

An aerial photograph of a residential neighborhood, showing a grid of streets, houses, and some commercial buildings. A large, semi-transparent red diagonal shape is overlaid on the left side of the image, partially obscuring the houses. The text 'C.' is positioned on the red background.

# C.

## APPENDIX C: RESIDENTIAL AREAS

Appendix A outlines the analysis, rationale and recommendations for proposals within residential areas of the Carnegie Major Activity Centre in relation to built form.

Discussion is separated into three parts:

- C1. Changes to Residential Zones
- C2. Preferred Character Outcomes
- C3. Growth Opportunity Analysis
- C3. Built Form Design Testing

# C1.

**CHANGES TO  
RESIDENTIAL  
ZONES**

## Updated approach for Residential Areas

### Managing the transition towards higher densities

Carnegie is a major activity centre with a traditionally low-scale suburban character. Carnegie's residential areas have experienced a significant transformation in recent years, with 3 and 4 storey apartment development replacing single and double storey housing in traditionally low-scale streets. The structure plan aims to improve Carnegie's gradual transition towards higher densities.

Analysis of existing residential zones and development activity (see: Part A of this report) has identified that:

- Improved built form and character guidance is required for areas of substantial change (Residential Growth Zone – RGZ, and General Residential Zone – GRZ).
- The application of zone boundaries for areas of substantial change should be more responsive to local context.

The plan responds to identified issues by:

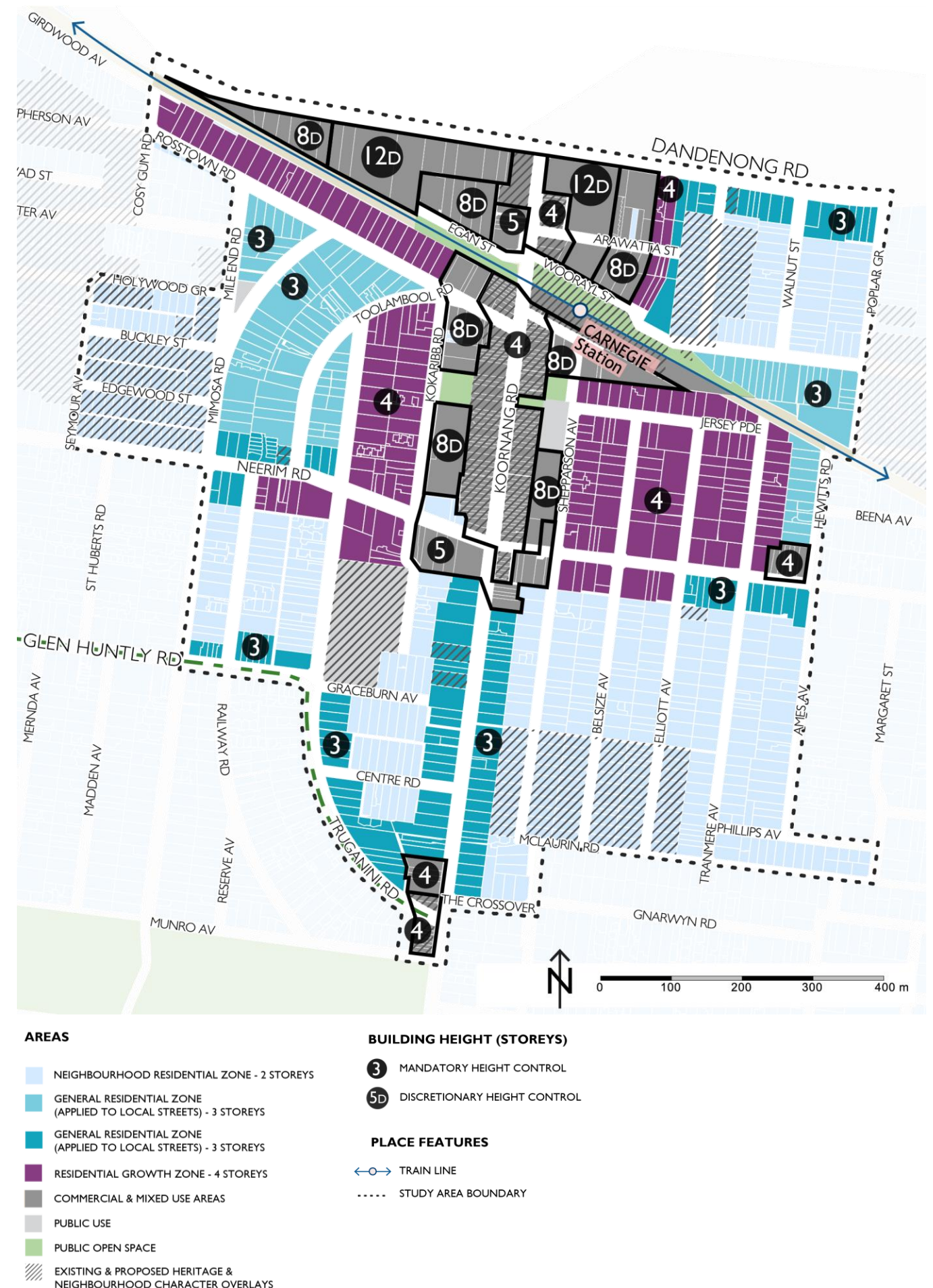
- introducing a transition of housing scale and height across the activity centre to ensure new development better responds to its local context.
- providing better design guidance for new developments, to improve the relationship between new development and the amenity, character and heritage values of existing neighbourhoods.

### Updated zone boundaries and built form character guidance support the vision

Key changes to residential areas in the General Residential Zone (GRZ) and Residential Growth Zone (RGZ) include:

- RGZ and GRZ removed from some local streets south of Neerim Road due to conflict with local heritage and neighbourhood character.
- RGZ and GRZ redistributed along main roads, tram routes and focused towards the inner northern streets near the Carnegie station
- Zone boundaries respond more appropriately to local context.
- Better character guidance introduced through built form policy and local variations to zone schedules.

The new plan provides sufficient capacity to support a strong level of housing growth in residential areas well served by public transport, and existing services and infrastructure.



## Why have zone boundaries changed?

### Why have zone boundaries changed?

The following imagery shows how the core residential areas in the activity centres have shifted from a radial design to be more context specific.



### Existing zones

The existing Residential Growth Zone is applied in a radial fashion around the Carnegie train station, primarily to the south of the railway line. The application of this zone represents a radius of approximately 400 to 500m (on average), being a short walkable distance from the centre. There are also some General Residential Zones along main roads at the peripheries fronting Truganini Road, Dandenong Road and Ames Avenue.

While the radial shaped zoning makes sense at plan view, the result creates inconsistency and conflict in local streets. Some streets have multiple zones which means that policy is supporting four storey apartment buildings and low-scale detached housing in close proximity on the same street. Providing a clear separation between the Residential Growth Zone and Neighbourhood Residential Zone is key to addressing this issue.

### Proposed changes to zones

Based on the structure plan, the Residential Growth Zone will remain focussed around the Carnegie Station and adjacent to the commercial core of the centre. The General Residential Zone is then applied at the periphery of the activity centre and along main roads where they continue to have an interface with the Neighbourhood Residential Zone.

The plan nominates the majority of growth areas in the 'middle belt' between the Railway line and Neerim Road. This is the area with most opportunity for substantial change.

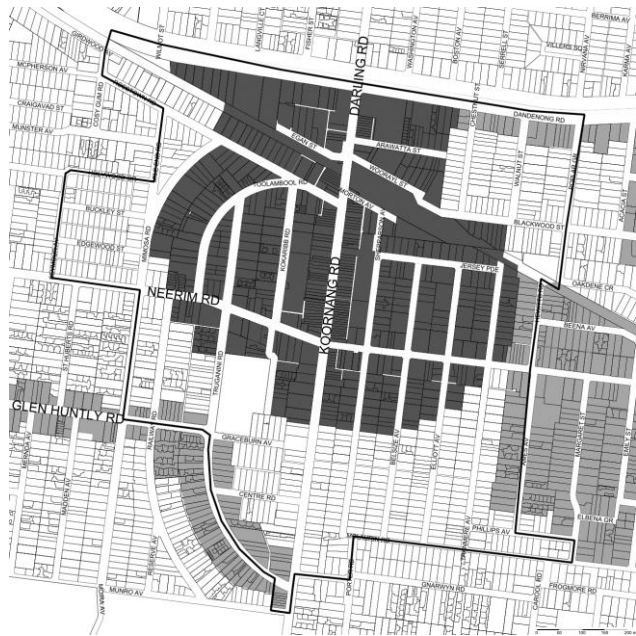
Growth areas south of Neerim Road have been removed from local streets and redistributed towards the main road (Koornang Road). Carnegie has a well established character for multi-unit development that is unlikely to experience substantial change. Reducing the development capacity on local streets south of Neerim Road will allow the legacy of retaining the existing built form and character relatively intact.

The structure plan improves the transition between areas of different development intensities, and is based on a better understanding of local context. Where practical, the plan uses the road network as a border to best manage transition between different zones. In some circumstances a rear boundary or mid-street border has been used as the transition point – in these situations built form controls will be introduced within zone schedules to manage transition between zones.

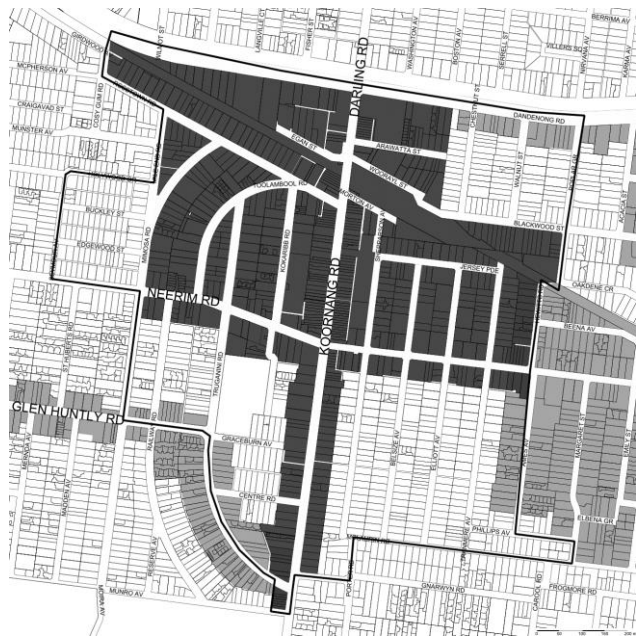
The plan also provides an improved understanding of local context in informing preferred scale and height of new development across the whole activity centre. This approach is supported by the *Glen Eira City Plan: Activity Centre, Housing and Local Economy Strategy, 2020* which nominates the Carnegie Activity Centre as a substantial change area, supporting a transitional built form approach to accommodate different levels of growth and change across the centre.

Policy Area Comparison

Existing Urban Village (existing zones)



Proposed Urban Village (structure plan)



Existing (green) vs Proposed (grey)



# Why have zone schedules changed?

## Application of Zones

A range of Residential Zones have been applied to the Carnegie Study Area, each with individual local variations including:

- General Residential Zone – Schedule 5
- Residential Growth Zone – Schedule 3
- Residential Growth Zone – Schedule 4

Clear built form character guidance is required to manage change effectively. Until recently, most of Glen Eira's existing residential building stock has comprised residential development at a scale of 1 to 2 storeys. In this context, new development within the activity centre of 3 or more storeys represents a substantial change.

Clauses 54 and 55 of the Glen Eira Planning Scheme provide the standard residential development provisions that apply across the State for all dwellings in residential zones. There is an opportunity to introduce local variations to some of these standards to facilitate improved design responses for new development to address local context and character.

Section C2 of this report discusses development opportunity and provides justification for the application of varying levels of growth.

Section C3 of this report provides background for local variations to the zones to reflect preferred built form outcomes.

## Local Zone Variations

This section outlines how key residential design outcomes discussed in this report can be supported using local variations and other provisions within the respective zone schedules and local policy.

The proposed variations are underpinned by the precinct analysis, key preferred character outcomes, local context and growth directions provided within this Urban Form Report, the Quality Design Guidelines – Residential Areas and the Carnegie Structure Plan.

These variations will help traditional low-scale neighbourhoods transition towards different scales of higher densities while responding to important local character elements.

It is recommended that three new residential zone schedules are introduced into the Glen Eira Planning Scheme to facilitate the proposed variations, supported by local policy within the Planning Policy Framework.

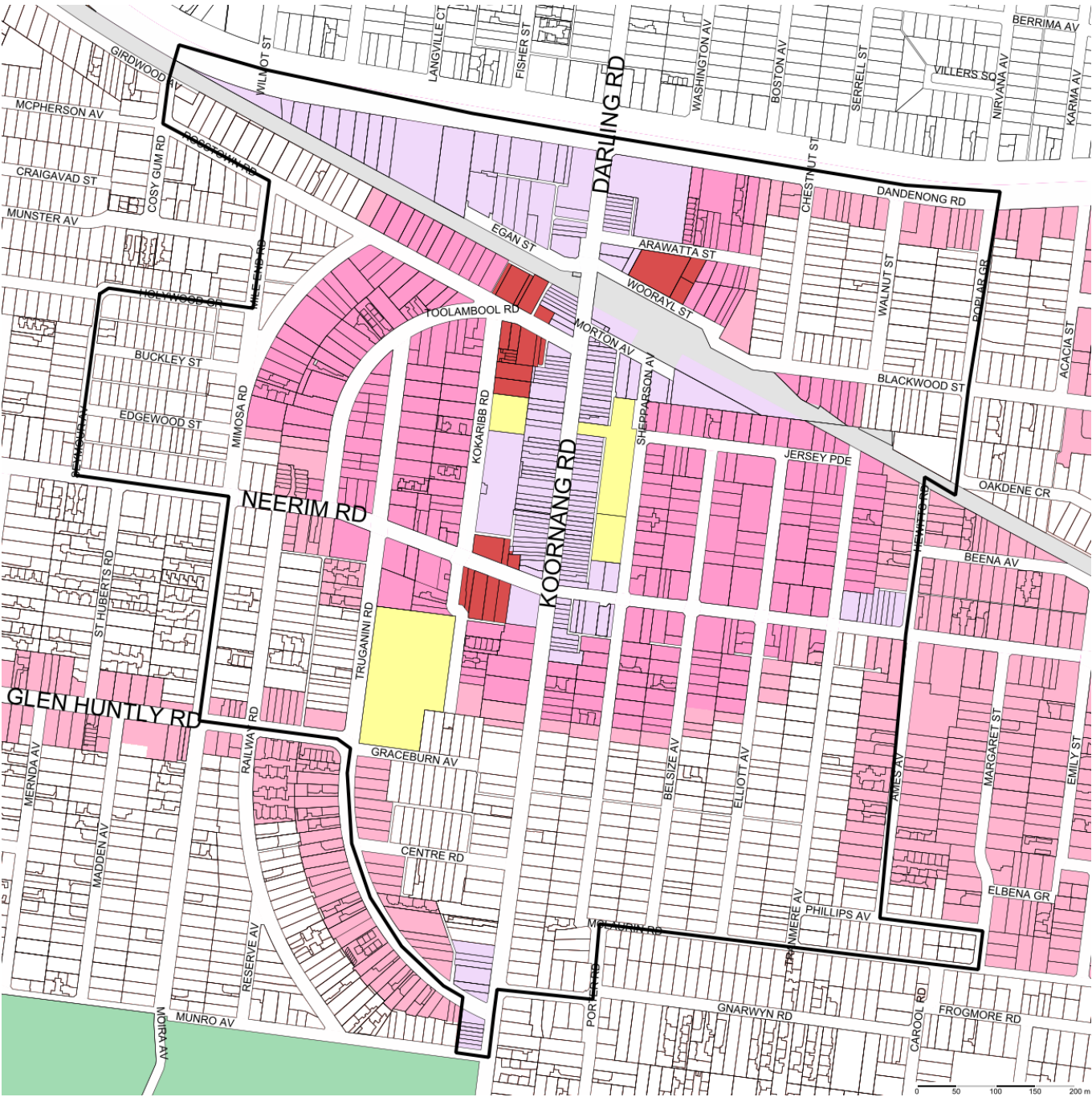
The proposed local variations are outlined in the following table. Where a variation is not able to be accommodated within the zone schedule, it should be included within local policy within the Planning Policy Framework.

Local Variation	General Residential Zone – Schedule 5	Residential Growth Zone – Schedule 3	Residential Growth Zone – Schedule 4
Zone application	• Peripheral residential areas of the activity centre, providing a transition between higher building scale in the activity centre core and the lower scale neighbourhood residential areas outside the activity centre.	• Majority of the residential core of the activity centre adjacent to the commercial core and well served by public transport.	• Small area of the residential core, north of Carnegie railway station. A modified approach to the RGZ3 is appropriate given its location directly abutting an urban renewal area.
Maximum building height	• 3 storeys (11 metres) mandatory	• 4 storeys (13.5 metres) mandatory	• 4 storeys (13.5 metres) mandatory
Front setbacks (Standards A3 & B6)	• 7 metres front street setback and 3 metres side street setback to a height of two storeys. • 11 metres front setback and 5 metres side street setback for any third storey.	• 7 metres front street setback and 3 metres side street setback to a height of three storeys. • 10 metres front setback or 5 metres side street setback for any fourth storey.	• 3 metres setback to front or side street to a height of three storeys. • 9 metres for any fourth storey to a front or side street.
Side and rear Setbacks (Standards A10 and B17)	• 5 metres rear setback to a height of two storeys. • 11 metres rear setback for any third storey, with upper floors appearing recessive. • A minimum of 6 metres for primary living areas or secluded private open space at upper floors facing the boundary.	• 5 metres rear setback to a height of three storeys. • 8 metres rear setback for any fourth storey, with upper floors appearing recessive. • A minimum of 6 metres for primary living areas or secluded private open space at upper floors facing the boundary.	• A minimum of 6 metres for primary living areas or secluded private open space at upper floors facing the boundary.
Walls on boundaries (Standards A11 & B18)	• Preference for any walls on boundaries to accord with Standard, but to be built to one side boundary only.	• Preference for any walls on boundaries to accord with Standard, but to be built to one side boundary only.	• Length of walls on the boundary can be 100%, except where the boundary adjoins land in GRZ, where it should accord with Standard A11 or Standard B18
Site coverage (Standards A5 & B8)	• No change to Standards A5 & B8	• No change to Standards A5 & B8	• Maximum site coverage of 90%.
Permeability (Standards A6 & B9)	• No change to Standards A6 & B9	• No change to Standards A6 & B9	• Minimum site area covered by pervious surfaces to be 5%.
Open space (Standards A17 & B28)	• Standard A17 – no change • Standard B28: Minimum 40m <sup>2</sup> private open space with one part to consist of secluded private open space at the side or rear with a minimum area of 25m <sup>2</sup> , minimum dimension of 4 metres and convenient access from a living room • No change to balcony and roof-top standards.	• Standard A17 – no change • Standard B28: Minimum 40m <sup>2</sup> private open space with one part to consist of secluded private open space at the side or rear with a minimum area of 25m <sup>2</sup> , minimum dimension of 4 metres and convenient access from a living room • No change to balcony and roof-top standards.	• Standard A17 – no change • Standard B28: Minimum 40m <sup>2</sup> private open space with one part to consist of secluded private open space at the side or rear with a minimum area of 15m <sup>2</sup> , minimum dimension of 3 metres and convenient access from a living room • No change to balcony and roof-top standards.
Landscaping (Standard B13)	• One advanced canopy tree for every 8 metres of boundary at front and rear. • Minimum mature height of 7m in front and 5 metres in rear	• One advanced canopy tree for every 8 metres of boundary at front and rear. • Minimum mature height of 7m in front and 5 metres in rear	• One advanced canopy tree for every 8 metres of boundary at the front. • Minimum mature height of 7m.
Front fence height (Standards A20 and B32)	• Main roads (Dandenong Road, Koomang Road & Neerim Road: 1.8m • All other streets: 1.2 metres • Any fencing above 1.2 metres to be 25% transparent	• Neerim Road: 1.8 metres • All other streets: 1.2 metres • Any fencing above 1.2 metres to be 25% transparent	• Dandenong Road: 1.8 metres • All other streets: 1.5 metres • Any fencing above 1.2 metres to be 25% transparent

Proposed residential zone schedules and local variations

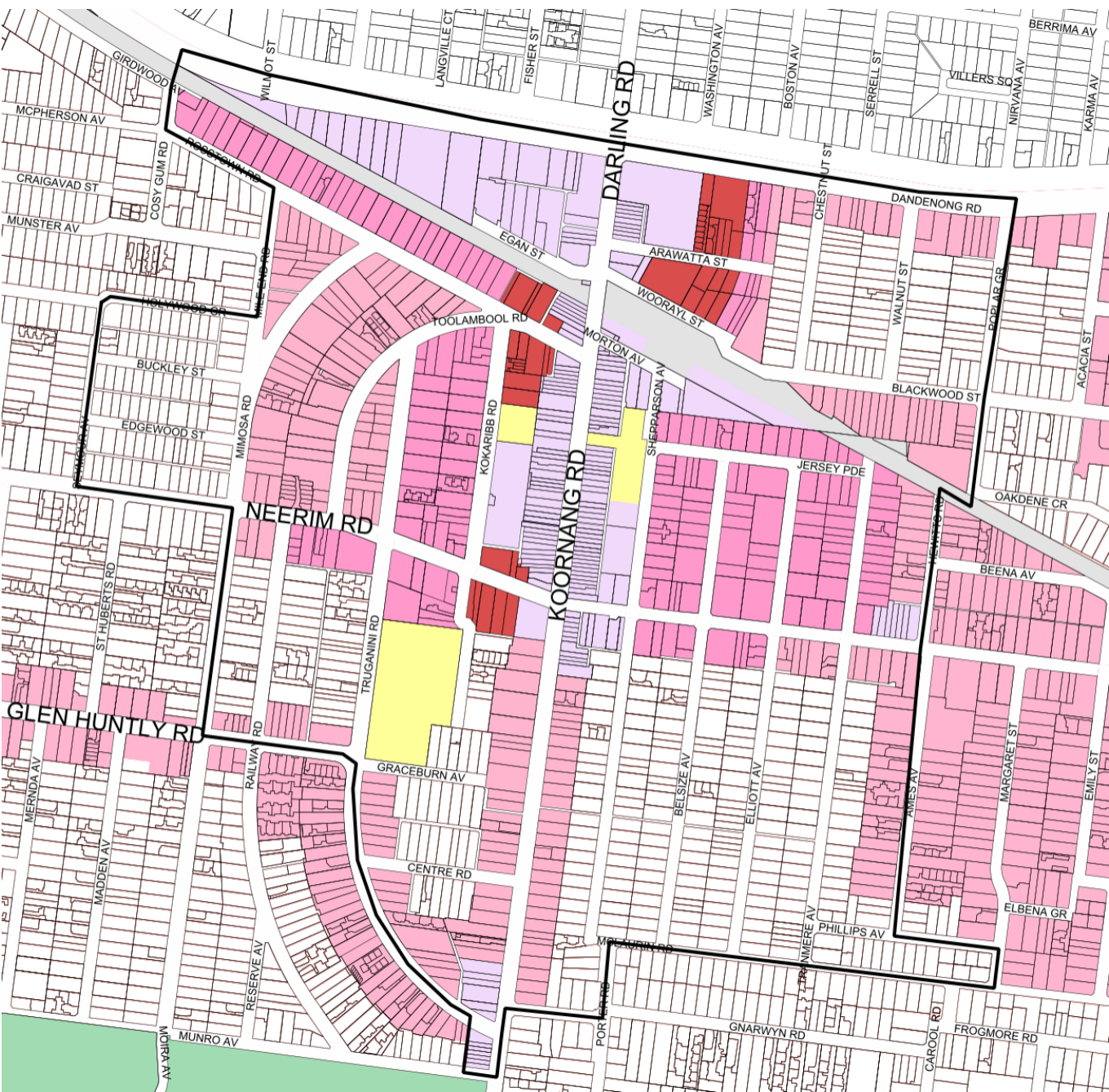
Planning Zones Comparison

Existing Planning Zones



- No colour NRZ – Neighbourhood Residential Zone
- GRZ1&2 – General Residential Zone
- RGZ1 – Residential Growth Zone
- C1Z – Commercial 1 Zone
- MUZ – Mixed Use Zone
- PUZ – Public Use Zone (also grey)
- PPRZ – Public Park and Recreation Zone

Proposed Planning Zones (structure plan)



- No colour NRZ – Neighbourhood Residential Zone
- GRZ5 – General Residential Zone
- RGZ3 & RGZ4 – Residential Growth Zone
- C1Z – Commercial 1 Zone
- MUZ – Mixed Use Zone
- PUZ – Public Use Zone (also grey)
- PPRZ – Public Park and Recreation Zone

# C2.

**GROWTH**  
**opportunity**  
**ANALYSIS**

## Residential Precincts – Opportunity Analysis

### Why do some residential areas support more growth than others?

State Government policy for major activity centres seeks to ensure these areas accommodate a high level of growth. However this does not mean that all areas within a centre will be suitable for the same level of growth and change.

To understand the local context in Carnegie and determine the ability of each part of the centre to accommodate housing growth and change, an analysis has been undertaken by residential precinct.

Each residential precinct has been analysed based on attributes that support or limit future development opportunity (capacity and likely uptake), which generally includes:

- recent development and approvals
- subdivision pattern and lot consolidation opportunity (lot shape, size, width and depth)
- heritage and significant character values
- Sensitive interfaces
- Distance from the core of the centre (walking distance, block length, barriers, physical detachment from the core of the centre).

These attributes have informed designations as areas of substantial change, incremental change or minimal change and associated building heights. The analysis has identified the level of opportunity within each precinct to determine which areas are the most suitable to accommodate growth and transformation.

### Examples of supporting attributes

Features that support development opportunity include:

- Predominantly large, wide lots in a rectilinear (grid) lot pattern - supports acquisition and consolidation of sites to facilitate larger developments.
- Located next to the main shopping strip or near to train station, preferably without crossing a main road - supports walkability and sustainable transport options.
- Location on a main road or tram route – supports housing with public transport access and where the broader road network supports traffic associated with larger developments.
- Predominantly detached housing - supports capacity for orderly site acquisition, consolidation and transformation towards a consistent preferred future character (see 'limiting attributes' for multi-unit development sites).
- Recent conglomeration of 3 to 4 storey construction or permit history – Given that Glen Eira's traditional built form character is 1 to 2 storeys, any recent development of 3 to 4 storeys demonstrates an emerging built form character of substantial change.

### Examples of limiting attributes

Features that limit development opportunity include:

- Predominantly small, narrow lots or areas with an irregular lot pattern – discourages orderly site acquisition, consolidation and transformation.
- Limited permit history – often attributable to existing lower-scale zoning or irregular lot sizes and patterns.
- High level of character protection – Land located within an existing or proposed Heritage Overlay or Neighbourhood Character Overlay will not support substantial change.
- Adjoins an area with high level of character protection – Adjoins land within the Neighbourhood Residential Zone (NRZ) or land within an existing or proposed Heritage Overlay or Neighbourhood Character Overlay.
- Separation from the shopping strip or train station (peripheries of the study area, often requires crossing a main road).
- Predominantly established low-scale multi-unit development – Some areas already deliver a lot of housing with an established character such as existing multi-unit development comprising traditional villas and flats of 1 to 2 storeys. Policy should support incremental development of remaining lots responding to this established character of multi-unit development.

## How much opportunity for change is there in each precinct?

Residential precincts in the study area have been analysed to determine localized opportunity for substantial change in built form (3 to 4 storey development). The assessment is explained by:

- Grouping and naming Map-areas with distinct attributes (location, lot dimensions, existing and emerging housing stock, character protection controls, etc). For simplicity, the naming system is linked to eventual proposed height (eg. areas marked 2A and 2D have been nominated for a maximum height of 2 storeys in the structure plan and controls).
- For each Map-area, methodically identifying supporting and limiting attributes and using these determine the localized level of opportunity.

The results of this analysis culminated in the following plan that shows potential level of change.

Refer to planning scheme, land and built form context maps in Part A – Existing Context which supplement this analysis. The outcomes of the residential precinct opportunity analysis underpin the recommendations for variations to residential zone schedules outlined in Section C3, particularly building heights.

Note: The study area for this precinct analysis extended beyond the final activity centre boundary. Where residential areas were assessed as being suitable only for limited or incremental change within a Neighbourhood Residential Zone, these areas were ultimately excluded from the final activity centre boundary.

### Level of opportunity

Limited	These areas have substantial constraints on redevelopment such as heritage or neighbourhood character overlay protection.
Low	These peripheral areas have a mixture of constraints rendering them unsuitable as substantial change areas but they can still accommodate additional incremental growth.
Moderate	These areas have a mixture of elements that support and constrain development, with key elements that make them suitable as substantial change areas but limited to a 3 storey built form.
Moderate-High	These areas have a mixture of elements that make them suitable as substantial change areas, along with some constraint
High	These areas are relatively unconstrained, with a range of elements that make them suitable as substantial change areas.



### **Analysis of opportunity in proposed Residential Growth Zone (RGZ) areas**

Areas nominated in the Residential Growth Zone (RGZ) have medium-high or high opportunity that can support a substantial change with development up to 4 storeys.

#### **Substantial Change (residential core areas with limited constraints) – Map-areas 4A, B and C**

The highest opportunities for transformation are sites within the eastern side of the residential core including local streets of Jersey Parade, Shepparson Avenue, Belsize Avenue, Elliot Avenue and Tranmere Avenue, as well as and along Neerim Road (a State Road).

Key features that support future site consolidation and transformation include:

- Location abutting the Koornang Road shopping strip, within 400m of the station and along a main road in some parts.
- Significant transformation of character with 4 storey apartment developments prevalent.
- Large, wide lots in a grid pattern.
- Traditionally low density detached housing on remaining lots that have not been redeveloped.
- Separation from NRZ (north of Neerim Road).
- No existing or proposed heritage or other character overlays.

The area's high level of opportunity is reinforced by significant amounts of redevelopment in recent years under the Residential Growth Zone.

Properties south of Neerim Road directly abut NRZ land. While this would ordinarily mean that a more incremental approach (GRZ) would be recommended, recent planning permit and construction have supported change with completion of 4 storey apartment buildings. The proposed RGZ recognizes this transformed built form character as it has mostly been completed already.

#### **Substantial Change (residential core with substantial constraints) – Map-areas 4D, E and F**

The western side of the residential core, within local streets of Kokaribb Road, Truganini Road (east side) and Rosstown Road (north side) as well as along the urban renewal transitional area in Arawatta Street are designated RGZ.

Key features that support future site consolidation and transformation include:

- Location abutting the Koornang Road shopping strip and within 400m of the station.
- Large, wide lots.
- No existing or proposed heritage or other character overlays.

Key features that limit transformation include:

- Irregular lot patterns.
- Well established multi-unit development of 1 and 2 storeys such as villas and flats that is less likely to change (acquisition and consolidation costs).

These attributes create more difficulty for orderly site acquisition, consolidation and quality design for larger developments by comparison to the eastern side of the residential core. This is reinforced by the area's limited examples of permits or construction for 4 storey development despite its current zoning supporting this outcome.

Nonetheless these areas are nominated in the RGZ primarily based on their location directly abutting the shopping strip, proximity to the railway station and proximity to strategic opportunity sites and urban renewal areas where Carnegie's tallest buildings are supported.

### **Analysis of opportunity in proposed General Residential Zone (GRZ) areas**

Areas nominated in the General Residential Zone have medium development opportunity with features that support change, however with a development height limit up to 3 storeys. These areas are not prescribed taller heights (4 storeys) due to inherent constraints affecting development opportunity, meaning a more moderate approach is more appropriate.

These areas also form a transition role from the 4 storey residential growth areas and taller commercial buildings in the core of the activity centre, to the lower scale 2 storey development within the neighbourhood residential areas outside the activity centre boundary.

#### **Substantial Change (Residential core areas with limited constraints) – Map-area 3C**

The sites fronting Hewitts Road at the periphery of the centre have reasonable opportunity for orderly site consolidation and transformation. There are no features that limit development opportunity in this street. The area has been applied the General Residential Zone to provide a transition from the RGZ (residential core) and reinforce a 3 storey zone on both sides of the street (the other side is in the GRZ as part of the Murrumbeena Neighbourhood Centre).

#### **Substantial Change (Residential core areas with substantial constraints) – Map-areas 3A and 3B**

Some local streets to the north of Neerim Road are well located for growth due to their proximity to the train station and the Koornang Road shopping strip, but have significant limitations on redevelopment opportunity that prevent orderly site consolidation and transformation. These areas include Truganini Road (west side), Toolambool Road, Mimosa Road, Mile End Road (west side), Rosstown Road (south side) and Blackwood Street.

Key features that support future site consolidation and transformation include:

- Location near the Koornang Road shopping strip and within 400m of the station.
- Large lots.
- No existing or proposed heritage or other character overlays.

Key features that limit transformation include:

- Irregular lot patterns.
- Well established multi-unit development of 1 and 2 storeys such as villas and flats which are unlikely to be redeveloped.

These attributes create more difficulty for orderly site acquisition, consolidation and quality design for larger developments by comparison to the eastern side of the commercial core. This is reinforced by the area's limited examples of permits or construction for 4 storey development despite its current zoning supporting this outcome.

#### **Substantial Change (Peripheral areas, Main Roads and Tram Routes with some constraints) – Map-areas 3D, E, F, G and H**

Council's housing framework contained within the *Glen Eira City Plan: Activity Centre, Housing and Local Economy Strategy, 2020*, seeks to support development up to 3 storeys in the residential periphery of major activity centres and on selected main roads and tram routes. This provides a basis for uplift along Dandenong Road, Neerim Road, Koornang Road and Truganini Road.

Key features that support future site consolidation and transformation in these areas include:

- Location on main roads or tram routes;
- Large, grid patterned lots (except Truganini Road).
- Traditionally low density detached housing on lots that have not been redeveloped recently.
- No existing or proposed heritage or other character overlays.

Key features that limit transformation include:

- Sensitive abutments rendering them more appropriate as transitional areas (abutting NRZ, HO or NCO land).
- Separation from the core of the activity centre (more than 400 metres from train station).
- Narrow irregular lot patterns (only applies to Truganini Road).
- Limited existing permit or construction history.

### **Analysis of opportunity in proposed Neighbourhood Residential Zone (NRZ) areas**

Areas nominated in the Neighbourhood Residential Zone (NRZ) have a mixture of limited, low and some moderate levels of development opportunity.

#### **Incremental Change (residential peripheral areas with development constraints based on established multi-unit character) – Map-areas 2A, B and C**

Local streets south of Neerim Road or north of the railway line are clearly separated from the residential core while also being close enough to consider whether they should accommodate more substantial growth. This includes local streets of:

- Mimosa Road, Railway Road, Truganini Road and Kokaribb Road (Map-area 2A).
- Jersey Parade, Shepparson Ave, Belsize Avenue, Elliot Ave and Tranmere Avenue and Ames Avenue (Map-area 2B).
- Acacia Street, Poplar Grove, Walnut Street (Map-area 2C).

Key features that support future site consolidation and transformation include:

- Large lots in a grid pattern
- No existing or proposed heritage or other character overlays.

Key features that limit transformation include:

- Separation from the activity centre core.
- High proportion of lots already developed. Well established multi-unit development of 1 and 2 storeys such as villas and flats which are unlikely to be redeveloped.
- Limited transformative permit history (only one 4 storey apartment building is approved or built in Map-area 2B) – meaning the traditional character is prevalent.
- Remaining 'developable' lots have a mixed pattern and are located sporadically throughout.
- Heritage or Neighbourhood Character Overlay abuttals (Map-area 2B and 2C).

These attributes limit opportunities for orderly acquisition, consolidation and quality design for larger developments.

Large development sites would also appear out of place in context of the established low-scale multi-unit character that is unlikely to change in the foreseeable future. The lack of permit history and limited existing change in building height in these areas, combined with the other transformation limitations, presents an opportunity to retain the legacy of the existing built form and character relatively intact.

Development of remaining lots should respond to and respect this established character of 1 to 2 storey multi-unit development, with change occurring in an incremental manner.

#### **Incremental Change (residential peripheral areas where primary constraint is separation distance) – Map-areas 2D, E and F**

These peripheral sites have reasonable opportunity for orderly site consolidation and development. Their primary constraint is walking distance from shopping strip and train station. Map-area 2D (Centre Road and Grace Avenue) also comprises narrow lots, rendering this area less likely to facilitate larger developments. Incremental development of up to 2 storey housing should be supported.

#### **Minimal Change (Heritage or Neighbourhood Character Overlays) – Map-areas 2G, H and I**

Two heritage precincts (Map-area 2H and 2G) have recently been nominated to provide a high level of heritage protection for existing neighbourhood character. This includes:

- Southern end of Shepparson Ave, Belsize Ave, Elliot Ave (Map-area 2G)
- Sites between Neerim Rd and Hollywood Gr, including those fronting Edgewood St, Buckley St, Hollywood Gr, and Mile End Road (east side) (Map-area 2H).

Chestnut street (Map-area 2I) is subject to an existing Neighbourhood Character Overlay, which provides a high level of protection for existing neighbourhood character.

Minimal development of up to 2 storey housing should be supported in these areas, subject to heritage and neighbourhood character considerations.

# C3.

**PREFERRED  
CHARACTER  
OUTCOMES**

## Preferred character outcomes

### What are the priorities for built form character?

Council's *Quality Design Guidelines: Residential Areas* introduce a range of principles and guidelines that underpin proposed controls for Carnegie's residential areas. These elements will help traditional low-scale neighbourhoods within the activity centre transition towards higher densities while responding to important local character.

The five preferred character outcomes which form the basis of the guidelines are summarised on this page.

The following pages discuss each key character outcome in more detail and explain how design standards can be used to support their implementation.

#### **1. Managing transition and garden corridors**

Built form emphasises lower floors to integrate with traditional low-scale streets. Upper levels to be setback from street to maintain streetscape character.

Setbacks incorporate adequate space to provide garden corridors at the front and rear of sites within the streetblock, as well as usable secluded private open space in these locations.

#### **2. Garden setting (fencing and landscaping)**

Well-landscaped green corridor at front and rear with quality planting and canopy trees creates a garden setting that softens the built form.

#### **3. Site consolidation**

Consolidating multiple sites and vehicle access points avoids tall skinny buildings, allows more space for landscaping and ensures the visual impact and amenity impacts of the building can be managed within the site.

#### **4. Responsive architectural elements**

Quality architecture using materials, colours and feature elements such as roof design and spacing that responds to the development pattern of the street.

#### **5. Dwelling orientation and outlook**

The primary aspect of dwellings, such as balconies and living areas, should face the front and rear of the property. Side facing outlooks are discouraged.





## Building height

Building heights are a strong determinant of visual bulk and even a minimal increase in building height along a street can contribute to a sense of overdevelopment and transformation, regardless of setbacks, landscaping or any other design attributes.

Building height is also a critical factor in providing for appropriate transitions in building scale, managing amenity and overlooking issues and in ensuring sensitive interfaces are appropriately managed.

The management of building height and implementing clear guidance for this within the planning scheme is therefore a key component in planning for and managing overall growth and change in activity centres.

Carnegie's residential areas have been traditionally developed as low scale residential dwellings of 1-2 storeys. Many precincts and buildings have high heritage value.

Population growth projections and State planning policy reinforce that residential areas within the Carnegie Activity Centre will be expected to accommodate significant housing growth. This will require new housing to be consistently higher than the traditional 1-2 storey heights.

This change is already occurring, resulting in higher built form (usually in the form of apartments) and often resulting in local conflict as community expectations differ to State policy and private developer expectations. There is also a lack of specific design and built form guidance in the planning scheme to assist in managing expectations from all parties.

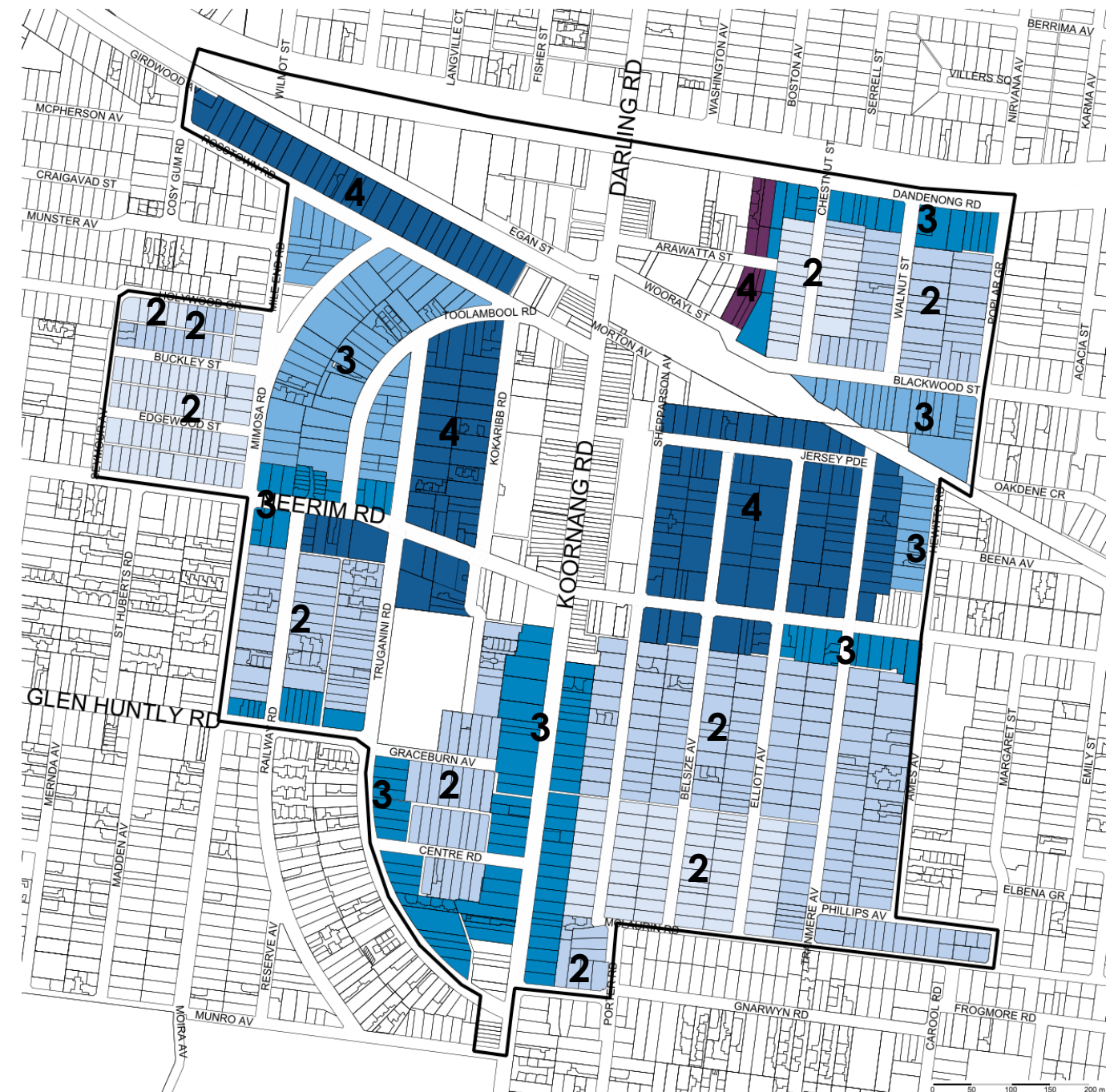
Council's adopted housing framework, which forms part of the *Glen Eira City Plan: Activity Centre, Housing and Local Economy Strategy* (the City Plan), identifies Carnegie Activity Centre as an area of substantial housing change. This aligns with State policy expectations contained in *Plan Melbourne 2017-2050*.

However the City Plan further identifies that not all substantial change areas will be the same and expected built form outcomes will vary within different areas of activity centres, based on the ability of each precinct to accommodate growth and to be able to appropriately reflect local character and context.

A transitional approach to built form outcomes across the activity centre has therefore been adopted. In the context of the Carnegie Activity Centre, this translates to three residential zone schedules to be applied to manage design outcomes, including two building height.

With respect to building height, the proposed transition of heights across the centre to be implemented through the residential zone schedules is outlined in the following table.

Where the building height is not already mandatory through the zone provisions, it should be clear that it is mandatory within the schedule. This is to ensure consistency of building height provisions and providing greater certainty to all parties about building height expectations within residential zones in the Carnegie Activity Centre.



## Street and rear setbacks

Setback requirements are the most visible and effective way to manage neighbourhood character expectations and will underpin other requirements relating to:

- Streetscape character
- Landscaping
- Front fencing
- Dwelling orientation and outlook
- Private open space

Proposed requirements should be embedded within relevant zone schedules of the Glen Eira Planning Scheme, as allowable variations to Clause 54 and 55 requirements. Where the zone schedules do not allow for a local variation, the requirements should be included within the Planning Policy Framework to form part of local policy. Details on the following pages illustrate how varied setback standards at the street (front) and rear of the site in both the GRZ5 and RGZ3 will encourage developments to provide a true garden setting with canopy trees at the front and rear of the property and maintain elements of the existing low scale streetscape character as a key element of the design response.

### Why are local variations required?

Current residential zones in Carnegie do not contain any local variations to Standards A3 and B6 of Clause 54 and 55 of the planning scheme for street setbacks. Using the standard street setbacks assessment reflects existing character based on “average distance of the setbacks of the front walls of the existing buildings on the abutting allotments facing the front street or 9 metres, whichever is the lesser.”

In practice Council's effort to enforce the existing setback standards has been largely unsuccessful. Planning permit applicants have interpreted a lack of local variation to State standards as a lack of guidance or preference, arguing that areas nominated for growth should allow for all aspects of a new development to be defined by a future character.

Planning permit applications for new development in the Residential Growth Zone have generally comprised:

- Limited street setbacks (generally 3 to 5 metres, less than the Standard requirements).
- Highly built out appearance (tall impermeable fencing for resident privacy, paved entries and courtyards, and limited landscaping opportunities).

These design outcome have a disruptive impact on streetscape character and do not provide adequate landscaping opportunities to contribute to the area's valued garden setting

Council's experience is that development proposals with setbacks less than 7 metres reinforce a more urban character, with limited opportunity to enhance the local garden setting. The control is discretionary. By starting with a 'standard' at 7 metres (which can be varied), a permit applicant must demonstrate that their new development contributes to the overall objective where seeking a variation.

For these reasons, variations to front and rear setbacks within residential zones in the Carnegie Activity Centre are supported, underpinned by preferred character outcomes, rather than relying on the broader State standards.



Existing residential street setbacks – Carnegie Activity Centre

**Limited garden setting**

- Up to 3 metres
- 4 metres
- 5 metres
- 6 metres

**Garden setting**

- 7 metres
- 8 metres
- 9 metres
- 10+ metres

\*Dimensions approximated using GIS and Aerial Photography with measurements rounded to nearest 0.5m. Data is displayed in 1 metre increments, with measurements displayed as whole numbers (eg. a 5.6m setback would be displayed as blue, 5m)  
 \*This map represents a desktop assessment and is intended to be illustrative to identify overall patterns of development. Council's preparation of built form controls required a desktop assessment in addition to permit review and site visits to each precinct.

## Proposed Street Setbacks

Local variations have been prepared for each residential precinct in the General Residential Zone and Residential Growth Zone. The intent is to:

- Provide a well-landscaped garden setting including substantial front setbacks that accommodate deep planted canopy trees.
- Manage transition on existing streets by contributing to a low scale streetscape character, with upper floors recessed.

Proposed street setback variations include:

- *General Residential Zone (GRZ):*
  - 7 metres front setback to a height of two storeys.
  - 11 metres front setback of any third storey, with upper floors appearing recessive.
- *Residential Growth Zone 3 (RGZ3):*
  - 7 metres front setback to a height of three storeys.
  - 10 metres front setback of any fourth storey, with upper floors appearing recessive.
- *Residential Growth Zone 4 (RGZ4)*
  - 3 metres front setback to a height of three storeys.
  - 9 metres front setback of any fourth storey, with upper floors appearing recessive.

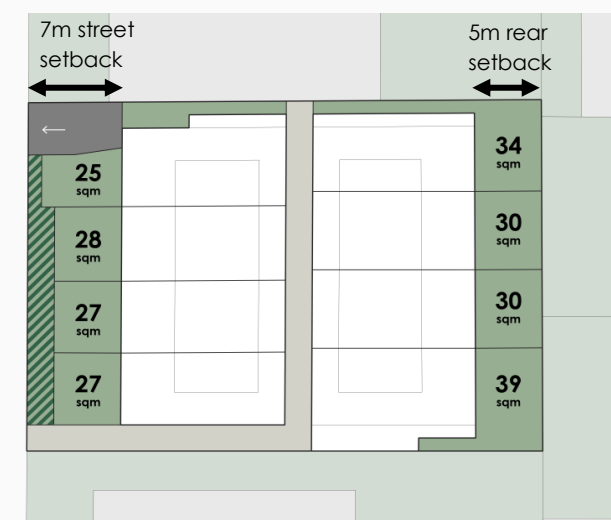
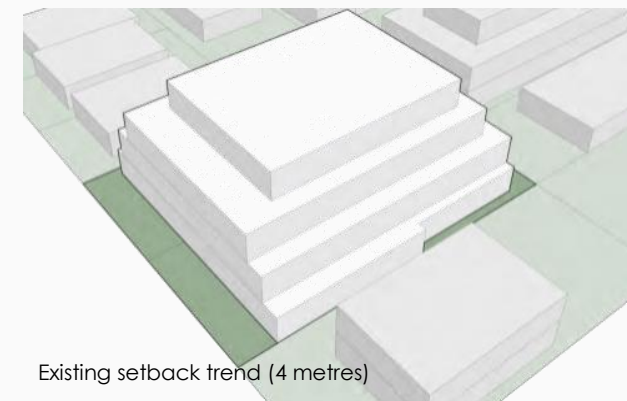
## What is the proposed street setback of 7 metres seeking to achieve?

The proposed 7 metres street setback for General Residential Zone (GRZ) and Residential Growth Zone (RGZ4) areas seeks to address:

- **Minimise visual dominance:** A broad setback responds to existing building stock and helps to integrate larger forms, managing the streetscape transition from existing built forms to higher densities.
- **Garden setting:** The setback accommodates a garden setting in the design. Support the provision of secluded private open spaces in street setbacks (4 to 5m depth) along with a landscape and fencing articulation buffer at the frontage to contribute to a garden setting in the streetscape (2 to 3 metres).
- **Certainty:** Provide certainty about built form expectations by nominating a specific local variation.

Built form models demonstrate the difference between existing development trends (4 metres setback) and proposed control (7 metres setback). There is a notable difference in built form dominance and ability to contribute to a landscaped garden setting.

The proposed Residential Growth Zone (RGZ4) setback of 3 metres responds to the precinct's urban renewal setting, abutting the 8-12 storey commercial and mixed use precincts and in an area where high site coverage is supported.



Example of front and rear facing ground floor layout reinforced by proposed setbacks

This image provides an example of building siting with 7m front and 5 metre rear setbacks. The 7 metre front setbacks can incorporate a landscape buffer (vegetation, mature canopy trees) shown as green hatched area, contributing to a garden setting in front of secluded private open spaces, which are often paved or decked in higher density settings.

## Proposed Rear setbacks

Rear setback proposals seek to:

- Minimise the visual impact of new development on residential sites to the rear.
- Achieve a well-landscaped backyard corridor that can accommodate canopy tree planting.
- Allow for outlook at the rear onto a green landscaped setting

Proposed requirements:

- *General Residential Zone (GRZ):*
  - 5 metres rear setback to a height of one storey
  - 6 metres rear setback for a second storey.
  - 11 metres rear setback of any third storey, with upper floors appearing recessive.
- *Residential Growth Zone 3 (RGZ3):*
  - 5 metres rear setback to a height of one storey
  - 6 metres rear setback for a second or third storey.
  - 8 metres rear setback of any fourth storey, with upper floors appearing recessive.
- *Residential Growth Zone 4 (RGZ4)*
  - No change to Clause 54 & 55 standards.

## What are the proposed rear setbacks seeking to achieve?

The proposed 5 metre rear setback, and the further recessing of upper levels at the rear seek to address:

- **Contribute to a garden setting in the street block at the rear of sites:**

The 5 metre setback seeks to achieve a vegetated rear 'corridor' within the street block. The setback will facilitate landscaping, with mature canopy trees and other planting to be prioritised in the design response (green area on images), along-side recreational areas with decking or paving in secluded private open space (brown area on images).

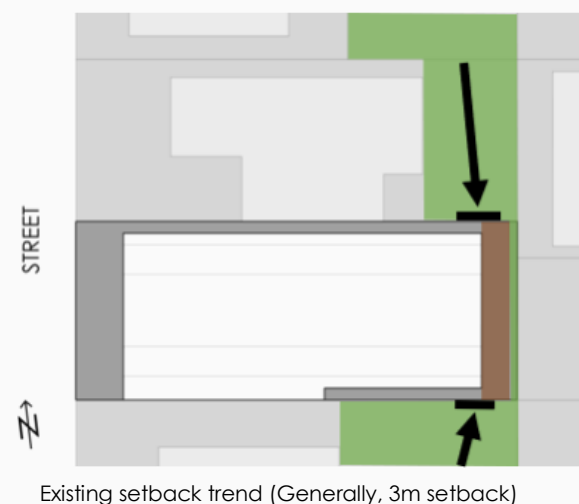
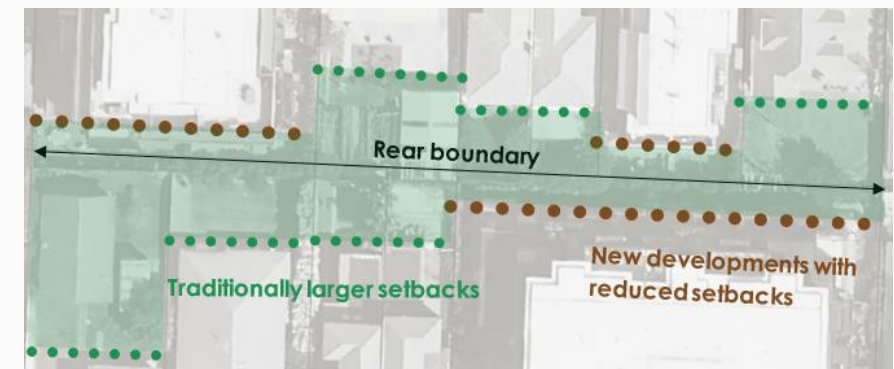
- **Reinforce a sense of openness in rear of sites (in GRZ)**

Further staggered rear setbacks for second and third storeys in the GRZ, and for second, third and fourth storeys in the RGZ, seek to prioritise a sense of openness in the backyards. It seeks to minimise the visual impact of new development on abutting residential sites and reinforce a sense of openness with outward views.

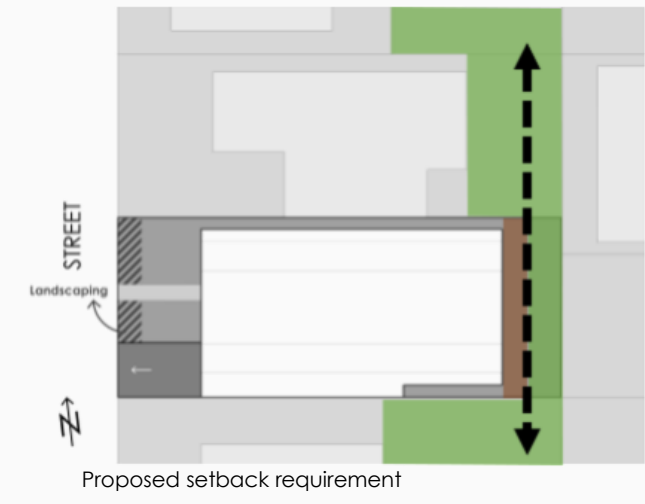
Providing minimum 5 metre rear setbacks (and further setbacks on upper levels) will also contribute to the achievement of other key preferred character outcomes. This includes better managing privacy, outlook and overlooking priorities on the site through considered design and setbacks, rather than the use of lesser setbacks which then rely on 'borrowing' amenity from adjoining lots or excessive use of screening.

### Example of rear setbacks contributing to a garden setting in the street block at rear of sites

The aerial image (right) shows common development trends, with new developments reducing the rear garden corridor too much. The diagrams (below) demonstrate how proposed setbacks will improve outcomes.



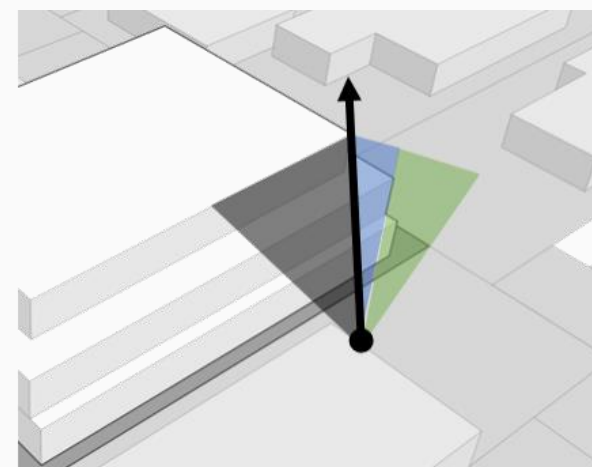
Existing setback trend (Generally, 3m setback)



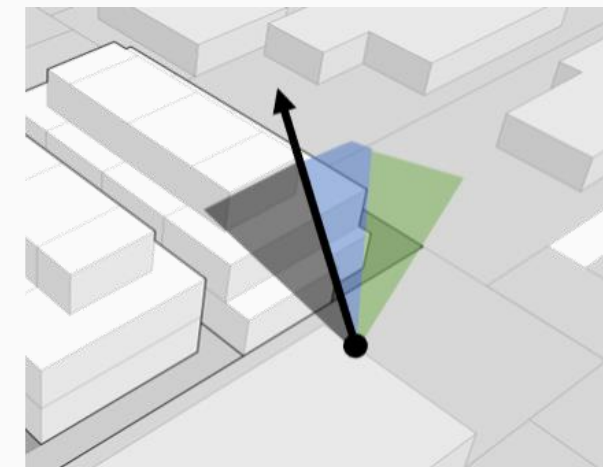
Proposed setback requirement

### Example of rear setbacks reinforcing openness and views.

Traditional housing generally provides large rear setbacks. Recent developments often extend well into rear setback, creating a sense of enclosure for neighbours. The proposed rear setbacks at lower floors (green) and upper floors (blue) ensure that new developments reinforce a sense of openness and outward views, assisting to manage the transition towards higher densities.



Existing setback trend  
(Generally, 3m setback with limited upper setbacks).



Proposed setback requirement

## Garden setting (fencing and landscaping)

Landscaping and front fencing are core aspects of creating a garden setting.

Landscape design can assist in reducing the bulk and scale of buildings by softening the built form and re-introducing a connection to natural surrounds. Landscaping should contribute to and enhance the streetscape character and public realm, incorporating planting, landscape treatments and materials that are consistent with the prevailing streetscape or reflect the preferred strategic significance of surrounds.

Fencing contributes to the overall streetscape appearance of a development, and significantly influences how developments are perceived and interact with the public realm. Fencing should balance the need for privacy with passive surveillance, activation of the public realm and contribution to a garden setting. In local streets, there is an expectation that developments will maintain an open, landscaped character with low front fencing. On main roads, taller fencing is acceptable to reduce amenity impacts such as noise from traffic. Partial transparency of fencing above a height of 1.2 metres should be encouraged.

Local variations to Standards B13 (landscaping) and A20 and B32 (Front fence height) of Clauses 54 and 55 are permitted within zone schedules. Where variations are not permitted directly in the schedule (eg: fencing transparency), they should be included within local policy in the Planning Policy Framework.

The following landscaping and fencing outcomes should be included as proposed local variations or policy in the planning scheme:

### Landscaping outcomes

- Prioritise the low-scale, open and landscaped character of residential streets and back yards. Best achieved by green corridors at the front and rear of sites (rather than sides) with large setbacks and attractive greenery (soft landscaping)
- Prioritise canopy trees in front and rear setbacks.
- Ensure basement footprints do not impede the planting of canopy trees that will grow to full size at maturity.
- GRZ & RGZ3: Provide a minimum of one advanced canopy tree for every 8 metres of boundary at the front and rear.
- RGZ4: Provide a minimum of one advanced canopy tree for every 8 metres of boundary at the front.
- For the purpose of the planning scheme variations, a canopy tree is deemed to be a tree with a mature height of at least 7 metres for the front setback, and 5 metres for the rear setback areas.
- Where the calculated number of trees is not a whole number, it should be rounded up to the nearest whole number.

### Fencing outcomes on local streets

- In GRZ & RGZ3 local streets: Maximum fencing height of 1.2 metres within 3m of the front boundary, or 1.8 metres beyond.
- In RGZ4 local streets: Maximum fencing height of 1.5 metres within 3 metres of the front boundary, or 1.8 metres beyond.
- If ground floor secluded private open space is proposed within the street setback (requiring a taller fence) the fence should not encroach within 3 metres of the front boundary to facilitate a garden corridor fronting the street with significant landscaping (See image 4 on following page).

### Fencing outcomes on main roads (Dandenong Road, Koornang Road and Neerim Road)

- Maximum fence height of 1.8 metres, with at least 25% visual transparency above 1.2 metres.

### General fencing outcomes

- Where a fence is permitted to exceed 1.2 metres, it should provide at least 25% visual transparency above 1.2 metres.
- Tall fencing above 1.2 metres should be designed to incorporate landscaping and permeability to contribute greenery and provide a level of passive surveillance.
- Ground floor secluded private open space is supported in the front setback subject to landscaping and fencing outcomes being achieved.

Taller buildings could integrate better with the local environment with improved fencing and landscaping alongside adequate setbacks.

This aerial photograph highlights how Carnegie's recent development on Neerim Road has created an urbanised setting, with setbacks generally in the range of 3-4 metres at front and rear. Proposed character guidance seeks to ensure garden elements have a higher priority in the permit assessment process.



**Image 1:** Poor example of fence design in residential areas, with building services and solid fencing dominating frontage.

**Images 2 and 3:** Tall front fencing on main roads can be designed to incorporate landscaping.

**Image 4:** In all fencing is required on local streets, provide adequate space for canopy tree planting fronting the street (noting image 4 is a recent development – landscaping will eventually grow to provide a strong landscape setting).

# Site consolidation & Character Elements

## Site consolidation

Site consolidation is strongly encouraged across all residential areas of the activity centre to deliver more efficient and improved design outcomes, including:

- Reducing the visual impact of tall skinny building on narrow lots
- Providing for front, rear and side setbacks to meet local character outcomes within the site
- Reducing amount of crossovers and hardstanding areas within setback areas
- Improving landscaping and 'garden corridor' outcomes.

- Providing for consolidated and shared parking
- More effectively managing outlook, overshadowing and privacy through building design and setbacks, rather than rely on 'borrowed' amenity from adjoining lots of excessive use of screening.

Building design on consolidated sites should continue to respond to the rhythm and pattern of development on the street. Design responses should break up long extents using a combination of varied setbacks, articulation, materials and colours. Buildings should be divided into single lot sized proportions from street view.

## Materials, colours and textures

Use of integral and long-lasting materials, textures and colours that reflect a residential palette and integrate elements of the existing streetscape are supported. Bricks and durable timber cladding are strongly encouraged.

This example shows a range of design treatments elements incorporated into façades and fencing.



## Roof forms

Roof design should positively respond to and enhance the residential streetscape.

Contemporary architectural interpretations of traditional roof forms are encouraged to assist with streetscape integration. For example, in streets where traditional angled roofing is the predominant form (eg. pitched, hipped or skillion styles), integrate angled roofing elements fronting the street.



## Examples of consolidated site developments incorporating local character elements



# Dwelling orientation and outlook

## What is the purpose of orientation and setbacks for primary outlook?

Buildings should be designed to prioritise outlooks and views from dwellings while balancing the need for privacy. Buildings should not rely on separation and outlook provided by adjoining lots.

Visual privacy is an important aspect of residential amenity. Visual privacy allows residents within a development or adjoining property to enjoy use of their private spaces without being overlooked. Each development site will have a variety of visual privacy concerns that need to be accommodated.

Design principles that carry through the activity centre are the preferred orientation of living areas of all dwellings to the front or the rear (avoiding side facing primary living areas), and a defined minimum separation for balconies from side or rear boundaries of 6 metres.

## Design principles for dwelling orientation and outlook:

- Orientate living areas towards the front and rear of the site
- Minimum side setback of 6 metres for secluded private open spaces or primary living areas at upper floors directly facing a side or rear boundary (side-facing balconies strongly discouraged).

NOTE: This outcome could be varied if an existing apartment building (that is unlikely to be redeveloped) or non-residential zone abuts the proposal site and a considered design response addresses direct views and outlook.

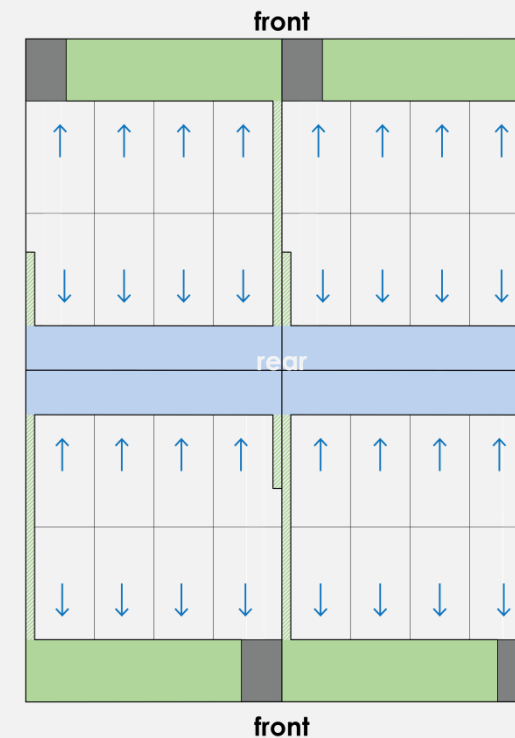
## What is the impact on design?

- Side-facing balconies are specifically discouraged unless ample spacing is provided to avoid developments borrowing amenity from adjoining site. Developments that may have previously been designed with multiple side facing dwellings would respond to the design control with a preference for front and rear facing orientations.
- The control reinforces other built form policy to encourage site consolidation. Built forms with side-facing dwellings will be more efficient when developing on larger consolidated sites
- The control reinforced other privacy, overlooking and amenity policy, by more effectively managing these issues through building design and setbacks, rather than relying on 'borrowed' amenity from adjoining lots or excessive use of screening.

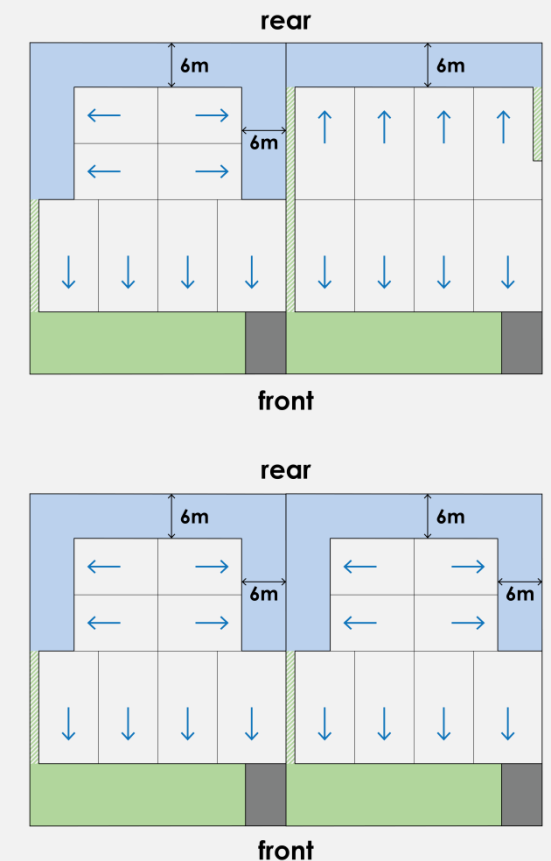
The following design test illustrates how development above ground floor that seeks to incorporate a side facing dwelling would respond to the control. The floor plate shows an indicative dwelling layout, with dimensions allowing a mix of one or two bedroom dwellings. Alternative layouts could be incorporated.

## Potential design responses

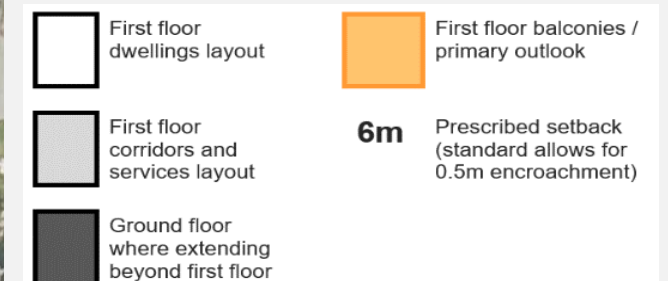
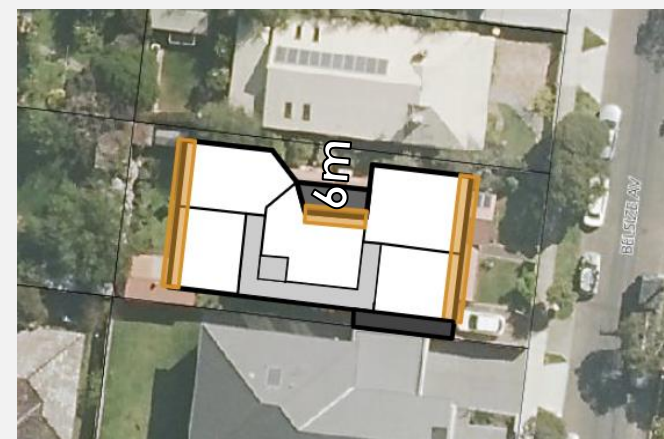
1. **Preferred outcome** with balconies facing front and rear of the site.



2. **Alternative outcome** with one or both lots having side-facing balconies. A minimum level of outlook and amenity continues to be achieved with 6 metre side setbacks NOTE: These diagrams plan show layouts for upper levels (not ground floor).



## Test site (single lot development with side-facing dwelling)



# C4.

**BUILT FORM  
TESTING**

# Overview

## Purpose

Built form design testing seeks to:

- Confirm practical implications of proposed built form character controls on the building envelope within a realistic development setting.
- Reinforce housing capacity and development viability testing.

It is envisioned that this design testing exercise will provide a general as well as a detailed assessment of the effectiveness of the proposed controls in comparison with existing development trends.

## What has been tested?

The design testing process reviews the impact of proposed built form controls on selected test sites, comparing built form outcomes based on:

- Current trends in the zone (without proposed new character guidance)
- Proposed changes to the zone (new precinct control recommendations)
- Likely outcomes in both single lot and consolidated site developments.

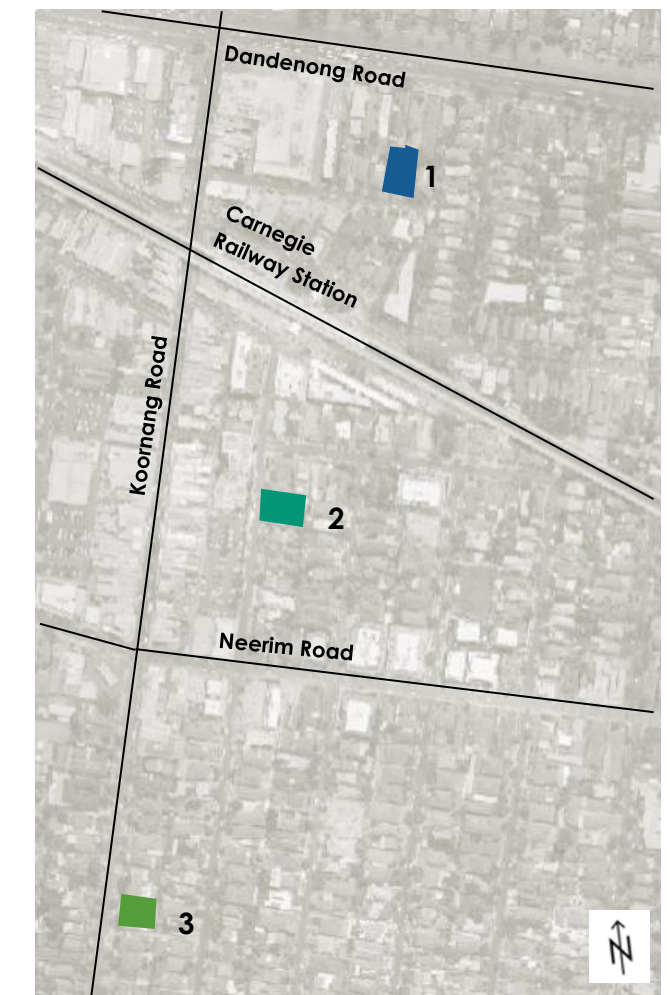
Sites have been selected at random and are representative of sites and contexts in which new development within each precinct may occur. Key sites have been tested in the areas proposed as RGZ4, RGZ3, GRZ5 (main road).

## Findings

The built form control testing found:

- Recommended local variations can achieve the key built form outcomes and design principles with limited impact on housing capacity and development viability.
- There is substantial provision for housing growth in Carnegie Activity Centre resulting from the overall structure plan directions across all commercial, mixed use and residential zones.
- Within the RGZ and GRZ, there is a similar capacity to existing zones, despite the imposition of local design variations that specifically respond to local character and context.

## Test sites



- 1 Residential Growth Zone 4**  
24-26 Arawatta Street, Carnegie  
(two lots, 1014 sqm)
- 2 Residential Growth Zone 3**  
2-4 Shepparson Ave, Carnegie  
(Two-lot, 1067 sqm site)
- 3 General Residential Zone 5**  
192-194 Koornang Road,  
Carnegie (Two-lot, 1074 sqm site)

### Context

#### **Built form controls will impact on development viability and housing capacity**

Substantial housing growth and change will need to occur in major activity centres in Glen Eira in order to respond to population forecasts, State policy directives and changing housing needs. Council's strategic directions contained in Structure Plans and its *City Plan: Activity Centre, Housing and Local Economy Strategy* provide clear directions that this growth must occur within a framework of ensuring that new development is also responsive to local character and context.

Proposed local variations to State standard built form controls and other local policy provisions are supported as the way to effectively manage growth in a positive and efficient manner, to ensure all objectives are achieved.

However, built form policy changes and local variations to standards will affect housing capacity. Development opportunity (ie: housing yield) may be affected if setbacks are increased or building heights are less than what might have been able to be approved without such policy guidance.

The proposed local variations outlined in section C3 have been tested to ensure development viability and housing capacity tests.

No built form testing was undertaken for Neighbourhood Residential Zone areas, as these will sit outside the boundaries of the activity centre, and are not subject to the Structure Plan directions.

#### **Development viability**

In 2017, Council commissioned the '*Peer Review of Glen Eira's Draft Quality Design Guidelines and Strategic and Urban Renewal Development Plans Analysis*' prepared by AECOM & HillPDA (Oct 2017).

The report tested and confirmed housing yield and financial viability for proposed built form controls using random test sites across Bentleigh, Carnegie and Elsternwick where structure planning was being prepared.

Since then, the proposed controls have been updated, with some elements less conservative than the original proposals in 2017 – meaning development viability should be improved.

#### **Housing capacity**

In 2018, Council commissioned SGS Economics and Planning to undertake a housing capacity assessment for Carnegie Activity Centre, based on the recommendations of the 2018 version of the structure plan.

Further amendments were made by Council to the Structure Plan in Feb 2020, and Council commissioned a further housing capacity assessment based on these updated structure plan recommendations.

These assessments took into account proposed rezonings recommended in the structure plan and the proposed local variations to heights and setbacks outlined in this Urban Form report to support its capacity testing.

The housing capacity assessment identified that there is similar capacity in GRZ & RGZ in Carnegie despite the height and setback local variations.

Overall capacity assessments for the whole activity centre, including commercial zones, are discussed in the main urban form report for Carnegie. They identify substantially increased capacity for housing growth following structure plan directions than when based on existing planning zones.

Built form controls testing reinforces the housing yield assumptions used in these reports.

# Residential Growth Zone (RGZ)

## Review of current trends in the Residential Growth Zone (RGZ)

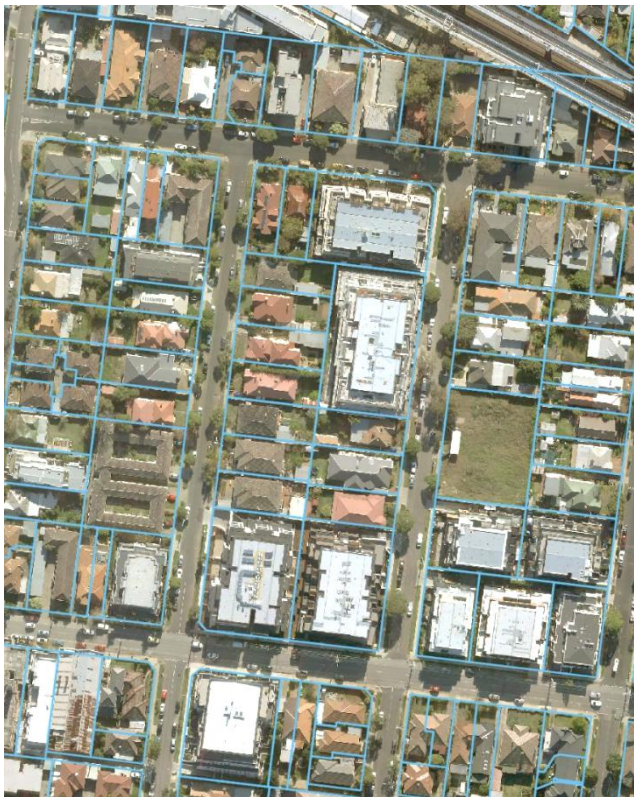
Council's experience is that proposals in the Residential Growth Zone tend to be buildings with high site coverage, limited setbacks and with a highly built-out appearance (tall fencing, limited landscaping opportunities). Key design issues are discussed in Appendix A (Existing Context Review and Analysis) of this report.

New developments adopt a contemporary architectural approach with geometric or 'box' styled rendered facades combined with timber, brick or stone feature elements.

The following permits were reviewed to understand the impact of the zone on built form outcomes and housing opportunity. Most selected permits are approved and constructed in Carnegie and Bentleigh Urban Villages, allowing for a review of permit outcomes and against

Permit	Property Address	Height	Site Area (SQM)	Dwellings	Density (Dwellings per hectare)
GE/PP-27023/2014	22-26 Bent Street BENTLEIGH	4	1876	41	219
GE/PP-27334/2014/A	14-18 Bent Street BENTLEIGH	4	1996	55	276
GE/PP-27935/2015	10-12 Bent Street BENTLEIGH	4	1345	35	260
GE/PP-26034/2013/B	15 Bent Street BENTLEIGH	4	846	19	225
GE/PP-27635/2015/A	23 Bent Street BENTLEIGH	4	1057	29	274
GE/PP-28566/2015/B	15-19 Vickery Street BENTLEIGH	4	2100	47	224
GE/PP-29007/2016	24-26 Vickery Street BENTLEIGH	4	1357	36	265
GE/PP-28916/2015	79-83 Mitchell Street BENTLEIGH	4	1785	41	230
GE/PP-27003/2014	29-33 Loranne Street BENTLEIGH	4	2088	42	201
GE/PP-27020/2014/D	24-26 Mavho Street BENTLEIGH	4	1376	28	203
GE/PP-27683/2015	40 Mavho Street BENTLEIGH	4	701	24	342
GE/PP-28182/2015	21-25 Nicholson Street BENTLEIGH	4	1871	44	235
GE/PP-29497/2016	37-39 Nicholson Street BENTLEIGH	4	1248	26	208
GE/PP-28180/2015	6-8 Blair Street BENTLEIGH	4	1492	35	235
GE/PP-27737/2015/A	110-114 Mimosa Road CARNEGIE	4	2462	50	203
GE/PP-29061/2016	90-94 Mimosa Road CARNEGIE	4	1753	41	234
GE/PP-28072/2015	9 & 9A Truganini Road CARNEGIE	4	920	20	217
GE/PP-26254/2013/A	21-25 Truganini Road CARNEGIE	4	1905	41	215
GE/PP-27552/2014	247-251 Neerim Road CARNEGIE	4	2072	48	232
GE/PP-26350/2013	259-261 Neerim Road CARNEGIE	4	1143	28	245
GE/PP-29702/2016	323 Neerim Road CARNEGIE	4	976	24	246
GE/PP-27300/2014	339-341 Neerim Road & 19-21 Belsize Avenue CARNEGIE	4	1605	35	218
GE/PP-29294/2016	322-326 Neerim Road & 17 Elliot Avenue CARNEGIE	4	1880	38	202
GE/PP-28186/2015	3-9 Elliott Avenue CARNEGIE	4	2208	41	186
AVERAGE			1586	36	233

The following imagery demonstrates the significant transformation of Carnegie's Residential Growth Zone areas in recent years (first image shows 2011 and the second shows 2018).



90 Mimosa Avenue



8 Elliott Avenue



7-11 Belsize Avenue



259-261 Neerim Road



316 Neerim Road



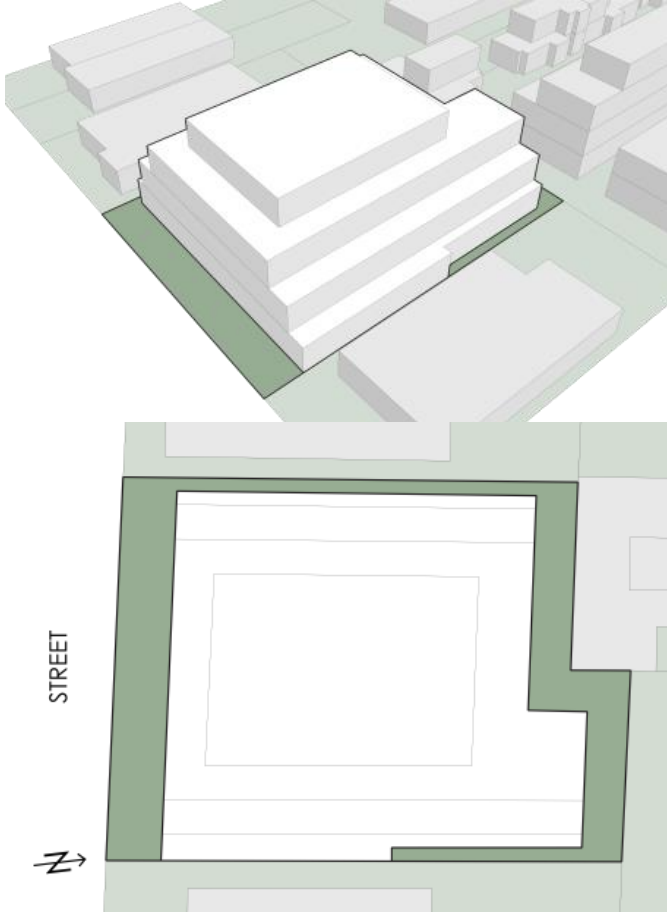
339-341 Neerim Road



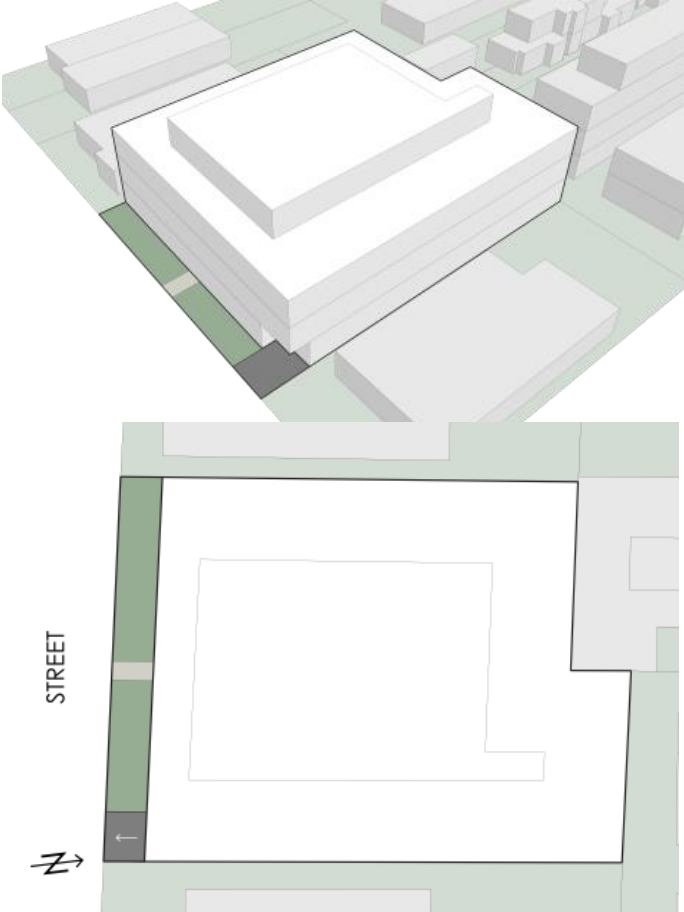
Test Site:
24-26 Arawatta Street, Carnegie

Scenario:
Current trends in the RGZ vs Proposed RGZ4 Controls

Two lot concept, current RGZ trends



Two-lot concept, proposed RGZ4 Controls



- Comments
- Built form responds to dense urban context near the proposed Urban Renewal Precinct and train station. The form reflects its commercial and mixed use built-to-boundary setting, albeit with a small setback to provide some landscaping in the residential context.
  - Greater housing yield than existing policy setting.

Two lot concept		
Address	24-26 Arawatta Street, Carnegie	
Area	1014 sqm	
Assumptions	Current RGZ Trends	Proposed controls
Height	4 storeys	4 storeys
Street setback	L1 – 4m	L1 – 3m
	L2 – 4m	L2 – 3m
	L3 – 4m	L3 – 3m
	L4 – 7m	L4 – 6m
Rear setback	L1 – 3m	L1 – 0m
	L2 – 3m	L2 – 0m
	L3 – 3m	L3 – 0m
	L4 – 7	L4 – 6m
Side setback	RESCODE	L1 – 0m
		L2 – 0m
		L3 – 0m
		L4 – 6m
SPOS	RESCODE	RESCODE
Parking Layout	Basement	Basement
Results		
Floor space in building envelope	L1 – 751sqm	L1 – 909 sqm
	L2 – 677 sqm	L2 – 916 sqm
	L3 – 533 sqm	L3 – 916 sqm
	L4 – 274 sqm	L4 – 354 sqm
	Total – 2235 sqm	Total – 3095 sqm
Dwelling Yield*	<b>22 Dwellings</b>	<b>31 Dwellings</b>
Density	<b>220 Dwellings per HA</b>	<b>305 Dwellings per HA</b>

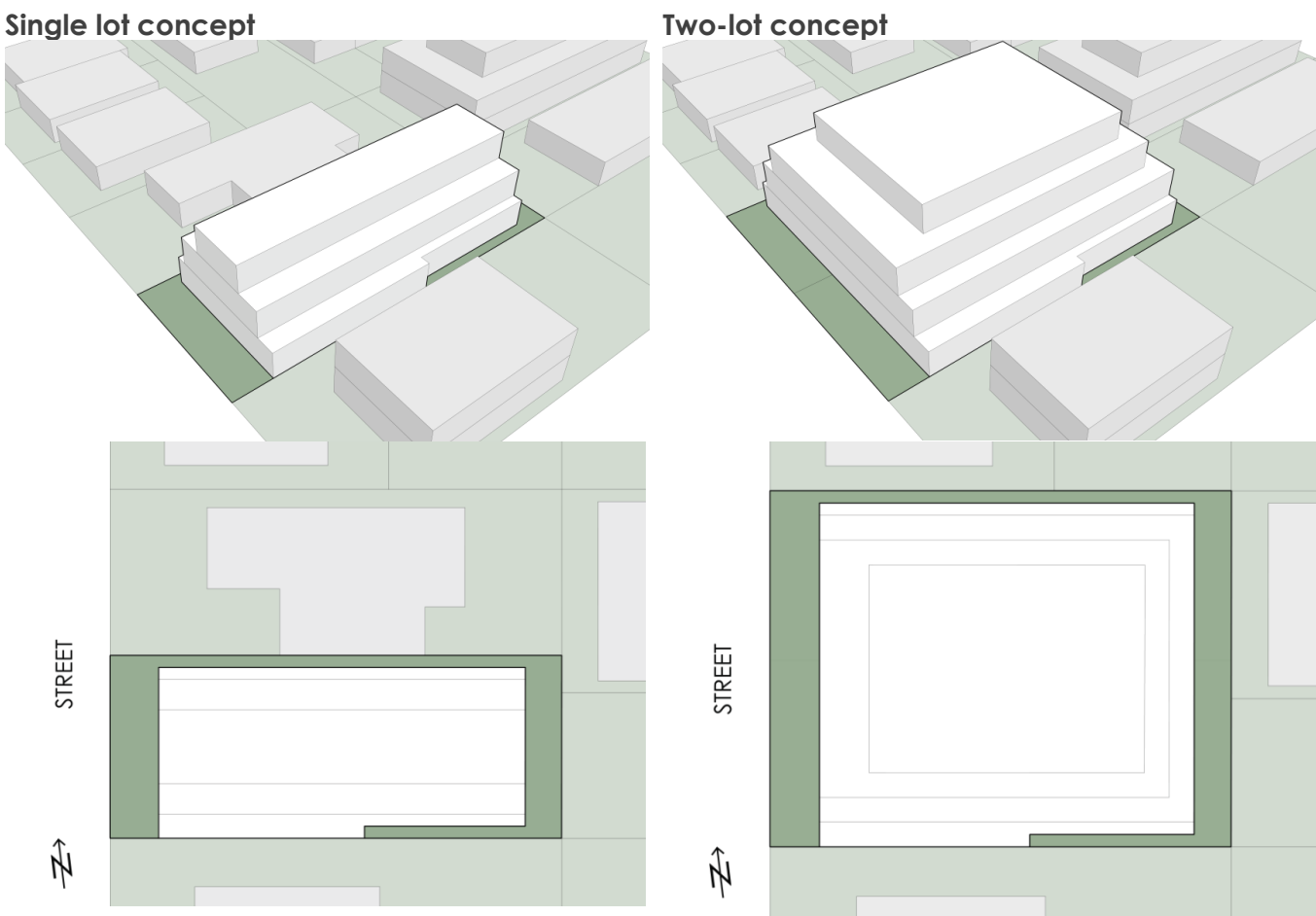
\* Dwelling yield assumes 75 sqm per dwelling and 75% development envelope efficiency. Development envelope efficiency accounts for 10% external building envelope reduction to meet other design requirements (building articulation, site coverage, overshadowing, north-facing windows, etc) and 15% reduction to account for internal non-dwelling areas (foyers, corridors, lifts, etc).

Test Site:

2-4 Shepparson Ave, Carnegie

Scenario 1:

Current trends in the RGZ



X

Key issues

- Limited front and rear setbacks and high site coverage (beyond the prescribed 60% requirement under current policy setting).
- Tall front fencing is required in the front setback for privacy, resulting in a highly developed form with limited greenery.

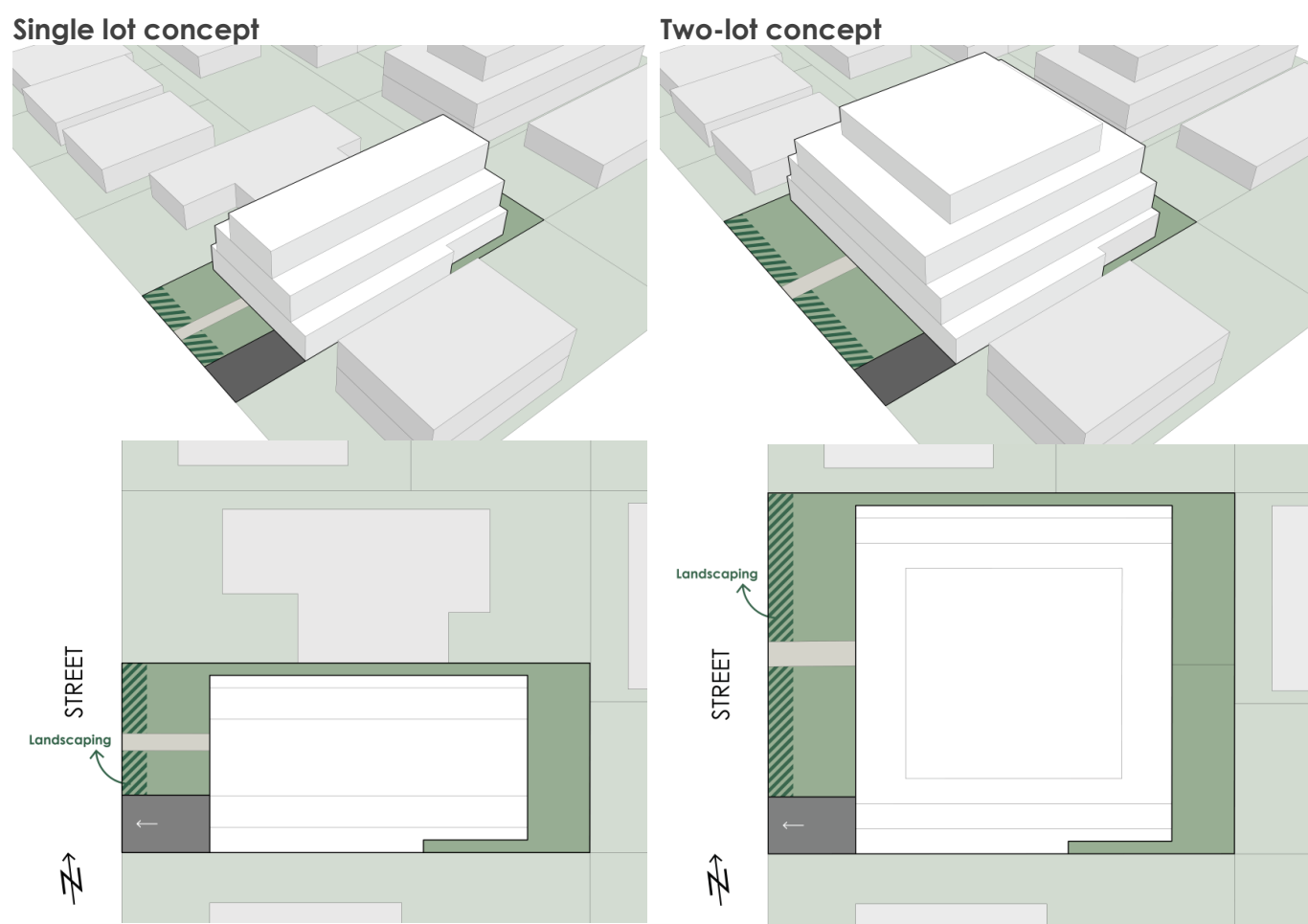
- Landscaping and greenery is not prioritised and the development has a limited response to existing garden character.
- Dwellings oriented to front, side and rear boundaries. High amounts of screening required on primary balconies to enforce overlooking requirements, which limits outlook/amenity for residents.

Test Site:

2-4 Shepparson Ave, Carnegie

Scenario 2:

Impact of proposed RGZ3 controls



✓

Comments

- Substantial setbacks at the front and rear enable well-landscaped garden corridors with quality planting and canopy trees that soften new built forms.
- Larger front setbacks enable an option for low front fencing at the site frontage or taller fencing setback behind a landscape buffer to integrate with garden character
- Dwellings oriented to front and rear boundaries.

- Relaxed upper floor setback enables greater development opportunity at upper levels, whilst still appearing recessive from the street.
- Three storey 'podium' frontage better aligns with current architectural trends and avoids a tiered 'wedding cake' built form.

Test Site:
2-4 Shepparson Ave, Carnegie

Scenario 1:
Current trends in the RGZ

	Single lot concept	Two lot concept
Address	4 Shepparson Avenue, Carnegie	2-4 Shepparson Avenue, Carnegie
Area	557 sqm	1067 sqm
Assumptions (all)		
Height	4 storeys	
Street setback	L1 – 4m	
	L2 – 4m	
	L3 – 4m	
	L4 – 7m	
Rear setback	L1 – 3m	
	L2 – 3m	
	L3 – 3m	
	L4 – 7	
Side setback	RESCODE	
SPOS	RESCODE	
Parking Layout	Basement	
Results		
Floorspace in building envelope	L1 – 413 sqm	L1 – 828 sqm
	L2 – 336 sqm	L2 – 751 sqm
	L3 – 184 sqm	L3 – 588sqm
	L4 – 0 sqm	L4 – 374 sqm
	Total – 933 sqm	Total – 2541 sqm
Dwelling Yield*	9 Dwellings	25 Dwellings
Density	168 Dwellings per HA	238 Dwellings per HA

\* Dwelling yield assumes 75 sqm per dwelling and 75% development envelope efficiency. Development envelope efficiency accounts for 10% external building envelope reduction to meet other design requirements (building articulation, site coverage, overshadowing, north-facing windows, etc) and 15% reduction to account for internal non-dwelling areas (foyers, corridors, lifts, etc).

Test Site:
2-4 Shepparson Ave, Carnegie

Scenario 2:
Impact of proposed RGZ3 controls

	Single lot concept	Two lot concept
Address	4 Shepparson Avenue, Carnegie	2-4 Shepparson Avenue, Carnegie
Area	557 sqm	1067 sqm
Assumptions (all)		
Height	4 storeys	
Street setback	L1 – 7m	
	L2 – 7m	
	L3 – 7m	
	L4 – 10m	
Rear setback	L1 – 5m	
	L2 – 5m	
	L3 – 5m	
	L4 – 8m	
Side setback	RESCODE	
SPOS	RESCODE	
Parking Layout	Basement	
Results		
Floor space in building envelope	L1 – 348 sqm	L1 – 694 sqm
	L2 – 280 sqm	L2 – 627 sqm
	L3 – 154 sqm	L3 – 525 sqm
	L4 – 0 sqm	L4 – 290 sqm
	Total – 782 sqm	Total – 3136 sqm
Dwelling Yield*	8 Dwellings	21 Dwellings
Density	140 Dwellings per HA	200 Dwellings per HA

\* Dwelling yield assumes 75 sqm per dwelling and 75% development envelope efficiency. Development envelope efficiency accounts for 10% external building envelope reduction to meet other design requirements (building articulation, site coverage, overshadowing, north-facing windows, etc) and 15% reduction to account for internal non-dwelling areas (foyers, corridors, lifts, etc).

## General Residential Zone (GRZ)

### Review of current trends in the General Residential Zone (GRZ)

The General Residential Zone is applied to land in areas where growth and housing diversity is anticipated in a way that is responsive to garden character. Council's experience has been that General Residential Zoned developments deliver limited housing diversity, with a focus on medium density apartment developments. Key design issues are discussed in Appendix A (Existing Context Review and Analysis) of this report.

The following permits were reviewed to understand the impact of the zone on built form outcomes and housing opportunity. Most selected permits are approved and constructed, allowing for a review of permit outcomes and against constructed developments.

Permit	Property Address	Height	Site Area (SQM)	Dwellings	Density (Dwellings per hectare)
GE/PP-28065/2015	29-31 Prince Edward Avenue MCKINNON	3	1450	19	131
GE/PP-26721/2014/A	289 Grange Road ORMOND	3	1040	17	163
GE/PP-27994/2015	24-26 Cadby Avenue ORMOND	3	1394	12	86
GE/PP-28065/2015	29-31 Prince Edward Avenue MCKINNON	3	1450	21	145
GE/PP-30199/2016	30-32 Prince Edward Avenue MCKINNON	3	1394	17	122
GE/PP-27839/2015	10-12 Station Avenue MCKINNON	3	1449	21	145
GE/PP-27463/2014	64-66 Bent Street MCKINNON	3 to 4	1524	31	203
GE/PP-23132/2010	61 Lees Street MCKINNON	3	1461	26	178
GE/PP-28020/2015	6-10 Claire Street MCKINNON	3	1744	36	206
GE/PP-24181/2011/A	127 - 129 Murray Street CAULFIELD	3	1350	28	207
GE/PP-25837/2013/C	93-97 Truganini Road CARNEGIE	3	1890	28	148
GE/PP-24624/2012	1044-1044A Glen Huntly Road CAULFIELD SOUTH	3	779	14	180
GE/PP-29903/2016	35 Kokaribb Road CARNEGIE	3	850	5	59
GE/PP-28183/2015	14 Vickery Street BENTLEIGH	3	834	10	120
GE/PP-27173/2014	85 Robert Street BENTLEIGH	3	595	10	168
GE/PP-29325/2016	9-13 St Georges Avenue BENTLEIGH EAST VIC	2	2016	15	74
GE/PP-23160/2010	276 Hawthorn Road CAULFIELD	3	686	10	146
GE/PP-25104/2012	286 Hawthorn Road CAULFIELD	3	696	13	187
GE/PP-26664/2014	288 Hawthorn Road CAULFIELD	3	697	10	143
GE/PP-23962/2011	290 Hawthorn Road CAULFIELD	3	696	10	144
GE/PP-28065/2015	29-31 Prince Edward Avenue MCKINNON	3	1450	19	131
AVERAGE			1199.75	17.65	148

343 Balaclava Road, Caulfield North  
32 dwellings



818 Glen Huntly Road, Caulfield VIC  
18 dwellings



460 Dandenong Rd, Caulfield North  
12 dwellings



91 McKinnon Road, McKinnon  
8 dwellings



130 Murrumbreen Road, Murrumbreena  
16 dwellings



30 Prince Edward Avenue, McKinnon  
17 Dwellings

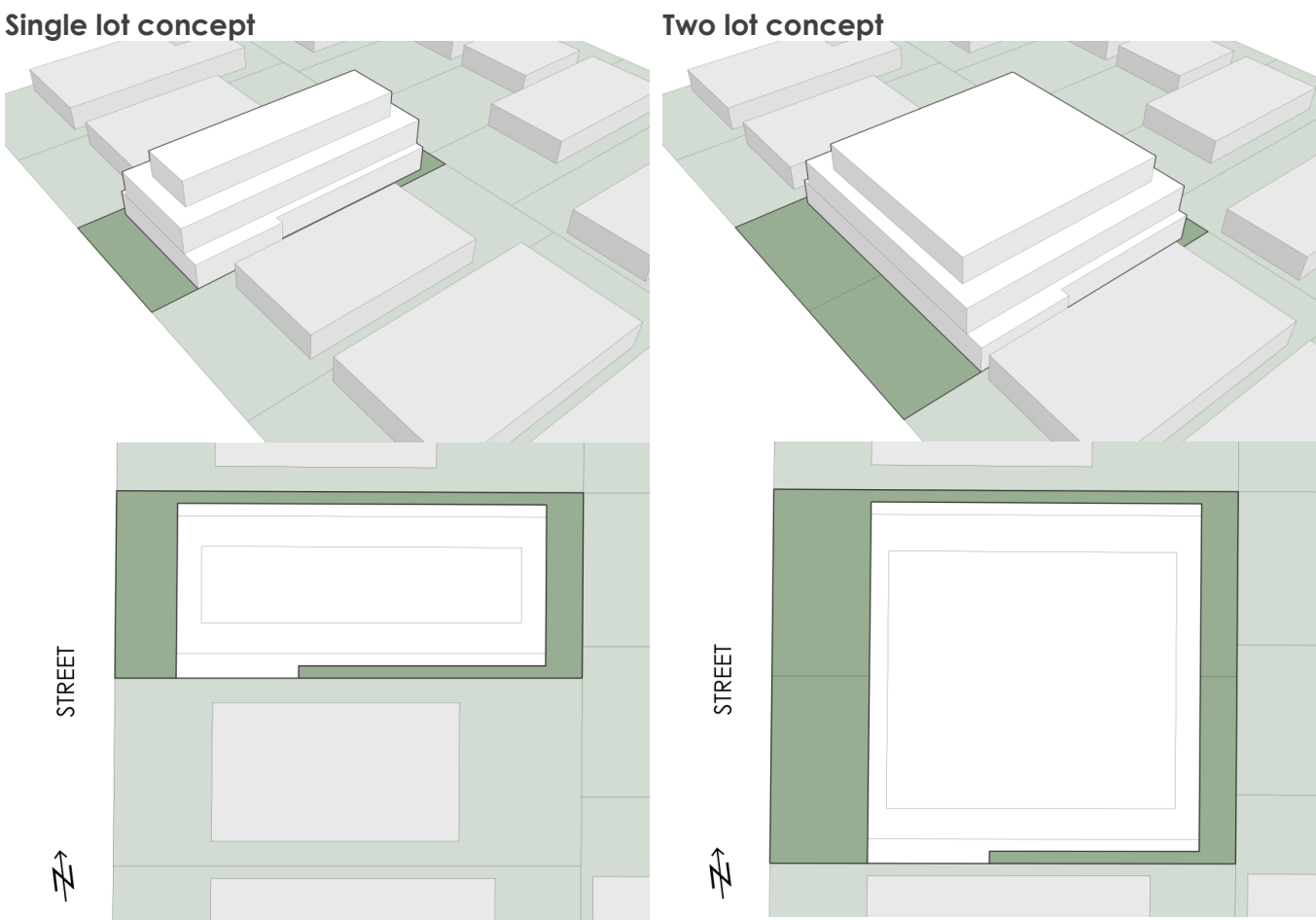


44 Lillimur Road, Ormond  
24 Dwellings



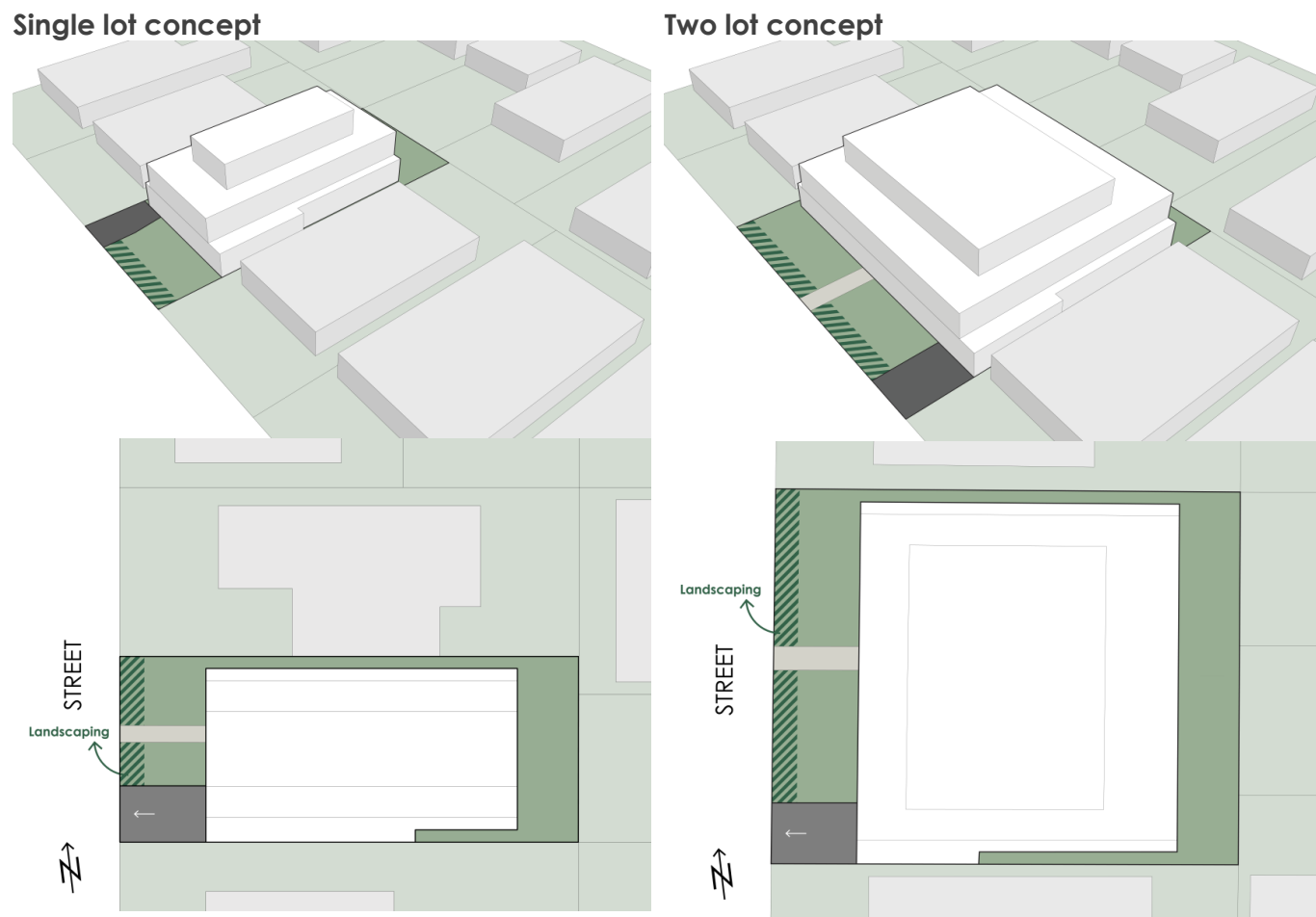
2 Graham Avenue, McKinnon  
22 Dwellings





X

Key issues	
<ul style="list-style-type: none"> <li>Limited front and rear setbacks and low contribution to established garden settings.</li> <li>Tall front fencing is required in the front setback for residential privacy, resulting in a highly developed form with limited greenery.</li> </ul>	<ul style="list-style-type: none"> <li>Landscaping and greenery is not prioritised and development has a limited response to existing garden character.</li> <li>Dwellings oriented to front, side and rear boundaries. High amounts of screening required on primary balconies to enforce overlooking requirements. Restricted outlook/amenity for residents.</li> </ul>



✓

Comments	
<ul style="list-style-type: none"> <li>Substantial setbacks at the front and rear enable well-landscaped garden corridors with quality planting and canopy trees that soften new built forms.</li> <li>Larger front setbacks enable an option for low front fencing at the site frontage or taller fencing setback behind a landscape buffer.</li> <li>Allowances for higher fencing should reflect main road location</li> </ul>	<ul style="list-style-type: none"> <li>Built forms contribute to a low scale (two-storey) streetscape character that reinforces existing character as the precinct transitions towards higher densities.</li> </ul>

Test site 3:
192-194 Koornang Road, Carnegie

Scenario 1:
Current trends in the GRZ

	Single lot concept	Two lot concept
Address	194 Koornang Rd, Carnegie	192-194 Koornang Rd, Carnegie
Area	579 sqm	1074 sqm
Assumptions (all)		
Height	3 storeys	
Street setback	L1 – 5m	
	L2 – 5m	
	L3 – 7m	
Rear setback	L1 – 3m	
	L2 – 3m	
	L3 – 5m	
Side setback	RESCODE	
SPOS	RESCODE	
Parking Layout	Basement	
Results		
Floor space in building envelope	L1 – 408 sqm	L1 – 785 sqm
	L2 – 337 sqm	L2 – 721 sqm
	L3 – 162 sqm	L3 – 498 sqm
	Total – 907 sqm	Total – 2004 sqm
Dwelling Yield*	8 Dwellings	19 Dwellings
Density	146 Dwellings per HA	174 Dwellings per HA

\* Dwelling yield assumes 75 sqm per dwelling and 70% development envelope efficiency. Development envelope efficiency accounts for 15% external building envelope reduction to meet other design requirements (building articulation, site coverage, garden area, overshadowing, north facing windows, etc) and 15% reduction to account for internal non-dwelling areas (foyers, corridors, lifts, etc).

Test site 3:
192-194 Koornang Road, Carnegie

Scenario 2:
Impact of proposed GRZ5 controls

	Single lot concept	Two lot concept
Address	194 Koornang Rd, Carnegie	192-194 Koornang Rd, Carnegie
Area	579 sqm	1074 sqm
Assumptions (all)		
Height	3 storeys	
Street setback	L1 – 7m	
	L2 – 7m	
	L3 – 11m	
Rear setback	L1 – 5m	
	L2 – 5m	
	L3 – 11m	
Side setback	RESCODE	
SPOS	RESCODE	
Parking Layout	Basement	
Results		
Floor space in building envelope	L1 – 328 sqm	L1 – 756sqm
	L2 – 270 sqm	L2 – 694 sqm
	L3 – 100 sqm	L3 – 348 sqm
	Total – 698 sqm	Total – 1798 sqm
Dwelling Yield*	7 Dwellings	17 Dwellings
Density	121 Dwellings per HA	167 Dwellings per HA

\* Dwelling yield assumes 75 sqm per dwelling and 75% development envelope efficiency. Development envelope efficiency accounts for 10% external building envelope reduction to meet other design requirements (building articulation, site coverage, garden area, overshadowing, north-facing windows, etc) and 15% reduction to account for internal non-dwelling areas (foyers, corridors, lifts, etc).

## Neighbourhood Residential Zone (NRZ)

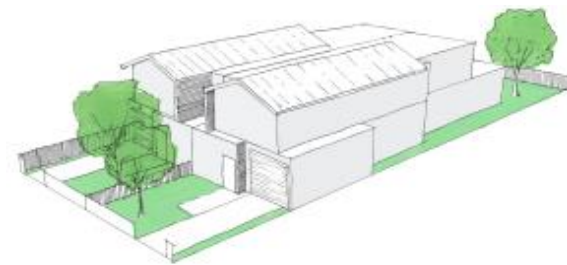
### Neighbourhood Residential Zone (NRZ) – built forms not tested

A large proportion of Glen Eira's residential land is located in the Neighbourhood Residential Zone, which is subject to the Minimal Change Area Policy (Clause 22.08 of the Glen Eira Planning Scheme).

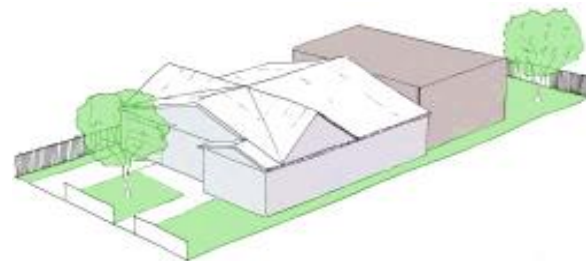
These areas support development up to two storeys in height that should respond to existing neighbourhood character elements.

Building setback recommendations for the Neighbourhood Residential Zone have not been tested on the basis that these typologies are currently present across a large proportion of Glen Eira and are commonly accepted as viable and achievable development outcomes within the existing policy setting.

The 'Peer Review of Glen Eira's Draft Quality Design Guidelines and Strategic and Urban Renewal Development Plans Analysis' prepared by AECOM and HillPDA (Oct. 2017) also confirmed this view.



A number of properties have been identified to change from the Residential Growth Zone or and General Residential Zone to the Neighbourhood Residential Zone. These will be implemented as revised schedules to the Neighbourhood Residential Zone.



A number of residential Heritage or Neighbourhood Character Overlay areas have been identified in Carnegie (existing and proposed). Where applicable, the zoning has been aligned to ensure places with a Heritage Overlay or Neighbourhood Character Overlay are reinforced with the Neighbourhood Residential Zone's land use and development controls.

