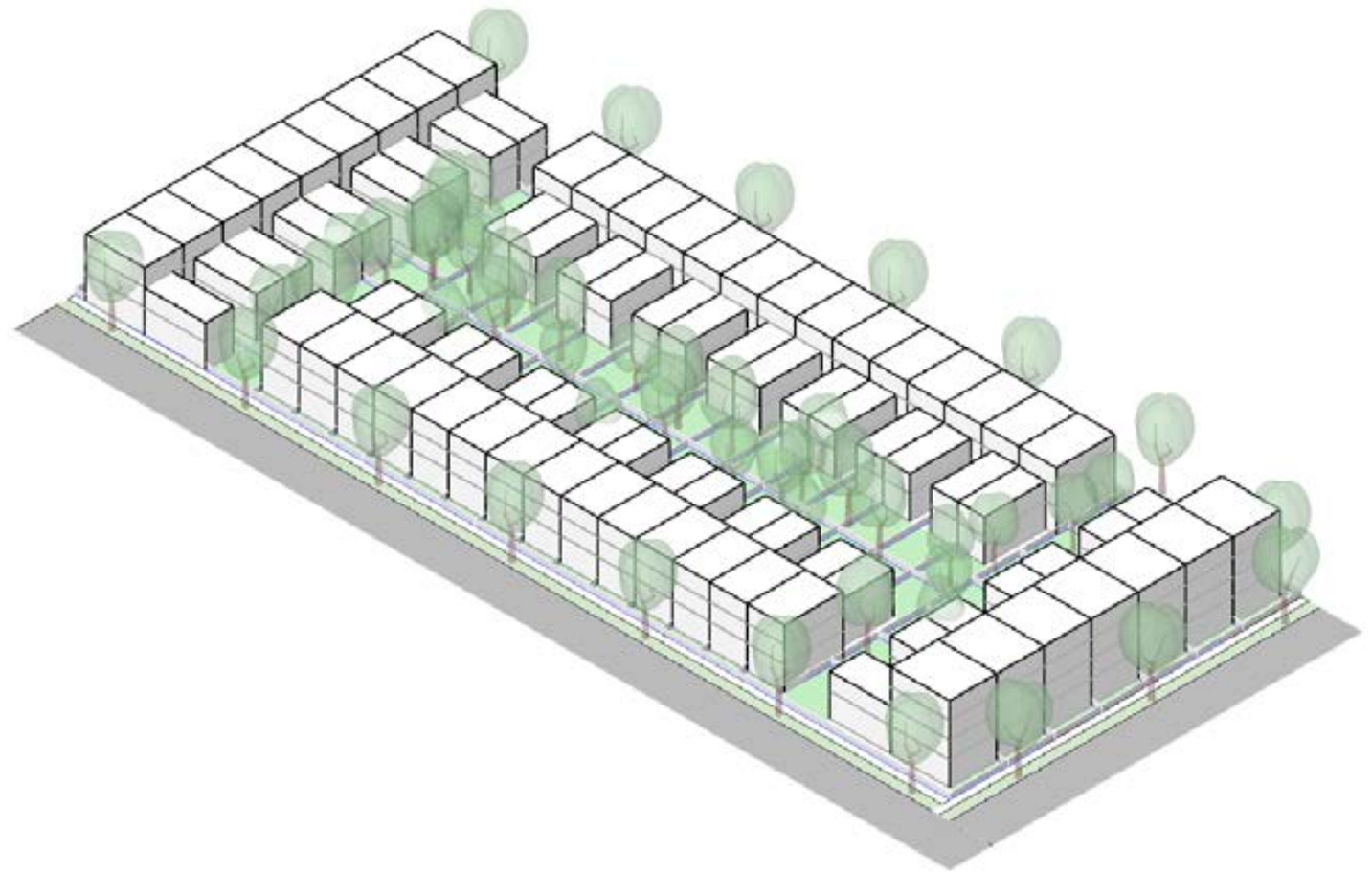


Figure 11-1 Indicative Townhouse development type

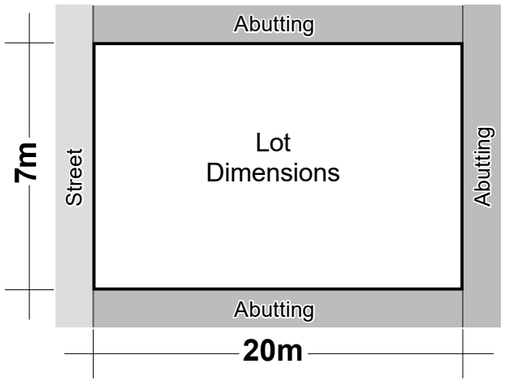
11.2 Townhouse case studies

Case Study:

Dujardin Mews

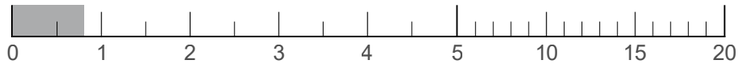
Urban Development Type:

Terrace

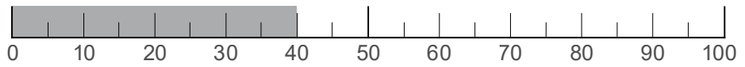


Location	Enfield, United Kingdom
Architect/Developer	Karakusevic Carson Architects
Building height	2-3 storeys
Land use mix	Residential (social housing)
Tenure types	50 per cent social rent, 50 per cent affordable
Open space amenity	None
Public realm amenity	Public landscaping and some seating spaces
Parking logic	Parking on street.
Heritage	-
Concise description	Dujardin Mews is the first council-led, social housing delivered by the local borough of Enfield in 40 years. Dujardin Mews transforms a restrained rectangular plot, creating a variety of 38 new homes – in a mix of townhouses, flats and maisonettes – with public landscaping and a pedestrian route.

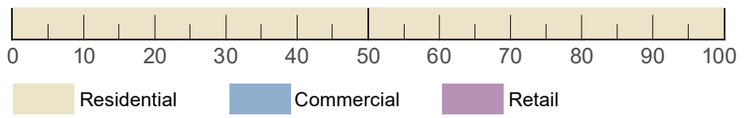
Floor Area Ratio (FAR) **0.8 FAR**



Site coverage per cent: **40 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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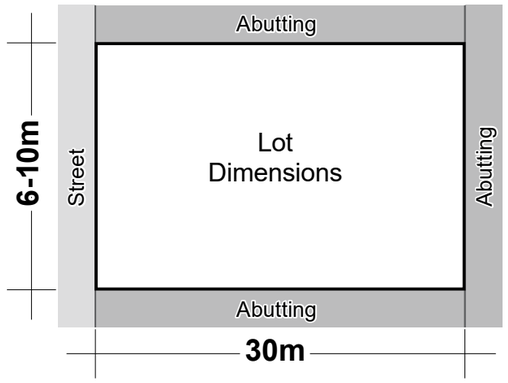
Case Study:

Park Slope

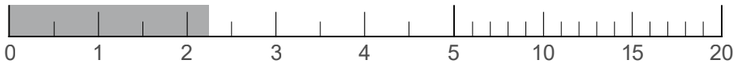
Urban Development Type:

Terrace

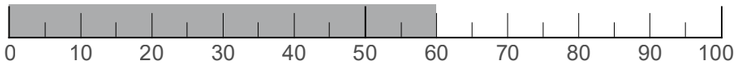


Location	198 7th Ave, Brooklyn, NY 11215
Building height	15 metres
Land use mix	Manufacturing, commercial, residential & mixed-use.
Tenure types	Mixed housing.
Open space amenity	Front garden setback, rear garden setback and terraces.
Public realm amenity	Engaging and active street interfaces with greenery and multiple entrances.
Parking logic	Parking on street.
Heritage	Generally heritage precinct
Concise description	The city blocks of Park Slope, Brooklyn are a typical example of residential neighbourhood that has evolved to include other uses (churches, schools, single family dwellings and apartment dwellings) over time. Most buildings are 3.5 storeys high (including a half sunken basement) 6-8 metres wide plots and 15 metres deep. Setbacks Front: Typically 4 metres Rear: Typically 15 metres A ground floor extension is common to provide more space for the garden unit and a terrace to first floor unit. The building type offers flexibility to be adapted to a large family home or smaller dwelling units on each floor. The urban grain also manages to accommodate 4 storey walk-up apartment building of typical 20-30 metres deep which the provision of a light well to ventilate internal bedrooms.

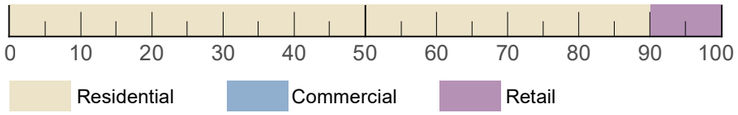
Floor Area Ratio (FAR): **12.3 FAR**



Site coverage per cent: **60 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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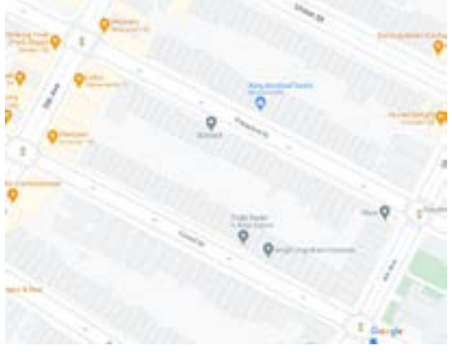
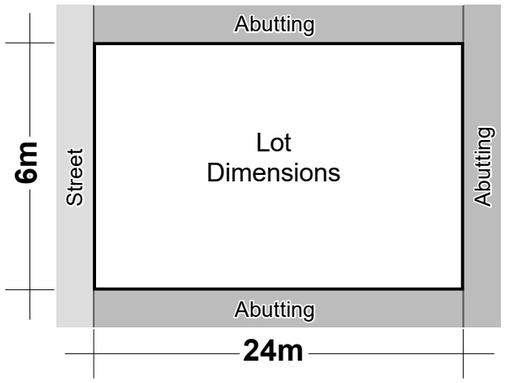


Case Study:

Accordia

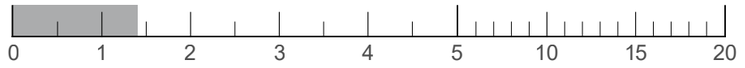
Urban Development Type:

Terrace

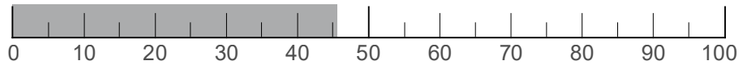


Location	Cambridge, UK
Building height	2-5 storeys
Land use mix	Residential
Tenure types	30 per cent affordable housing, 70 per cent market housing
Open space amenity	Courtyard gardens and balconies/roof tops
Public realm amenity	Shared streets and green pockets.
Parking logic	On-site parking from rear lane way
Heritage	-
Concise description	Within the 378-unit Accordia masterplan ABA had the unique position of designing three completely different building types in three locations: Two pairs of semi-detached houses on Brooklands Avenue, a 5 storey 'point building' comprising ten apartments overlooking the central square, and a 21 unit apartment building overlooking Hobsons Brook.

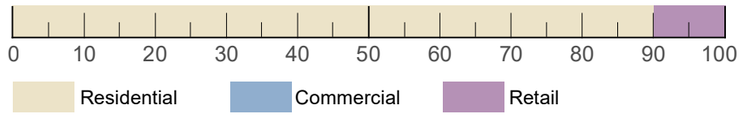
Floor Area Ratio (FAR): **1.4 FAR**



Site coverage per cent: **46 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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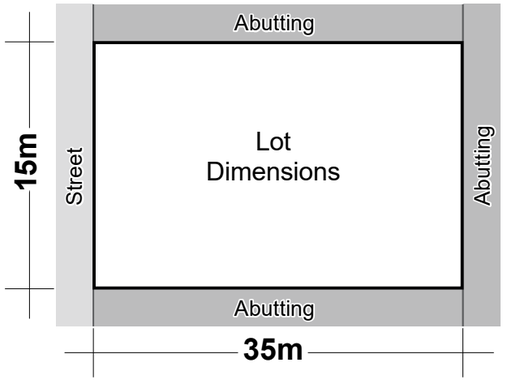
Case Study:

7 Tobruk Cres, Williamstown VIC

Urban Development Type:

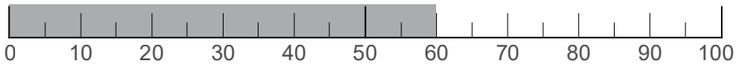
Townhouse



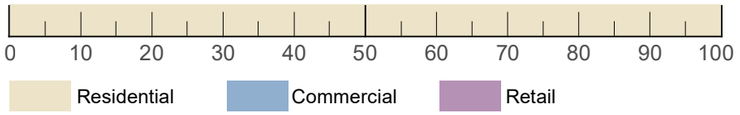
Location	7 Tobruk Cresent, Williamstown VIC
Building height	9 metres
Land use mix	Residential
Tenure types	Private market dwellings
Open space amenity	Front garden setback and rear garden setback
Public realm amenity	Planted front setback. One driveway to basement parking for both units
Parking logic	Basement parking. 5 parking spots. 2 for each dwelling plus guest/ bike parking.
Heritage	Suburban character street. No formal heritage listing.
Concise description	The city blocks of Park Slope, Brooklyn are a typical example of residential neighbourhood that has evolved to include other uses (churches, schools, single family dwellings and apartment dwellings) over time. Most buildings are 3.5 storeys high (including a half sunken basement) 6-8 metres wide plots and 15 metres deep. Setbacks Front: Typically 4 metres Rear: Typically 15 metres A ground floor extension is common to provide more space for the garden unit and a terrace to first floor unit. The building type offers flexibility to be adapted to a large family home or smaller dwelling units on each floor. The urban grain also manages to accommodate 4 storey walk-up apartment building of typical 20-30 metres deep with the provision of a light well to ventilate internal bedrooms.

Floor Area Ratio (FAR): **1 FAR**

Site coverage per cent: **60 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

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11.3 Townhouse testing

Urban Development Type:
Townhouse

Townhouses (single lots) can host a range of residential unit types and ensification of existing residential areas. .

The garden apartment development type incorporates landscaped setbacks from all boundaries, which will provide for the retention of the leafy character, high quality 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 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.

Townhouses of 3 storeys 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. This typology provides a 15 per cent deep soil area across the front and rear of the lot.

The modest building height avoids unreasonable impacts on the amenity of neighbouring properties and providing a well-landscaped front garden.

Description:

Role and function rationale	Moderate intensification of built form providing space for more housing.
Future Character drivers rationale	• Intensification on single lot developments • Retain garden setting • Maintain sense of openness in the street.
Existing place type	• Low-rise residential neighbourhood • Conventional lot sizes • Some unit development • Leafy streets and backyards • Typically zoned GRZ.
Accommodation types	Great opportunity to provide wide range of accommodation types. This type can be configured with both single level apartments, duplexes, multi-storey townhouses and varying sizes appropriate for many household configurations including families.
Open space amenity	Great opportunity to leverage level ground floor access and roof top amenity for large proportion of dwellings. Communal open space often limited to side and larger rear setbacks, smaller communal courtyard, or shared rooftop garden.
Parking logic	Parking is to be provided underground. Vehicular enties are integrated into the front of the building.

Floor Area Ratio (FAR) range: **1.2-1.4 FAR**

Use mix		Residential use only
Interfaces		Generous front and rear setbacks
Building height		
Building height	Max. 3 storeys (11 metres)	To complement existing lower-rise buildings
Street wall height	Max. 3 storeys (11 metres)	To complement existing lower-rise buildings
Open space		
Deep soil area	20-25 per cent	Located to front and rear
Canopy cover area	20-25 per cent	Canopy trees in front and rear garden

Precedent examples

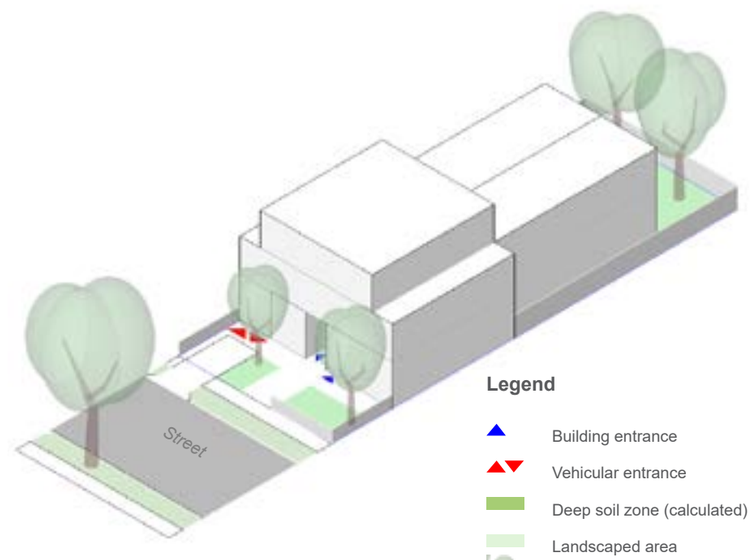


Figure 11-1 Typical Townhouse massing volume

Urban Development Type:

Townhouse

Setbacks		
Front setback	6 metres	Ground floor to provide for landscaping in residential streets
Rear setback	6 metres	To provide deep soil zone.
	Equinox sun plane	From top of rear fence to protect solar amenity to adjacent neighbours
Side setback	0 metres	At ground level for half of lot facing the street
	2 metres	Above height of 6.9 metres to lessen the visual and shadow impact of upper form
	2 metres	At ground level in rear half of the site

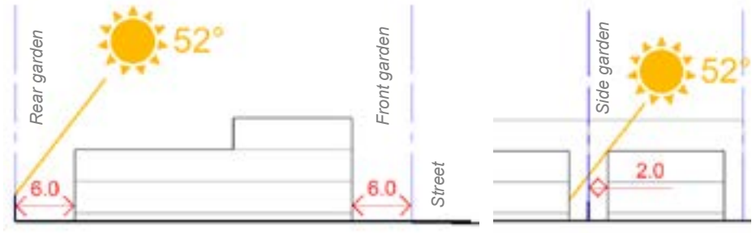
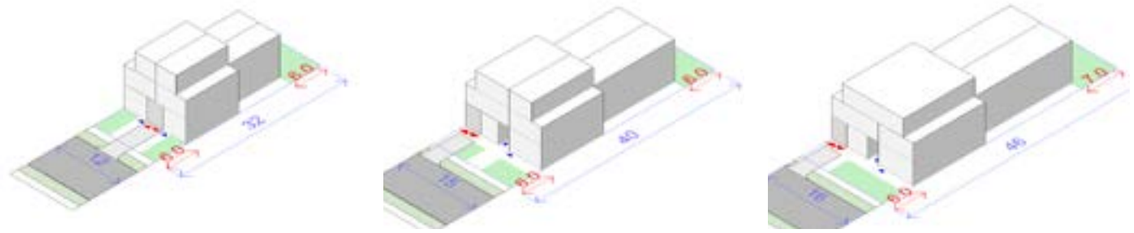


Figure 11-2 Section front and rear

LOT SIZES					
15th per centile lot size		**Median lot size**		**85th per centile lot size**	
Area	384 square metres	Area	600 square metres	Area	736 square metres
Width	12 metres	Width	15 metres	Width	16 metres
Depth	32 metres	Depth	40 metres	Depth	46 metres
TYPICAL CONDITIONS					
Height (storeys)	**3**	**Height (storeys)**	**3**	**Height (storeys)**	**3**
FAR	**1**	**FAR**	**1.2**	**FAR**	**1.2**
Garden area	**25 per cent**	**Garden area**	**22.5 per cent**	**Garden area**	**20 per cent**



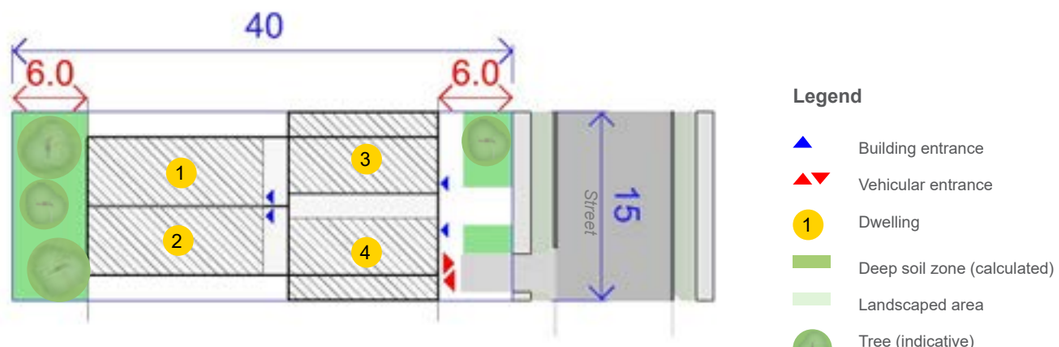


Figure 11-3 Townhouse development with four dwellings

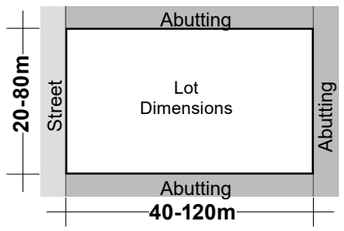
Legend

- Building entrance
- Vehicular entrance
- 1 Dwelling
- Deep soil zone (calculated)
- Landscaped area
- Tree (indicative)

12. Pavilion Block

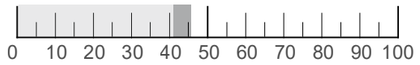
12.1 Pavilion Block Development Type

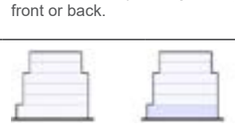
Lot dimension range



Floor Area Ratio (FAR): **2.5-2.8 FAR**

Site coverage per cent: **42-46 per cent**



Description	Freestanding apartment building in a landscaped setting. Characterised by having frontage on all four elevations with no clear front or back.
Use mix potential	 Limited opportunity for non-residential integration
Interfaces	 Building in landscape
Accommodation types	Great opportunity to provide wide range of accommodation types. This type can be configured with single level apartments, duplexes, multi-storey townhouses and varying sizes.
Open space amenity	Communal open space often limited to side setback shared with driveway or smaller communal courtyard. Great opportunity to leverage level ground floor access and roof top amenity for large proportion of dwellings.
Public realm amenity	Green front garden setback similar to other residential interfaces. Not a type conductive to creating a defined public domain.
Parking logic	Often side setback lane way to access individual car parking integrated into built form. In lots wider than approximately 17 metres, parking can be provided underground.
Case study summary	This type is generally not suitable for locations within the SRL East precincts. Key learning from our assessment of case studies: • Can provide interesting fine-grain spaces between buildings when carefully considered • Spaces between buildings typically inferior to hybrid perimeter development type with better street definition • Legible street network and traffic management is challenging • Consolidated parking basements located below pavilions and the open space is detrimental of deep soil zones • Legibility of open space network between buildings can be a challenge due to lack of front and back of buildings.

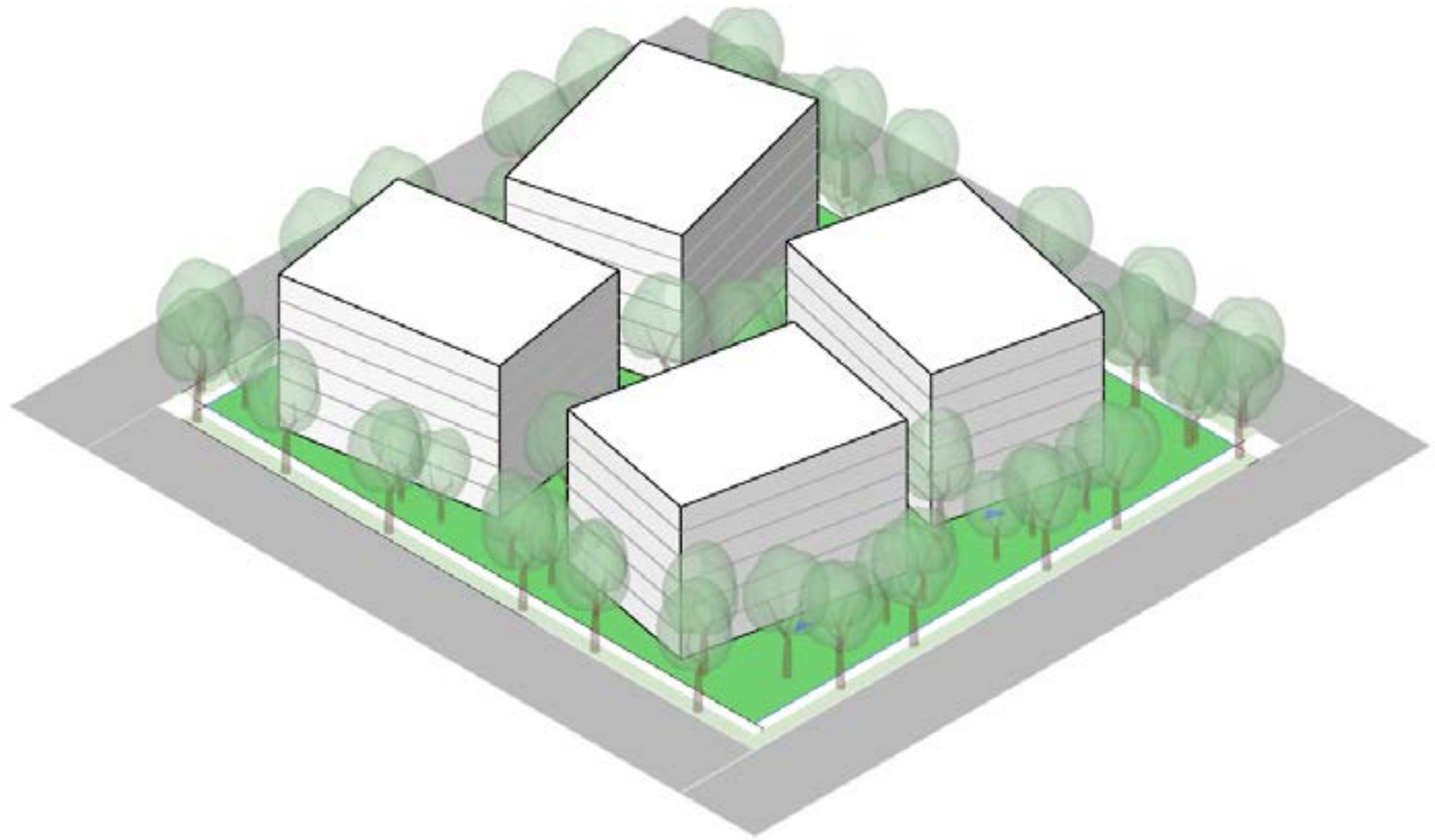


Figure 12-1 Indicative Pavilion Block development type

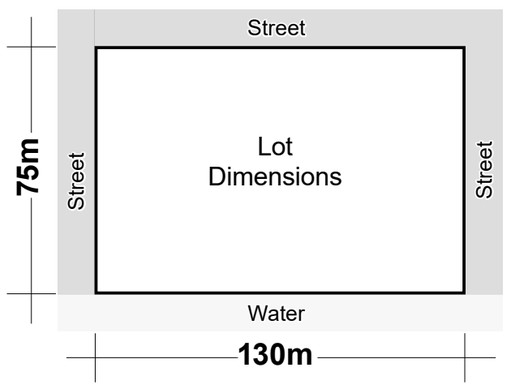
12.2 Pavilion Block case studies

Case Study:

Bispevika Housing, Oslo

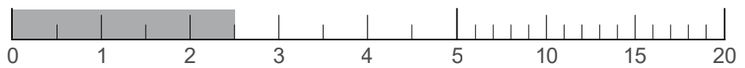
Urban Development Type:

Pavilion Block

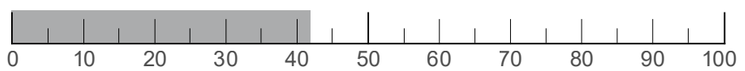


Location	Oslo, Norway
Architect/Developer	Vandkunsten. Oslo Sentrum Utvikling A/S
Building height	4-8 storeys
Land use mix	Residential Cafes and restaurants Neighbourhood scale supermarket
Tenure types	Market apartments
Open space amenity	Man-made canal connected to the Oslo Fjord.
Public realm amenity	Public board walk for with jetty and swimming area. Kayak storage and kayak launching platforms
Parking logic	Underground parking
Heritage	-
Concise description	The new residential area of 300 units is located on the waterfront in central Oslo. Contrasting the dense and high buildings behind it, the development has used characteristics from natural archipelagos to form a series of spatial transitions – from the open sea to the calm inland waters.

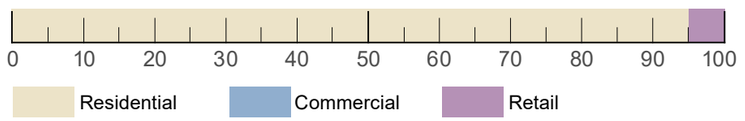
Floor Area Ratio (FAR) **2.5 FAR**



Site coverage per cent: **42 per cent**



Land Use Mix



Urban development-criteria:

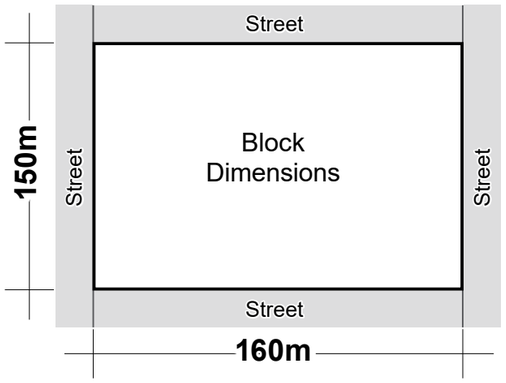
Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Case Study:

Hunziker Areal, Zurich

Urban Development Type:

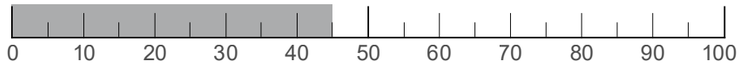
Pavilion Block



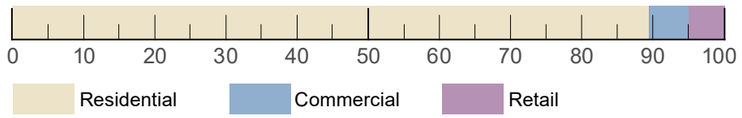
Location	Zurich, Switzerland
Architect/Developer	“Mehr als wohnen” - building collective (co-ownership development)
Building height	5-7 storeys
Land use mix	Residential, commercial, retail, kindergarten.
Tenure types	Shared ownership model for market housing.
Open space amenity	Open space network of plazas and pocket parks.
Public realm amenity	Open space network of plazas and pocket parks.
Parking logic	Shared underground basement.
Heritage	-
Concise description	Thirteen apartment buildings are organised in a composition that creates an intimate open space framework reminiscent of a medieval town grid. The apartment buildings are relatively large and square (typically 40 x 30 m) which enables the shaping of the open spaces similar to smaller courtyard buildings. These dimensions are a-typical in an Australian context. Housing for 1200 people 150 workplaces “Mehr als wohnen” - building collective (co-ownership development) 41,000sqm development.

Floor Area Ratio (FAR) — **2.8 FAR**
2 FAR (including streets and spaces)

Site coverage per cent: — **45 per cent**



Land Use Mix



Urban development-criteria:

Productivity		Connectivity		Liveability	
Principal 1: **Enduring**	Principal 2: **Diverse**	Principal 3: **Connected**	Principal 4: **Accessible**	Principal 5: **Enhancing**	Principal 6: **Liveable**
Density	Mixed-use	Permeability	Safety	Natural Context	Human Scale
Implementability	Built Form Diversity	Legibility		Heritage	Public Realm Amenity
Adaptability	Accommodation Diversity	Vegetation		Character	Internal Amenity
Equitable Development				Community	Public Realm Interface
Environmental Sustainability				Design Excellence	
Personalisation					

Where not relevant left blank

Part 2
Public realm typologies

1. Public Realm Typologies

To ensure people have better connections and streets are attractive to encourage walking and cycling, a hierarchy of streets and typologies has been developed - from wide tree-lined Boulevards to more ‘human-scale’ pedestrian links.

The street typologies seek to align with the SRL Urban Design principles (as outlined in the SRL Urban Design Framework and Strategy).

Precedent case studies and typical sections for each typology are outlined on the following pages.

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.

1.1 Street Typologies

BOULEVARD

Grand urban gesture along primary road and public transport corridor, providing strong landscape and pedestrian outcomes including canopy trees, pedestrian crossing opportunities and public realm nodes (seating and landscape amenity).

AVENUE

A wide and tree-lined ‘connector’ street that accommodates active and/or public transport with nodes of pedestrian amenity to support the functionality of the street.

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.

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.

PEDESTRIAN LINKS

New or improved pedestrian 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.

1.2 Boulevard

BOULEVARD

Grand urban gesture along primary road and public transport corridor, providing strong landscape and pedestrian outcomes including canopy trees, pedestrian crossing opportunities and public realm nodes (seating and landscape amenity).

- Canopy tree planting and expanded understorey planting
- Pedestrian pathways, refuge and crossing points
- Multi-modal transport opportunities
- Opportunities for public art
- Potential threshold zones that promote pedestrian crossing / land use relationships
- Distinct furniture zones with high level of amenity and materiality

UDS PRINCIPLES

1 Enduring
2 Enhancing
3 Connected
4 Accessible
5 Enhancing
6 Liveable

Case Studies and Success Factors

ST KILDA ROAD, MELBOURNE

Success factors:

- Clear modal split and dedication
- Grand canopy street trees
- Medians with tree planting
- Generous footpaths
- Tree planting within verges adjacent to footpaths

LONSDALE STREET, DANDENONG

Success factors:

- Distinctive patterned surface finishes
- ‘Garden rooms’ within continuous ‘linear garden’ with understorey planting and raised planters
- Feature lighting design / public artwork as a centerpiece
- High quality street furniture
- Generous footpaths

Boulevard Section

Figure 1-1 Indicative Boulevard typology section

1.3 Avenue

AVENUE

A wide and tree-lined ‘connector’ street that accommodates active and/or public transport with nodes of pedestrian amenity to support the functionality of the street

- 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
- Some areas with moderate level of materiality

UDS PRINCIPLES

1 Enduring
2 Enhancing
3 Connected
4 Accessible
5 Enhancing
6 Liveable

Case Studies and Success Factors

FRASER AVENUE,KINGS PARK, PERTH

Success factors:

- Significant tree canopy for shade and cooling
- Avenue of *Corymbia citriodora (*lemon scented gums).

STREET TREE MASTER PLAN, SYDNEY

Success factors:

- Safe pedestrian crossing points
- Street tree canopy for shade, cooling and habitat. Diversity of species for climate resiliance
- Wide pedestrian paths and kerb alignment to accomodate public transport stops
- Provision of lighting to improve perception of 24 hr safety.

Avenue Section

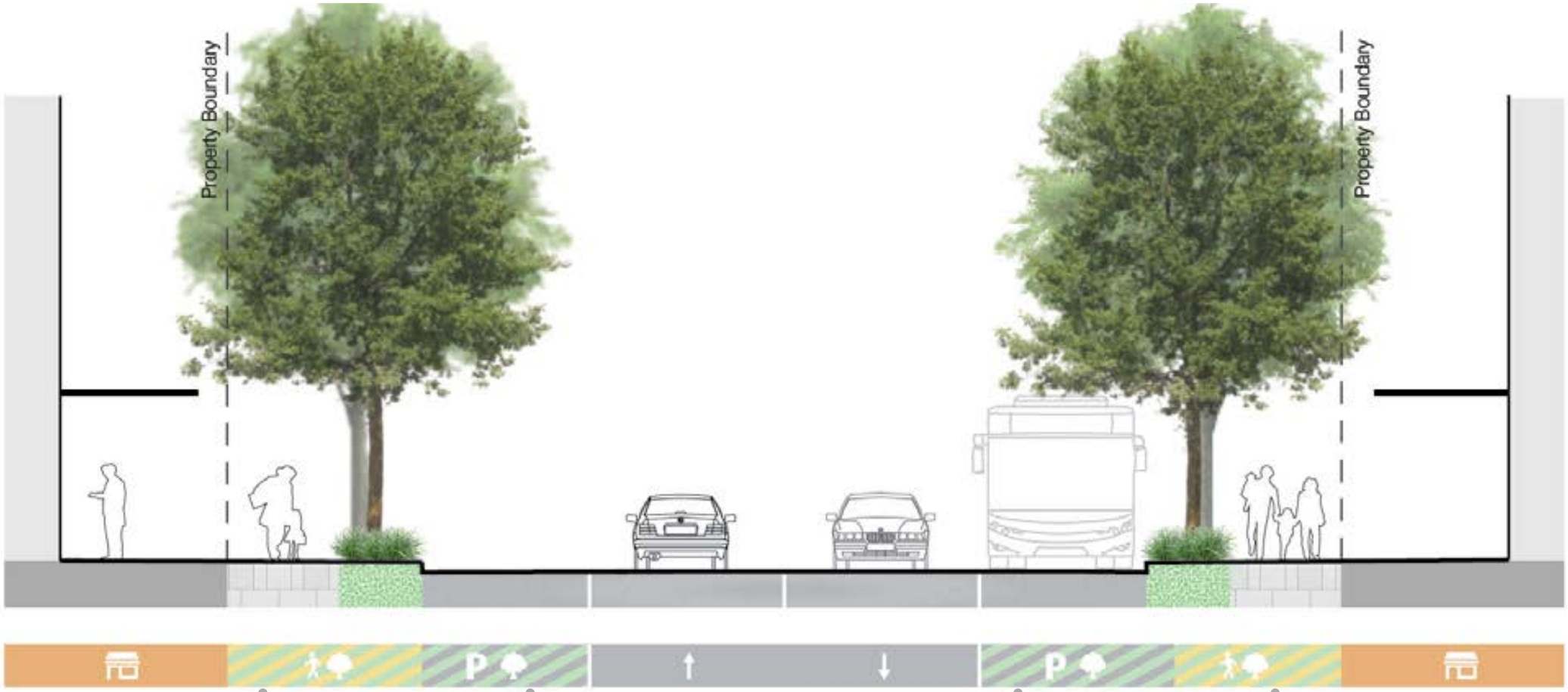


Figure 1-1 Indicative Avenue typology section

1.4 Activity Street

ACTIVITY STREET

Highly urbanised streetscape that supports retail and dining activity and an attractive and comfortable pedestrian experience, with generous pedestrian circulation space, street trees and high-quality materials.

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

UDS PRINCIPLES

1 Enduring
2 Enhancing
3 Connected
4 Accessible
5 Enhancing
6 Liveable

Case Studies and Success Factors

GREVILLE STREET, PRAHRAN

Success factors:

- Flush kerb creating genuine shared zone
- Slow speed environment
- Layered landscape
- High quality paving
- Fine-grain retail tenancies.

LITTLE STANLEY STREET, BRISBANE

Success factors:

- Generous street trees
- Focus on dining uses with adequate space for on street dining
- Slow speed with on street car parking
- Investment in lighting to promote evening economy.

AFGHAN BAZAAR STREETSCAPE, MELBOURNE

Success factors:

- Collaboration with local artist on public art and
- Feature custom paving and furniture
- Kerb ourstand and footpath widening
- Community and stakeholder consultation.

Activity Street - Type A

Shelter, awnings and canopy trees provide shade and weather protection to street level footpaths to ensure a comfortable user experience.

Street trees create a comfortable and attractive walking environment by providing urban cooling and shade, filtering airborne pollutants, enhancing visual amenity and helping to modify the visual scale of a place and the impact of any adjacent development.

Public realm activated by outdoor dining, on-street trading, commercial frontages and public street infrastructure to attract people and activity.

Multifuctional lane for on-street car parking, kerb outstand (for furniture, greening and tree planting) and potential WSUD vegetated raingarden.

Multifuctional lane for on-street car parking, kerb outstand (for furniture, greening and tree planting) and potential WSUD vegetated raingarden.

Generous footpath with dedicated zone for planting and urban furniture. Opportunity for facade greening.

Figure 1-1 Indicative Activity Street - Type A section

Activity Street - Type B - Flush kerb

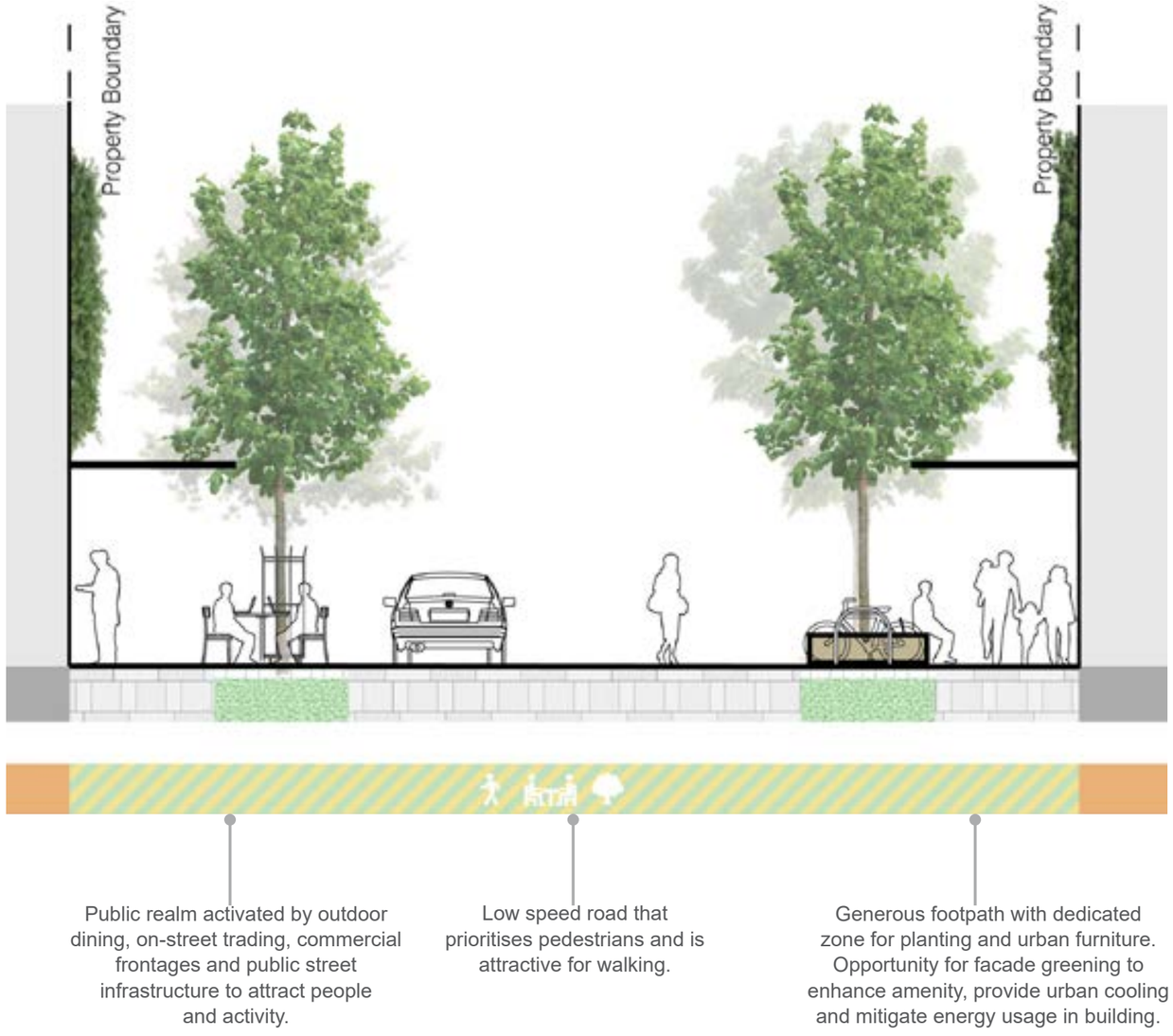


Figure 1-2 Indicative Activity Street - Type B - Flush kerb section

Activity Node

Figure 1-3 Indicative Activity Node section

1.5 Green Street

GREEN STREET

Green Streets are a broad classification for a local street that may be enhanced to support a range of opportunities including pedestrian connectivity and access to recreation facilities, enhanced environmental/biodiversity outcomes, and the potential to accommodate cycle and bus routes. To promote walking, these streets will prioritise additional levels of amenity than a standard urban street including:

- Landscaping and pause points
- Threshold treatments at the intersection with the Green Street to support pedestrians prioritisation (such as wombat crossings)
- The potential removal of some on-street parking where appropriate for enhancements such as tree planting, bike lanes, traffic calming, etc
- Traffic calming and measures to reduce car volumes to create a pleasant low speed environment.

Broad types of Green Street include:

- Green Street - Type A - General (walking)
- Green Street - Type B - Biodiversity
- Green Street - Type C - Cycling
- Green Street - Type D - Bus.

These types and the sections shown opposite are typical only to illustrate potential outcomes. Green streets could be Type A, B , C or D and/or a combination of each, which will be dependent on a future design that is site specific and considers the local context. Some features of a Green Street:

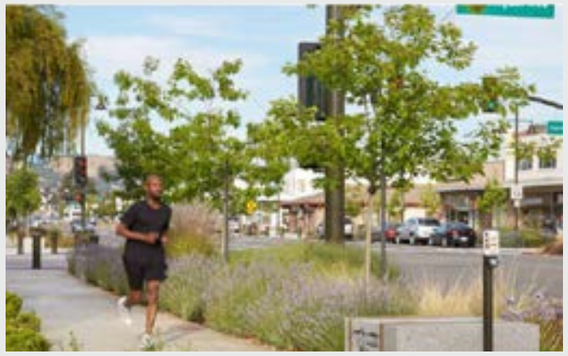
- Street trees and biodiverse under-storey planting WSUD initiatives
- Active transport (walking and cycling) paths and connections
- Activity nodes and pause points with seating
- Street lighting to one side to light the full street
- Separation between transport modes
- Micro mobility infrastructure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

Case Studies and Success Factors

CASTRO VALLEY BOULEVARD, CALIFORNIA

Success factors:

- Landscape providing barrier to vehicle area
- Pause points, seating, street furniture and bike parking increasing functionality of street corridor
- Biodiverse and continuous understorey planting
- Distinctive urban furniture.



SOUTH BANK, MELBOURNE

Success factors:

- Separated pedestrian and cycle paths protected from road
- Extensive inground biodiverse planting and street trees
- Distrinctive urban furniture and lighting
- High quality paving .

SUBIACO, WESTERN AUSTRALIA

Success factors:

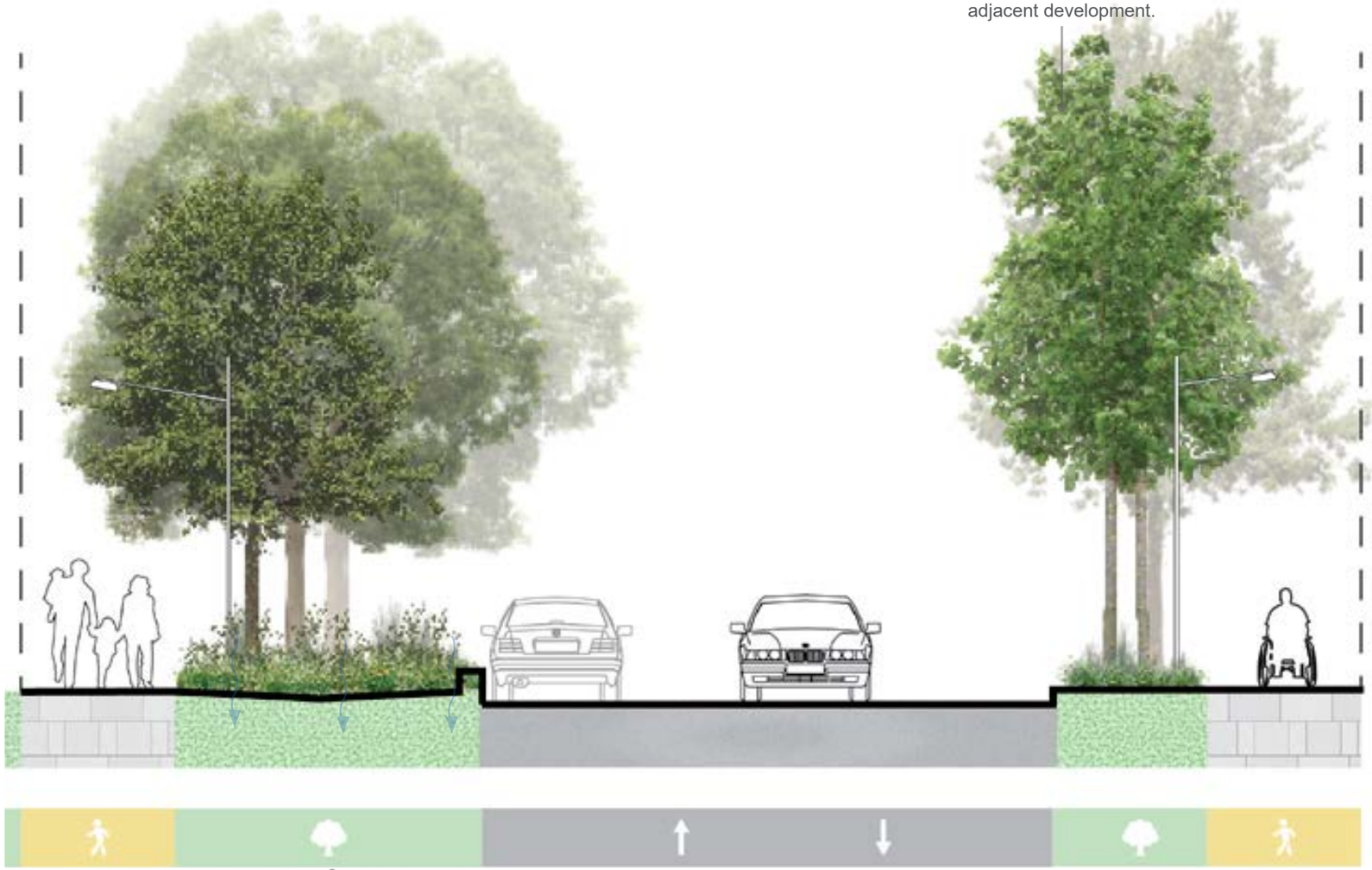
- Raised flush crossings with feature paver
- Separated pedestrian path
- Generous pedestrian priority with on street dining
- Inground planting and mature tree canopy
- Distrinctive urban furniture and lighting.

Green Street - Type A - Urban amenity

Figure 1-1 Indicative Green Street - Type A - Urban amenity section

Green Street - Type B - Biodiversity Link

Street trees create a comfortable and attractive walking environment by providing urban cooling and shade, filtering airborne pollutants, enhancing visual amenity and helping to modify the visual scale of a place and the impact of any adjacent development.



Continuous biodiverse understorey planting with enhanced habitat value and pollinator function. Opportunity for passive irrigation and WSUD raingarden to improve plant performance and reduce stormwater runoff.

Planting to support biodiversity, improve amenity and reduce impervious surfaces

Figure 1-2 Indicative Green Street - Type B - Biodiversity link

Green Street - Type C - Activity transport

Street trees create a comfortable and attractive walking environment by providing urban cooling and shade, filtering

Bike lanes (C1 or C2) that are bidirectional or unidirectional that are separated from both pedestrians and vehicles. Buffers to bike lane to remove the risk of car dooring.

Widened zone for street trees, planting and seating to provide amenity, shade, enhanced biodiversity outcomes and create an attractive walking environment. Opportunities for passive irrigation and WSUD gardens to be incorporated to reduce stormwater and improve plant health.

Figure 1-3 Indicative Green Street - Type C - Activity transport

1.6 Pedestrian Link

PEDESTRIAN LINK

Pedestrian only through-block link. Laneways and pedestrian links typically have limited or no vehicular access and prioritise pedestrian circulation. New pedestrian link locations are shown as fixed or flexible.

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

UDS PRINCIPLES

1 Enduring
2 Enhancing
3 Connected
4 Accessible
5 Enhancing
6 Liveable

Case Studies and Success Factors

QUAY QUARTER LANES , SYDNEY

Success factors:

- Feature paving
- Activated edges with boutique retail and cafes
- Informal seating ledges and custom furniture elements.

HOOPER STREET, SAN FRANCISCO, CA

Success factors:

- Street tree planting
- Passively irrigated garden beds
- Permeable paving
- Catenary lighting
- Industrial context.

Pedestrian Link- Type A - Urban amenity

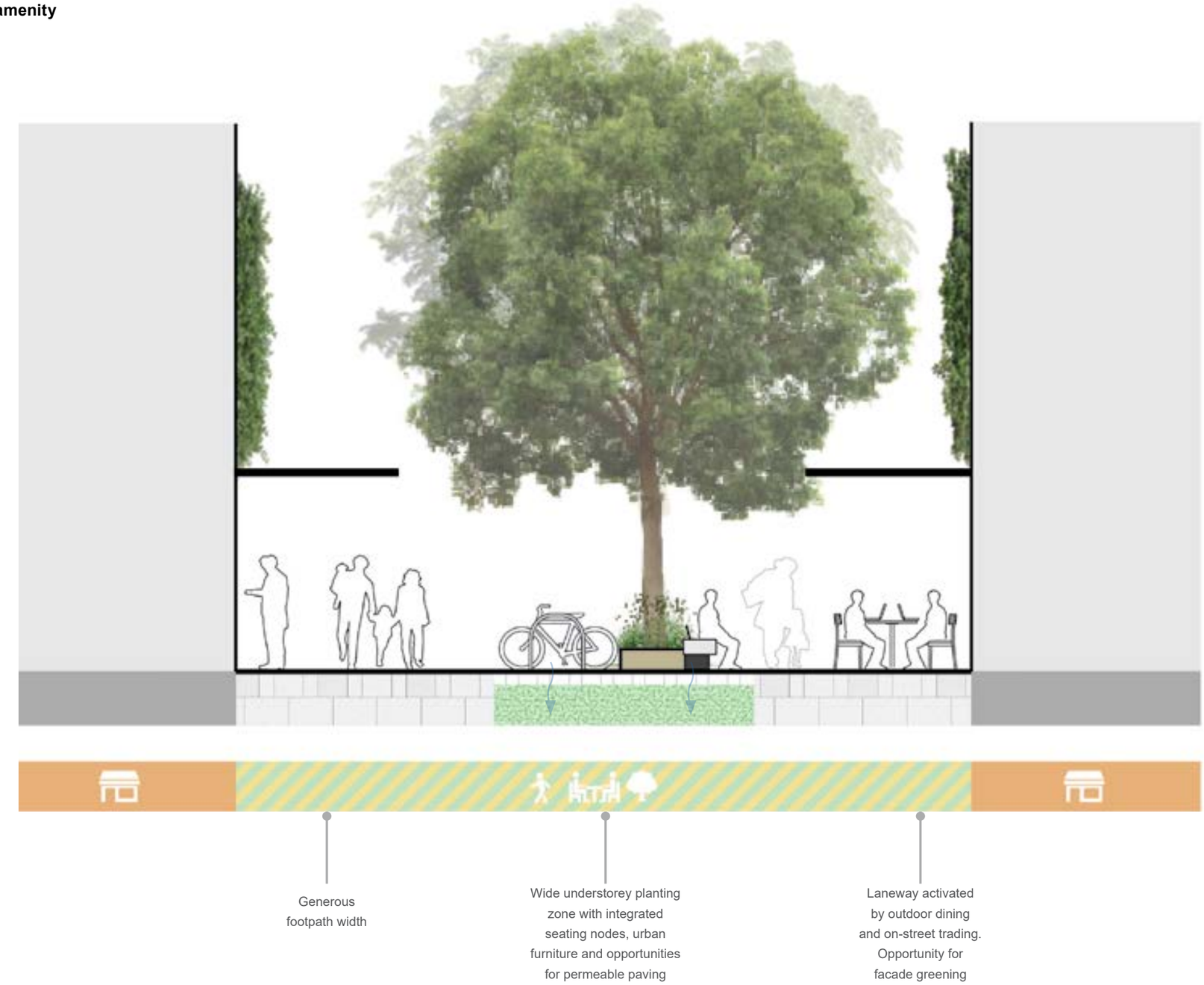


Figure 1-1 Indicative Pedestrian Link - Type A - Urban amenity section

Pedestrian Link- Type B - Shared Path

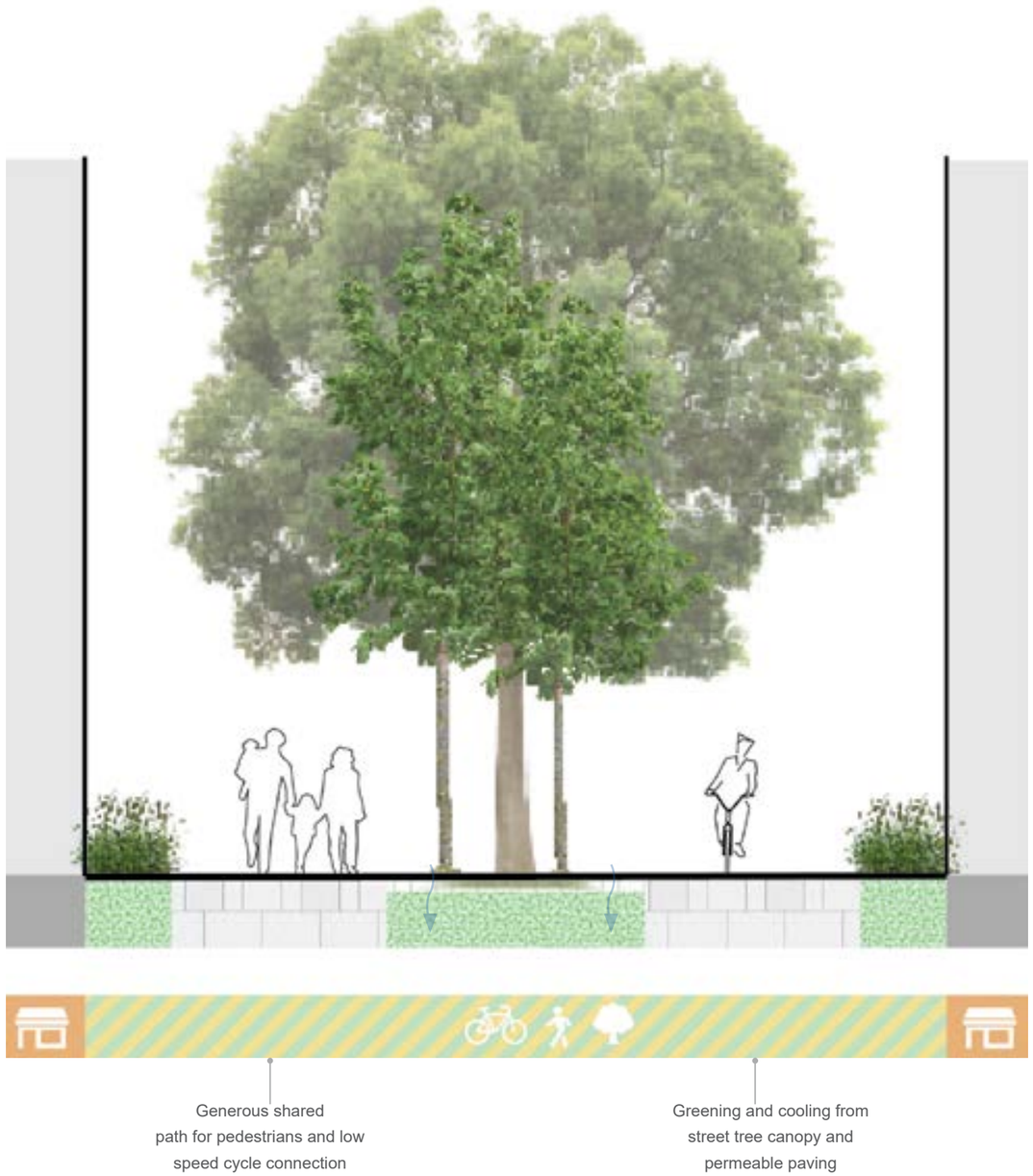


Figure 1-2 Indicative Pedestrian Link - Type B - Shared path section

Pedestrian Link- Type C - Biodiversity link

Figure 1-3 Indicative Pedestrian Link - Type C - Biodiversity link section

AJM
Joint Venture

80 Collins Street

Melbourne VIC 3000

PO Box 23061 Docklands

VIC 8012 Australia

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

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