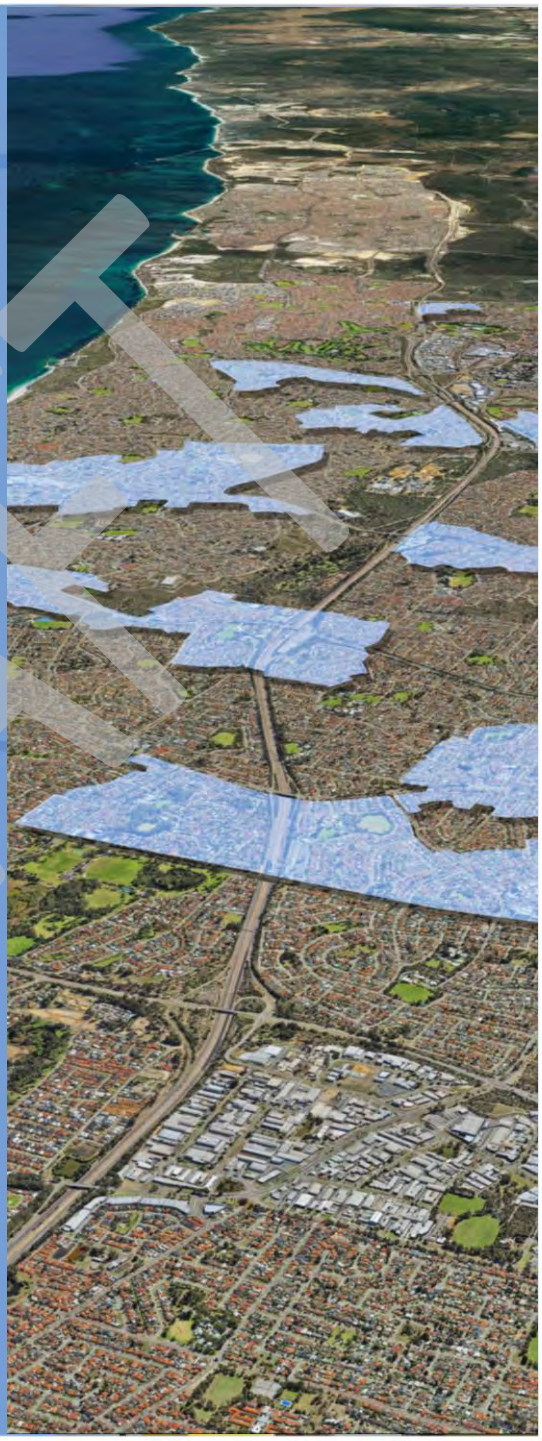
APPENDIX 1
ATTACHMENT 1

Joondalup Housing Opportunity Areas

BACKGROUND REVIEW AND ANALYSIS - KEY FINDINGS AND RECOMMENDATIONS REPORT



Prepared for **City of Joondalup**
Prepared by **Taylor Burrell Barnett**

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Joondalup HOA Summary and Recommendations Report

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Prepared By:
Taylor Burrell Barnett
Town Planning and Design

Level 7, 160 St Georges Terrace
PO Box 7130 Cloisters Square
PERTH WA 6850
Phone: 9226 4276
Fax: 9322 7879
admin@tbbplanning.com.au

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PART ONE
INTRODUCTION

1 INTRODUCTION

Taylor Burrell Barnett (TBB) has been engaged by the City of Joondalup (the City) to prepare a design led Local Planning Policy (LPP) and associated amendment to the City's *Local Planning Scheme No. 3* (LPS3) to better manage the impact of infill development within the ten Housing Opportunity Areas (HOAs) (refer Figure 1) in the City of Joondalup.

The development of the future planning framework will comprise of four key elements which are summarised and reported on in the following sections of this report.

1.1 EXTENSIVE COMMUNITY AND STAKEHOLDER ENGAGEMENT

Extensive community and stakeholder engagement has been undertaken, which builds upon previous engagement exercises associated with the City's *Local Housing Strategy* (LHS) and relevant Scheme Amendments.

1.2 BACKGROUND REVIEW AND ANALYSIS

a) the prevailing planning framework;
b) topography;
c) land use;
d) public transport;
e) walkable catchments;
f) proximity of parks and other community facility; and
g) lot typologies including street frontages and overall lot sizes.

1.3 LOCAL PLANNING POLICY

The design led LPP involves the development of a total of ten housing typologies including attached, grouped and multiple typologies which will be able to be applied to typical sized sites in Place Neighbourhoods (previously referred to as HOAs).

The LPP will aim to:

achieve a higher quality of urban infill;
prioritise design and amenity considerations;
better manage the impact of new development on the existing residents and streetscape;
consider the implications of the character and context of areas for higher density;
guide the scale, functionality and built form quality of new development;
guide distribution and location of grouped and multiple development in the context of the above considerations;
consider the City's current Residential Development Local Planning Policy and the primary controls; and
consider variations to the provisions within the Design WA suite of policies (SPP 7.3) which may require endorsement by the Western Australian Planning Commission (WAPC).

1.4 SCHEME AMENDMENT

The amendment to LPS3 is likely to consider the application of critical development standards and other matters which may require a stronger statutory basis arising from the research and testing of the various typologies and application in the context of the character of the areas suitable for higher density.

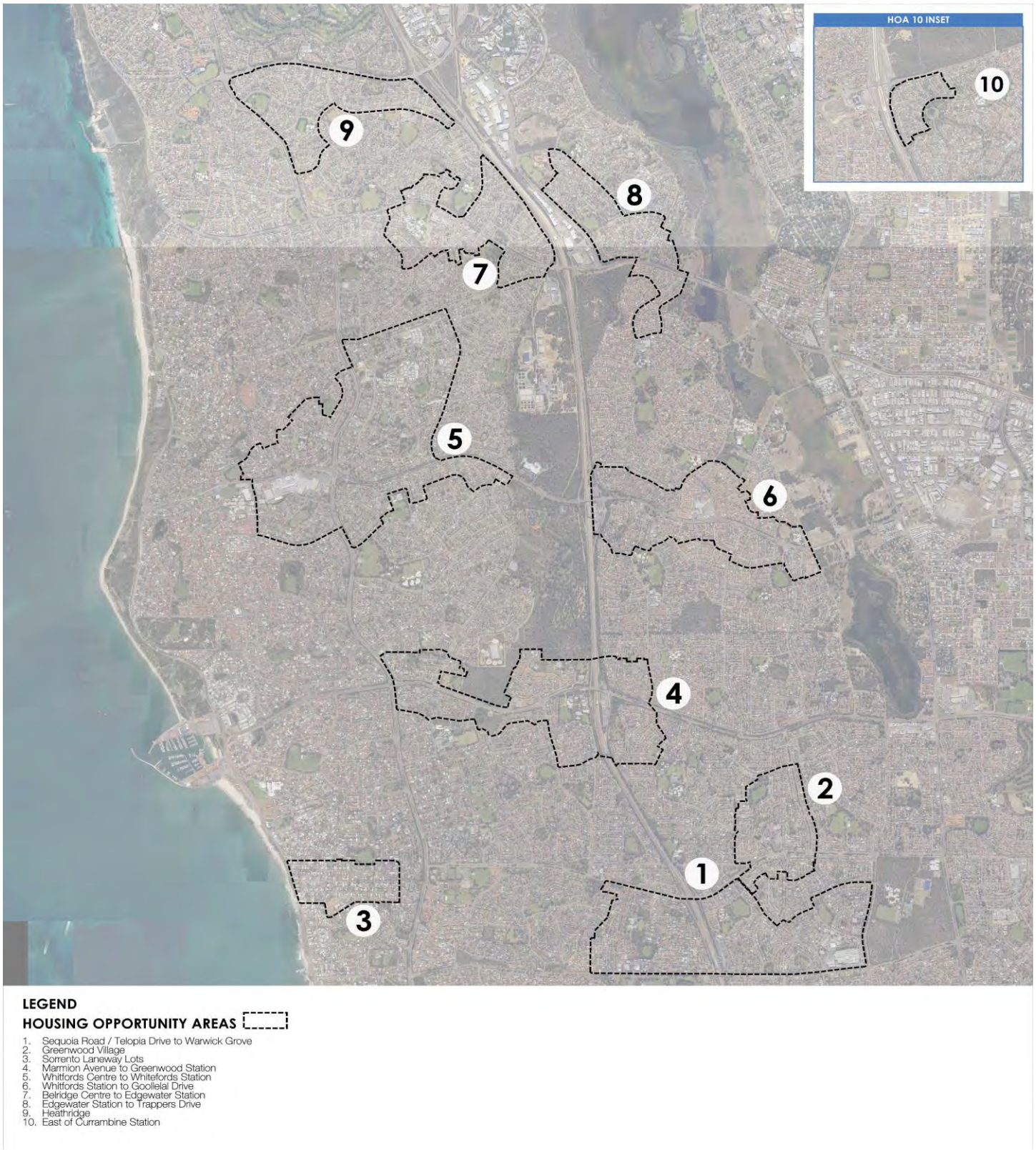


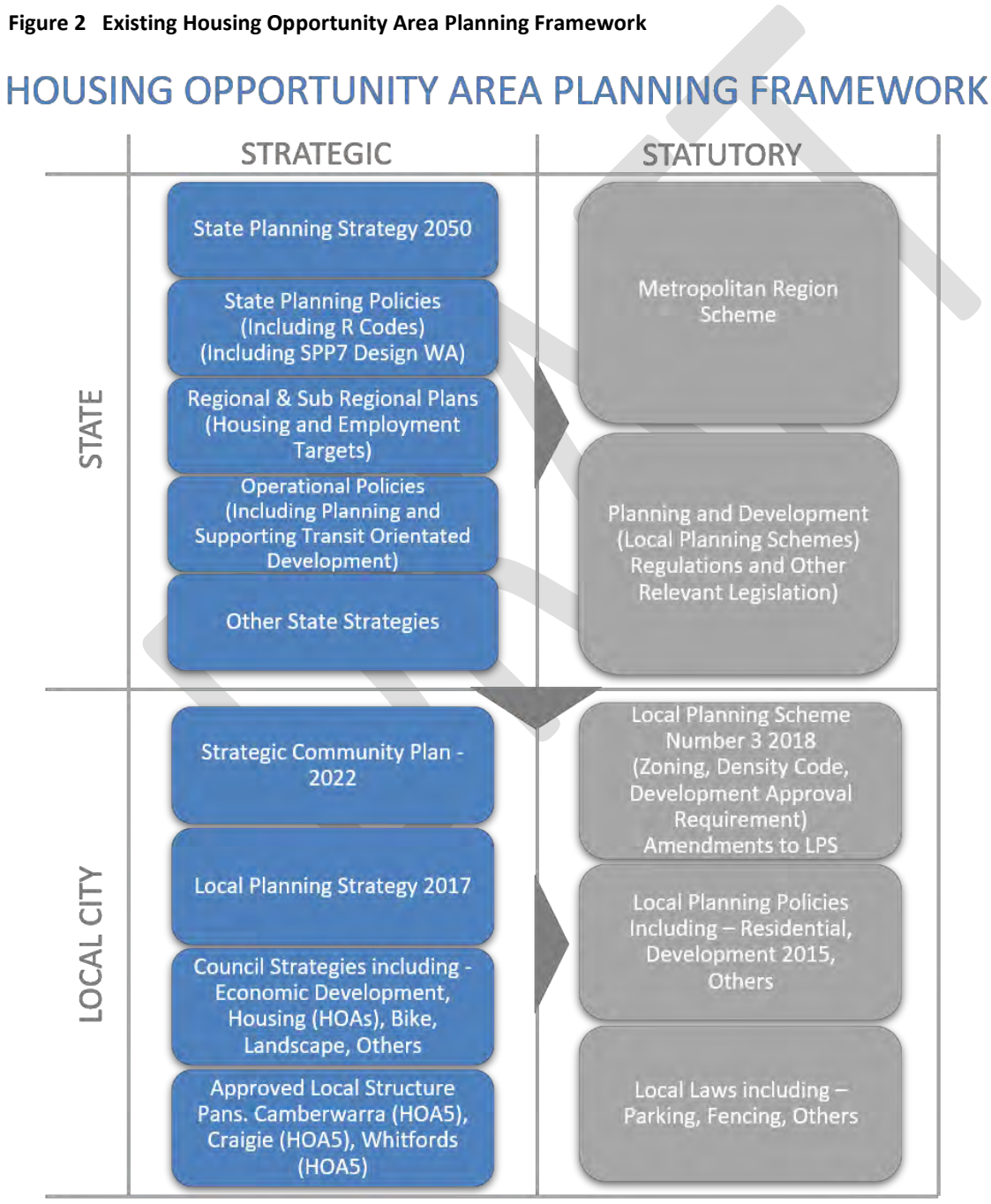
Figure 1 Existing Housing Opportunity Areas

2 CURRENT PLANNING FRAMEWORK SUMMARY

This section summarises the *Background Review and Analysis Report* (TBB 2018) which was prepared for the City of Joondalup as a preliminary stage of the review of the planning framework. This report documents the background to the City's HOAs, community engagement, the current strategic statutory planning framework and the purpose of the current policy review.

The diagram below (**Figure 2**) identifies the prevailing framework and the existing significant State and local strategic and statutory context for the new residential development policy.

Figure 2 Existing Housing Opportunity Area Planning Framework



2.1 STATE PLANNING FRAMEWORK REQUIREMENTS AND OPPORTUNITIES

2.1.1 REGIONAL AND SUB REGIONAL PLANS (PERTH AND PEEL @ 3.5 MILLION INFILL TARGETS)

The City is required by the WAPC to provide for infill development in accordance with the State Government's Perth and Peel @ 3.5 million Strategy. These infill targets, applied to all metropolitan local governments, are aimed at slowing the rate of green field expansion (urban sprawl) and consolidating the population and economic activity near areas of employment, public transport and services. The City has aligned its Local Planning Strategy (2017) and Local Housing Strategy (2013) with these targets as required.

2.1.2 STATE PLANNING AND OPERATIONAL POLICIES (R CODES AND DESIGN WA)

The existing State Planning Policy 3.1 *Residential Design Codes* (SPP 3.1) has limited flexibility, is generic in nature and does not respond to the complexities of development intensification in established low density areas. The Design WA suite of policies aim to create a built environment that reflects the distinctive characteristics of a local area, that enhances streetscapes and neighbourhoods and that contributes to the development of vibrant and liveable communities. SPP 3.1 becomes SPP 7.3 *R-Codes Volume 1* (SPP 7.3 Vol 1) retaining all content with the exception of Part 6; pew State Planning Policy 7.3: *Residential Design Codes Volume 2 – Apartments* (SPP 7.3 Vol 2) replaces the content of Part 6 of SPP 3.1 and focuses on improved design outcomes for apartments (multiple dwellings). Work on Design WA Stage 2, focussing on precinct design and medium density is already underway. This suite of policies will not only improve the built form outcome of higher density areas but will also allow Local Governments to make variations to further suit local circumstances and characteristics. The ten design principles of State Planning Policy 7.0: *Design of the Built Environment* (SPP 7.0) set out criteria against which design and built form outcomes can be measured:

1. **Context and Character**

   Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.

2. **Landscape Quality**

   Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.

3. **Built form and scale**

   Good design provides development with massing and height that is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.

4. **Functionality and build quality**

   Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.

5. **Sustainability**

Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.

6. **Amenity**

Good design provides successful places that offer a variety of uses and activities while optimising internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.

7. **Legibility**

Good design results in buildings and places that are legible, with clear connections and memorable elements to help people find their way around.

8. **Safety**

Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.

9. **Community**

Good design responds to local community needs as well as the wider social context, providing buildings and spaces that support a diverse range of people and facilitate social interaction.

10. **Aesthetics**

Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.

2.2 LOCAL PLANNING FRAMEWORK REQUIREMENTS AND OPPORTUNITIES

2.2.1 LOCAL PLANNING STRATEGY 2017

The City's Local Planning Strategy identifies ten HOAs that are considered areas suitable for increased residential densities.

Objectives relevant to the HOAs are:

- To provide additional and more diverse housing to cater for an ageing population and changing household structures.
- To develop attractive, successful commercial centres that are accessible and well-connected to residents.
- To achieve greater employment self-sufficiency.
- To ensure existing transport routes are used to their full capability by locating intensive land uses with significant trip generating potential in close proximity to those routes, and adjacent to railway stations.

2.2.2 LOCAL HOUSING STRATEGY 2013

The City identified the HOAs primarily using the criteria for identification proposed by the WAPC; proximity to centres, public transport nodes and major transport routes. Additional criteria were also used, including lots with laneway access and suburbs appropriate for redevelopment. The LHS also outlines features of each HOA, the basis for the HOA and future directions.

Since the LHS was endorsed by the State Government in late 2013, a number of events have occurred which now suggests that the LHS might need to be updated:

- 2016 census data;
- WA Tomorrow population forecast 2016-2031, published December 2018;
- feedback from the community and stakeholders as a result of this study;
- the staged release of the Design WA suite of built form controls and precinct planning policy which will shape the way density and diversity is to be provided within housing supply; and
- the requirements of the City to review infrastructure and service needs on an ongoing basis in accordance with population growth and distribution.

2.2.3 LOCAL PLANNING SCHEME NO. 3 2018

The density codes associated with the HOAs were embedded into the City's District Planning Scheme No. 2 (DPS2) through Scheme Amendment 73. The density codes were carried across into the City's new LSP3 upon its gazettal in October 2018.

There are currently no special control areas which apply to LPS3.

The City's LPS3 is silent on the purpose and objectives of the HOAs. There is potential and relevance in considering scheme amendment/s which will provide principles and/or objectives for areas of higher density and any specific provisions which can be justified over and above the normal development requirements and which need a statutory scheme basis.

An amendment will be required to the Scheme to establish a framework for the HOA's including specific principles and objectives and built form and development variations of SPP 7.3 Key considerations in amending LPS 3 may include but are not limited to the following:

Clause 26, R Code modification – matters to be considered

- Is the R40 density code still appropriate for lots with a land area of less than 1,000m2 within a commercial or mixed use zone?
- Is the R80 density code still appropriate for lots with a land area of 1,000m2 or more within a commercial or mixed used zone?
- Should a minimum lot size be required for development of multiple dwellings (2,000m2+) as proposed under Amendment 73, or is there a better way of controlling multiple dwelling outcomes?
- Is the 10m and 20m minimum frontage for single/grouped and multiple dwellings respectively still appropriate? Are there any additional controls that should be considered?

Special Control Areas

- Consider the merit of a special control area over areas of higher density.

Development Standards

- Any planning and development controls that the City would like to give statutory effect would require inclusion in LPS3. This could occur within a table or schedule similar to the Whitfords Activity Centre or within a special control area as discussed above.
- Table 8 of LPS3 (Site Specific Development Standards and Requirements) sets out requirements relating to development included in structure plans, activity centre plans and local development plans. This could be expanded to include development included within special control areas. Development standards and requirements for areas of higher density could be listed in Table 8. This approach is consistent with the Whitfords Activity Centre, Sorrento Activity Centre and Joondalup Activity Centre.

2.2.4 RESIDENTIAL DEVELOPMENT LOCAL PLANNING POLICY

The City's *Residential Development Local Planning Policy* (RDLPP) covers the whole of the City of Joondalup and is not specifically designed for the various HOAs. Specific provisions relate to the existing dual coded areas most of which are in the HOA locations. Consideration will be given to whether elements of the RDLPP are still applicable to areas of higher density and whether these elements should be extracted and included in the design led LPP or remain in the RDLPP and whether the RDLPP should apply to all other residential development with the City outside of the areas of higher density.

In addition, it is prudent to consider the merit of draft Multiple Dwellings within Portion of Housing Opportunity Area 1 Local Planning Policy and whether this LPP is still applicable or elements can be applied on a wider basis.

The below requirements of the existing RDLPP are considered the most relevant to development within the HOAs:

a) criteria for the development at the higher density code for dual-coded lots;
b) setbacks – street, side, garage and carports;
c) building height;
d) street surveillance;
e) landscaping; and
f) vehicle access and car parking

2.2.5 VARIATIONS TO STATE PLANNING POLICY 7.3 (VOLUMES 1 AND 2)

The feedback recorded from the survey, Listening Posts and Community Design Workshops has been vital in determining desirable design considerations for development in areas of higher density. In order to ensure appropriate development is achieved, some variations may be required to SPP 7.3 (Volumes 1 & 2).

The design and planning objectives and controls that are being investigated and may be varied within SPP 7.3 Vol 1:

- Street setback; lot boundary setback; open space; building height; setback of garages and carports; garage width; outdoor living areas; landscaping; parking; vehicular access; site works; visual privacy; solar access.

In terms of SPP 7.3 Vol 2, only specific provisions within the document's controls are permitted to be amended by local government:

- all of Part 2 – Primary Controls; and
- 3.3: Tree canopy and deep soil areas for R40 multiple dwelling proposals.

3 PHYSICAL ANALYSIS SUMMARY

This section summarises the key physical analyses undertaken to inform the HOA typology development and the design workshops with community and stakeholders. The following characteristics of each HOA were assessed:

- predominant lot sizes;
- lot widths;
- architectural character;
- landscape character (established trees);
- topographical considerations;
- street verge widths and landscaping;
- footpath network, street trees and lighting; and
- traffic considerations.

Table 1 illustrates the key characteristics of each HOA. In addition, a record of observations from site visits of each HOA undertaken by Gresley Abas is contained at **Appendix A**.

Table 1 - Key Characteristics of each HOA

HOA	Lot typologies/lot sizes	Lot Frontage/lot width	Public realm – Public Open Space, pathways, lighting and street trees	Other observations
HOA 1	• Diverse range of lot sizes (200m^2 - 2,000m^2) • Assorted locations • Predominant sizes of 600-1,000m^2 • 600-699m^2 (361 lots - 21%) • 700-799m^2 (842 lots - 49%) • 800-1,000m^2 (220 lots - 12%)	• Diverse range of lot frontage widths (8m-25m+) • Assorted locations • Predominant widths of 15-22.5m • 15-17.9m wide (126 lots - 8%) • 18-19.9m wide (337 lots - 20%) • 20-22.5m wide (544 lots - 33%)	**Duncraig** • Good pedestrian accessibility to public parks for active and passive recreation. • Pedestrian footpaths evident in most higher order streets. • Footpaths are in good to medium condition. • Public Access Way (PAW) connections located to majority of cul-de-sacs supporting pedestrian connectivity. • Dual Use Paths located at Warwick and Beach Roads and along Freeway Reserve. • Limited footpath locations in lower order streets. • Overhead lighting provided to majority of path locations – exception being path alignments in parks. • Street trees are evident in majority of streets and adjacent path alignments. • Street trees are dense in majority of streets. **Warwick** • Good pedestrian accessibility to public parks for active and passive recreation. • Pedestrian footpaths evident in majority of streets. • Footpaths are in good to medium condition. • PAW connections located to majority of cul-de-sacs supporting pedestrian connectivity. • Dual Use Paths located at Warwick, Beach and Erindale Roads. • Overhead lighting provided to majority of path locations – exception being path alignments in parks.	Amenity within HOA boundary: • Train Station with bus interchange. • Limited high frequency bus stops. • District Centre and Neighbourhood Centre. • Two primary schools. • Multiple parks (POS). Other: • Warwick Train Station platform pedestrian access limited by footpath alignments and car park design. • Pedestrian connectivity and safety to Warwick Grove Shopping Centre needs to be enhanced. • Large quantity of cul-de-sac roads.

HOA	Lot typologies/lot sizes	Lot Frontage/lot width	Public realm – Public Open Space, pathways, lighting and street trees	Other observations
			• Limited overhead lighting noted to footpaths close to the Warwick Train Station. • Street trees are evident in majority of streets and adjacent path alignments. • Street tree density is sparse in some locations.	
HOA 2	• Diverse range of lot sizes (200m^2 - 1,500m^2) • Assorted locations • Predominant sizes of 600-800m^2 • 600-699m^2 (357 lots - 50%) • 700-799m^2 (199 lots - 28%)	• Diverse range of lot frontage widths (8m-25m+) • Assorted locations • Predominant widths of 15-25m • 15-17.9m wide (56 lots - 8%) • 18-19.9m wide (191 lots - 27%) • 20-22.49m wide (219 lots - 31%) • 22.5-25 wide (44 lots - 6%)	**Greenwood - Warwick** • Good pedestrian accessibility to public park for active and passive recreation. • Pedestrian footpaths evident in majority of streets – but not all. • Footpaths are in good to medium condition. • Public accessway (PAW) connections located to majority of cul-de-sacs supporting pedestrian connectivity. • Dual use path connections to the west. • Overhead lighting provided to majority of path locations – exception being path alignments in parks and dual use path connections west of Blackall Reserve. • Street trees are evident in majority of streets and adjacent path alignments. • Street tree density is sparse in some locations.	Amenity within HOA boundary: • Limited high frequency bus stops. • Neighbourhood Centre. • Multiple parks (POS). Other: • One is close to HOA boundary and accessible from pedestrian pathways. • Relatively interconnected street network. • Limited cul-de-sacs. • Strong landscape character through tree examples along Allenswood Road and Warwick Road medians.
HOA 3	• Diverse range of lot sizes (200m^2 - 1,500m^2) • Predominantly 700-750m^2 (416 lots - 76%) • Ross Avenue and West Coast Hwy locations are mostly 800m^2 (43 lots - 7%)	• Diverse range of lot frontage widths (10m - 22.5m) • Predominantly 15m wide (330 lots - 65%) • HOA Perimeter lots 18m wide (35 lots - 7%)	**Sorrento - Marmion** • Good pedestrian accessibility to public park (Robin Reserve) for active and passive recreation. • Pedestrian footpaths evident in majority of streets – but not laneways. • Footpaths are in good to medium condition. • Overhead lighting provided to all path locations.	Amenity within HOA boundary: • Limited high frequency bus stops. Other: • HOA is uniquely laneway based. • Lanes are becoming stressed with construction and residential traffic. • Land topography is a high consideration for all development.

HOA	Lot typologies/lot sizes	Lot Frontage/lot width	Public realm – Public Open Space, pathways, lighting and street trees	Other observations
			• Street trees are evident in majority of streets and adjacent path alignments. • Street tree density is sparse in some locations.	• Majority of lanes do not have carriageway constructed at 6m width.
HOA 4	• Diverse range of lot sizes (200m^2 - 1,500m^2) • Assorted locations • Predominant sizes of 500-1,000m^2 • 500-599m^2 (123 lots - 8%) ~ Hepburn Heights pocket • 600-699m^2 (541 lots - 36%) • 700-799m^2 (473 lots - 31%) • 800-1,000m^2 (129 lots - 8%)	• Diverse range of lot frontage widths (8m-25m+) • Assorted locations • Predominant widths of 15-25m • 15-17.9m wide (244 lots - 16.5%) • 18-19.9m wide (365 lots - 25%) • 20-22.49m wide (291 lots - 20%) • 22.5-25 wide (114 lots - 8%)	**Padbury** • Good pedestrian accessibility to schools, public parks and conservation areas for active and passive recreation. • Pedestrian footpaths evident in most higher order streets. • Footpaths are in good to medium condition. • PAW connections located to majority of cul-de-sacs supporting pedestrian connectivity. • Dual Use Paths located at Hepburn Ave. • Limited footpath locations in lower order streets. • Overhead lighting provided to majority of path locations – exception being path alignments in parks and conservation area. • Street trees are evident in majority of streets and adjacent path alignments. • Street tree density is sparse in some locations. **Duncraig** • Good pedestrian accessibility to schools, shops and to public parks for active and passive recreation. • Pedestrian footpaths evident in majority of streets. • Footpaths are in good to medium condition. • PAW connections located to majority of cul-de-sacs supporting pedestrian connectivity • Dual use paths located at Hepburn Ave.	Amenity within HOA boundary: • Train Station - no bus interchange. • High frequency bus stops – no interaction with adjacent train station. • Local Centre. • One private school. • Multiple parks (POS). Other: • Two schools are adjoining HOA boundary and accessible from pedestrian pathways. • Strong landscape character through tree examples along Hepburn Ave and Freeway reservations as well as large Hepburn Heights conservation area. • Greenwood Train Station platform pedestrian access limited by footpath alignments and car park design. • Large quantity of cul-de-sac roads.

HOA	Lot typologies/lot sizes	Lot Frontage/lot width	Public realm – Public Open Space, pathways, lighting and street trees	Other observations
			• Overhead lighting provided to majority of path locations – exception being path alignments in parks. • Street trees are evident in majority of streets and adjacent path alignments. • Street trees are dense in majority of streets. **Kingsley** • Good pedestrian accessibility to public park for active and passive recreation. • Pedestrian footpaths evident in most higher order streets. • Footpaths are in good to medium condition. • Dual use paths located at Hepburn Ave and along Freeway Reserve. • Limited footpath locations in lower order streets. • Overhead lighting provided to majority of path locations. • Street trees are evident in majority of streets and adjacent path alignments. • Street trees are dense in majority of streets. **Greenwood** • Good pedestrian accessibility to public park for active and passive recreation. • Pedestrian footpaths evident in most higher order streets. • Footpaths are in good to medium condition. • Dual use paths located at Hepburn Ave and access to Greenwood Station. • Limited footpath locations in lower order streets. • Overhead lighting provided to majority of path locations.	

HOA	Lot typologies/lot sizes	Lot Frontage/lot width	Public realm – Public Open Space, pathways, lighting and street trees	Other observations
			• Street trees are evident in majority of streets and adjacent path alignments. • Street tree density is sparse in some locations.	
HOA 5	• Diverse range of lot sizes (200m^2 - 2,000m^2) • Assorted locations • Predominant sizes of 600-1,000m^2 • 600-699m^2 (1267 lots - 42%) • 700-799m^2 (775 lots - 26%) • 800-1,000m^2 (298 lots - 10%) • Note: This HOA contains 353 existing lots below 499m^2 (12%)	• Diverse range of lot frontage widths (8m-25m+) • Assorted locations • Predominant widths of 15-25m • 15-17.9m wide (228 lots - 8%) • 18-19.9m wide (1011 lots - 36%) • 20-22.49m wide (508 lots - 18%) • 22.5-25 wide (144 lots - 5%)	**Kallaroo** • Good pedestrian accessibility to schools and public parks for active and passive recreation. • Pedestrian footpaths evident in most higher order streets. • Footpaths are in good to medium condition. • PAW connections located to majority of cul-de-sacs supporting pedestrian connectivity. • Dual use paths located at Whitfords Ave. • Limited footpath locations in lower order streets. • Overhead lighting provided to majority of path locations – exception being path alignments in parks and conservation area. • Street trees are evident in majority of streets and adjacent path alignments. • Street tree density is sparse in some locations. **Hillarys** • Good pedestrian accessibility to schools, shops and to public parks for active and passive recreation. • Pedestrian footpaths evident in majority of streets. • Footpaths are in good to medium condition. • PAW connections located to majority of cul-de-sacs supporting pedestrian connectivity. • Dual use paths located at Whitfords Avenue.	Amenity within HOA boundary: • Limited high frequency bus stops. • District Centre and Neighbourhood Centre. • Two primary schools. • Multiple parks (POS). Other: • One primary school is adjoining HOA boundary and accessible from pedestrian pathways. • Managed pedestrian connectivity to Westfield Whitford City Shopping Centre. • Large quantity of cul-de-sac roads in the Northshore Estate, no footpaths, topographic changes and dense street trees. • high frequency bus options interact with the Whitfords station to the east along Whitfords Avenue.

HOA	Lot typologies/lot sizes	Lot Frontage/lot width	Public realm – Public Open Space, pathways, lighting and street trees	Other observations
			• Overhead lighting provided to majority of path locations. • Street trees are evident in majority of streets and adjacent path alignments. • Street trees are dense in majority of streets. **Padbury** • Good pedestrian accessibility to public park for active and passive recreation. • Pedestrian footpaths evident in majority of streets. • Footpaths are in good to medium condition. • PAW connections located to majority of cul-de-sacs supporting pedestrian connectivity. • Dual use paths located at Whitfords Avenue. • Overhead lighting provided to majority of path locations. • Street trees are evident in majority of streets and adjacent path alignments. • Street trees are dense in majority of streets. **Craigie** • Good pedestrian accessibility to public parks, school ovals and conservation area for active and passive recreation. • Pedestrian footpaths evident in majority of streets. • Footpaths are in good to medium condition. • PAW connections located to majority of cul-de-sacs supporting pedestrian connectivity. • Dual use paths located at Whitfords Avenue and Craigie Drive. • Overhead lighting provided to majority of path locations.	

HOA	Lot typologies/lot sizes	Lot Frontage/lot width	Public realm – Public Open Space, pathways, lighting and street trees	Other observations
			• Street trees are evident in majority of streets and adjacent path alignments. • Street tree density is sparse in some locations.	
HOA 6	• Diverse range of lot sizes (200m^2-1,500m^2). • Assorted locations • Predominant sizes of 400-1000m^2 • 400-499m^2 (111 lots - 8%) • 500-599m^2 (85 lots - 6%) • 600-699m^2 (333 lots - 24%) • 700-799m^2 (515 lots - 38%) • 800-1,000m^2 (141 lots - 10%)	• Diverse range of lot frontage widths (8m-25m+) • Assorted locations • Predominant widths of 15-25m • 15-17.9m wide (190 lots - 14%) • 18-19.9m wide (228 lots - 17%) • 20-22.49m wide (320 lots - 24%) • 22.5-25 wide (106 lots - 8%)	**Woodvale** • Limited pedestrian accessibility to public parks for western area, improved access for eastern area. • Pedestrian footpaths evident in most higher order streets. • Footpaths are in good to medium condition. • PAW connections located to majority of cul-de-sacs supporting pedestrian connectivity. • Dual use paths located at Whitfords Avenue. • Limited footpath locations in lower order streets. • Overhead lighting provided to majority of path locations. • Street trees are evident in majority of streets and adjacent path alignments. • Street tree density is sparse in some locations, but generally dense in majority of streets. **Kingsley** • Good pedestrian accessibility to public parks for active and passive recreation. • Pedestrian footpaths evident in most higher order streets. • Footpaths are in good to medium condition. • PAW connections located to majority of cul-de-sacs supporting pedestrian connectivity. • Dual use paths located at Whitfords Avenue.	Amenity within HOA boundary: • Train Station with bus interchange. • High frequency bus stops. • Neighbourhood Centre. • Multiple parks (POS). Other: • Two primary schools are adjoining HOA boundary and accessible from pedestrian pathways. • Pedestrian connectivity and safety to Woodvale Neighbourhood Centre is compromised to the west by Timberside Villas Retirement Village • Whitfords Train Station platform pedestrian access is limited by footpath alignments and car park design – particularly from Kingsley. • Bus interchange located at Whitfords Train Station.

HOA	Lot typologies/lot sizes	Lot Frontage/lot width	Public realm – Public Open Space, pathways, lighting and street trees	Other observations
			• Limited footpath locations in lower order streets. • Overhead lighting provided to majority of path locations. • Street trees are evident in majority of streets and adjacent path alignments. • Street tree density is sparse in some locations, but generally dense in majority of streets.	
HOA 7	• Diverse range of lot sizes (200m^2-1,500m^2) • Assorted locations • Predominant sizes of 600-1000m^2 • 600-699m^2 (311 lots - 31%) • 700-799m^2 (466 lots - 47%) • 800-1,000m^2 (114 lots - 11%)	• Diverse range of lot frontage widths (8m-25m+) • Assorted locations • Predominant widths of 15-25m • 15-17.9m wide (140 lots - 14%) • 18-19.9m wide (187 lots - 19%) • 20-22.49m wide (201 lots - 21%) • 22.5-25 wide (88 lots - 9%)	**Heathridge** • Good pedestrian accessibility to public parks for active and passive recreation. • Pedestrian footpaths evident in most higher order streets. • Footpaths are in good to medium condition. • PAW connections located to majority of cul-de-sacs supporting pedestrian connectivity. • Dual use paths located at Ocean Reef Road and Eddystone Ave. • Limited footpath locations in lower order streets. • Overhead lighting provided to majority of path locations – but not all. • Street trees are evident in majority of streets and adjacent path alignments. • Street tree density is sparse in some locations, particularly adjacent some pathway locations. **Beldon** • Good pedestrian accessibility to public parks for active and passive recreation. • Pedestrian footpaths evident in most higher order streets. • Footpaths are in good to medium condition.	Amenity within HOA boundary: • Train Station – no bus interchange. • Limited high frequency bus stops – no interaction with adjacent train station. • Neighbourhood Centre. • One secondary college. • Multiple parks (POS). Other: • One primary school is adjoining HOA boundary and accessible from pedestrian pathways. • Includes the Belridge Shopping Centre and the Belridge Secondary College. • No bus service to the Edgewater station – buses interact with the Whitfords station to the south. • Ability to walk to the train station.

HOA	Lot typologies/lot sizes	Lot Frontage/lot width	Public realm – Public Open Space, pathways, lighting and street trees	Other observations
			• PAW connections located to some cul-de-sacs supporting pedestrian connectivity. • Dual use paths located at Whitfords Avenue. • Limited footpath locations in lower order streets. • Overhead lighting provided to majority of path locations. • Street trees are evident in majority of streets and adjacent path alignments. • Street tree density is sparse in some locations, particularly adjacent some pathway locations.	
HOA 8	• Diverse range of lot sizes (200m^2-1,500m^2) • Assorted locations • Predominant sizes of 600-800m^2 • 600-699m^2 (296 lots - 33%) • 700-799m^2 (422 lots - 47%) • 800-1,000m^2 (91 lots - 10%)	• Diverse range of lot frontage widths (8m-25m+) • Assorted locations • Predominant widths of 15-25m • 15-17.9m wide (120 lots - 14%) • 18-19.9m wide (139 lots - 16%) • 20-22.49m wide (229 lots - 26%) • 22.5-25 wide (92 lots - 10%)	**Edgewater** • Good pedestrian accessibility to public parks for active and passive recreation. • Pedestrian footpaths evident in most higher order streets. • Footpaths are in good to medium condition. • PAW connections located to some cul-de-sacs supporting pedestrian connectivity. • Dual use paths located at Joondalup Drive (poor condition) and Ocean Reef Road. • Limited footpath locations in lower order streets. • Overhead lighting provided to majority of path locations – exception being path alignments in parks. • Street trees are evident in majority of streets and adjacent path alignments. • Street tree density is sparse in some locations. **Woodvale**	Amenity within HOA boundary: • Train Station – no bus interchange. • Limited high frequency bus stops – no interaction with adjacent train station. • Local Centre. • Multiple parks (POS). Other: • One private school is adjoining HOA northern boundary and accessible from pedestrian pathways. • One Neighbourhood Centre is adjoining HOA southern boundary and accessible from pedestrian pathways. • Edgewater was originally the subject of environmental covenants limiting certain development intensity. • Edgewater largely a cul-de-sac development pattern, consider street functionality, intersection capabilities at the two entry/exit points for the suburb.

HOA	Lot typologies/lot sizes	Lot Frontage/lot width	Public realm – Public Open Space, pathways, lighting and street trees	Other observations
			• Good pedestrian accessibility to public parks for passive recreation. • Pedestrian footpaths evident in most higher order streets. • Footpaths are in good to medium condition. • Dual use paths located at Ocean Reef Road. • Limited footpath locations in lower order streets. • Overhead lighting provided to majority of path locations. • Street trees are evident in majority of streets. • Street tree density is sparse in some locations, particularly adjacent some pathway locations.	• Edgewater has a local centre only. • No bus service to the Edgewater station – buses interact with the Whitfords station to the south. • Walking to the train station is not easy, multiple traffic lanes of Edgewater Drive and the commercial development between the station. Edgewater safety concerns with limited lighting in this vicinity.
HOA 9	• Diverse range of lot sizes (200m^2-1,500m^2) • Assorted locations • Predominant sizes of 600-1,000m^2 • 600-699m^2 (179 lots - 18%) • 700-799m^2 (544 lots - 54%) • 800-1,000m^2 (172 lots - 17%)	• Diverse range of lot frontage widths (8m-25m+) • Assorted locations • Predominant widths of 15-25m • 15-17.9m wide (105 lots - 10%) • 18-19.9m wide (227 lots - 23%) • 20-22.49m wide (237 lots - 24%) • 22.5-25 wide (87 lots - 9%)	**Heathridge** • Good pedestrian accessibility to public parks for active and passive recreation. • Pedestrian footpaths evident in majority of streets. • Footpaths are in good to medium condition. • PAW connections located to some cul-de-sacs and other desirable locations supporting pedestrian connectivity. • Dual use paths located at Marmion Avenue (poor condition) and Hodges Drive. • Overhead lighting provided to majority of path locations – exception being path alignments in parks. • Street trees are evident in majority of streets. • Street tree density is sparse in some locations, particularly adjacent some pathway locations.	Amenity within HOA boundary: • Limited high frequency bus stops. • One primary school. • Multiple parks (POS). Other: • One primary school is adjoining HOA northern boundary and accessible from pedestrian pathways. • One Neighbourhood Centre is adjoining HOA southern boundary and accessible from pedestrian pathways.

HOA	Lot typologies/lot sizes	Lot Frontage/lot width	Public realm – Public Open Space, pathways, lighting and street trees	Other observations
HOA 10	• Diverse range of lot sizes (200m^2-1,500m^2) • Assorted locations • Predominant sizes of 600-1,000m^2 • 600-699m^2 (102 lots - 32%) • 700-799m^2 (109 lots - 34%) • 800-1,000m^2 (40 lots - 12%)	• Diverse range of lot frontage widths (10m-25m+) • Assorted locations • Predominant widths of 15-25m • 15-17.9m wide (30 lots - 10%) • 18-19.9m wide (74 lots - 29%) • 20-22.49m wide (70 lots - 25%) • 22.5-25m wide (16 lots - 5%)	**Currambine** • Good pedestrian accessibility to public park for active and passive recreation. • Pedestrian footpaths evident in two streets only. • Footpaths are in good to medium condition. • PAW connections located to some cul-de-sacs and other desirable locations supporting pedestrian connectivity to station. • Dual use paths located at Bonneville Way, Yellowstone Way and Burns Beach Road. • No footpath locations in lower order streets. • Overhead lighting provided to majority of path locations. • Street trees are evident in majority of streets. • Street tree density is sparse in some locations, particularly adjacent pathway locations.	Amenity within HOA boundary: • Train Station – no bus interchange. • Limited high frequency bus stops. Other: • Local Streets are used by public as all day parking for nearby Currambine train station. • Topographic considerations for future development.

4 COMMUNITY AND STAKEHOLDER ENGAGEMENT SUMMARY

As part of this study an extensive community and stakeholder engagement process has been undertaken including a survey, five Listening Posts, an industry forum, numerous stakeholder interviews and five Community Design Workshops. The findings of these activities are detailed and summarised in the Consultation Report prepared by Creating Communities for the City in January 2019. This section provides a precis of the findings of the engagement analysis.

The engagement process aimed to:

- inform people about the planning process;
- inform people of key policy settings and parameters for planning within areas of higher density;
- invite and involve those that want to have input into planning for the new planning framework;
- obtain sufficient feedback and input that will help inform the planning and the development of a new planning framework;
- build knowledge on current urban planning and design opportunities and constraints for the areas of higher density;
- build knowledge on the economics of land development within the City;
- Build interest around the project; and
- achieve greater understanding and acceptance of Council and State Government decision-making by members of the community.

The survey, Listening Posts and stakeholder interviews focussed on the following topics:

- housing and built form;
- getting around – i.e. transport infrastructure and services;
- open and green spaces;
- access to community facilities and services; and
- access to activity centres.

4.1 SURVEY OUTCOMES

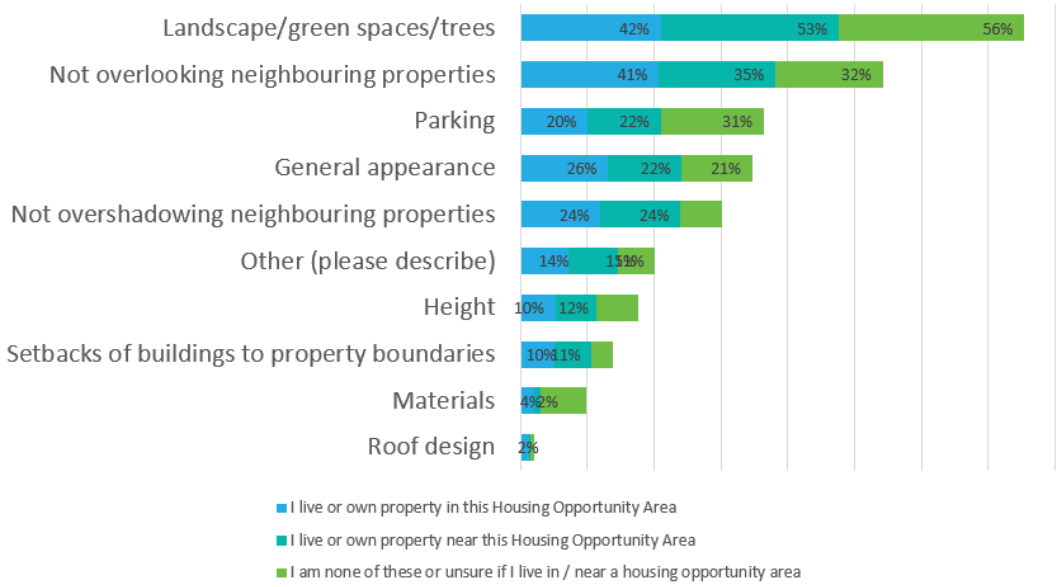
A total of 1,505 surveys were included in the data analysis. The key findings are summarised in themes across the existing HOAs, as per the following sections.

4.1.1 HOUSING AND BUILT FORM

Housing and Built Form comments

- concern about density – 23%;
- environmental impacts and sustainability – 17%;
- poor quality development / poor built form outcomes – 16%;
- desired housing typologies – 13%;
- support for infill/density/development – 13%;
- change in character of the local area – 11%;
- concern about parking – 9%;
- social/wellbeing considerations – 8%;
- support for transit-oriented development – 8%;
- concern about traffic – 8%.

Housing and Built Form top priorities

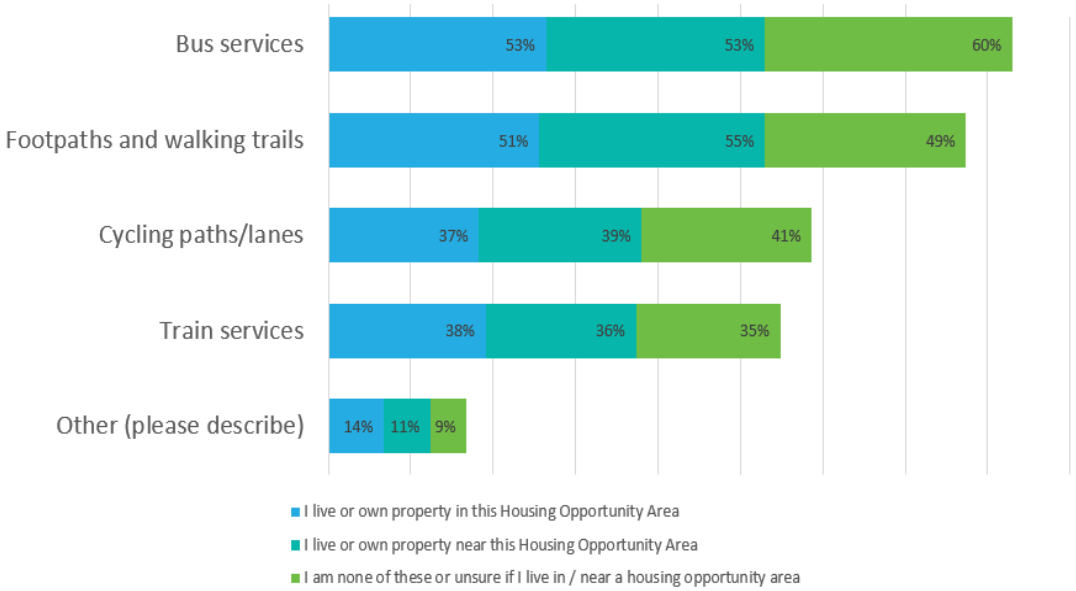


4.1.2 TRANSPORT AND INFRASTRUCTURE

Transport and infrastructure comments

- improve walking and cycling infrastructure – 13%;
- traffic and parking concerns – 13%;
- improve public transport – 12%;
- accessibility of specific areas differs – 10%;
- support for transit-oriented development – 9%;
- current access good – 8%;
- concerns about transit-oriented development – 4%;
- density concerns – 3%;
- impact of development on facilities and services – 2%.

Transport and infrastructure top priorities

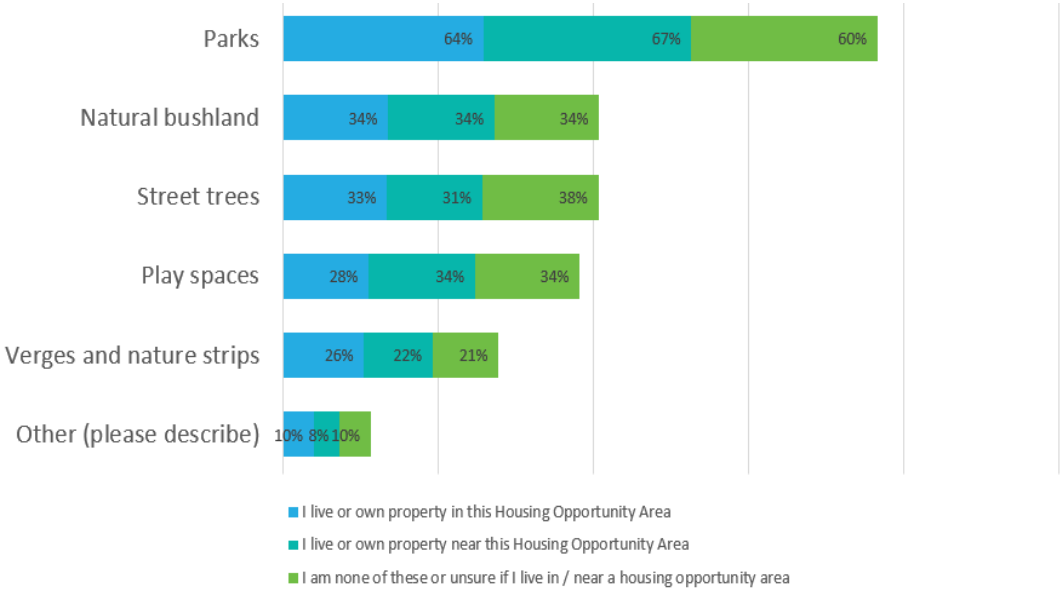


4.1.3 OPEN AND GREEN SPACE

Access to Open and Green Space comments

- importance of trees – 9%;
- additional open and green space needed – 9%;
- improve development of open and green spaces – 7%;
- social / wellbeing considerations – 7%;
- environmental impacts and sustainability – 7%;
- improve services and amenity needed – 6%;
- retention of open and green space – 5%;
- density issues – 3%;
- development should be near open and green space – 2%;
- current open and green space is good / sufficient – 2%.

Access to Open and Green Space top priorities

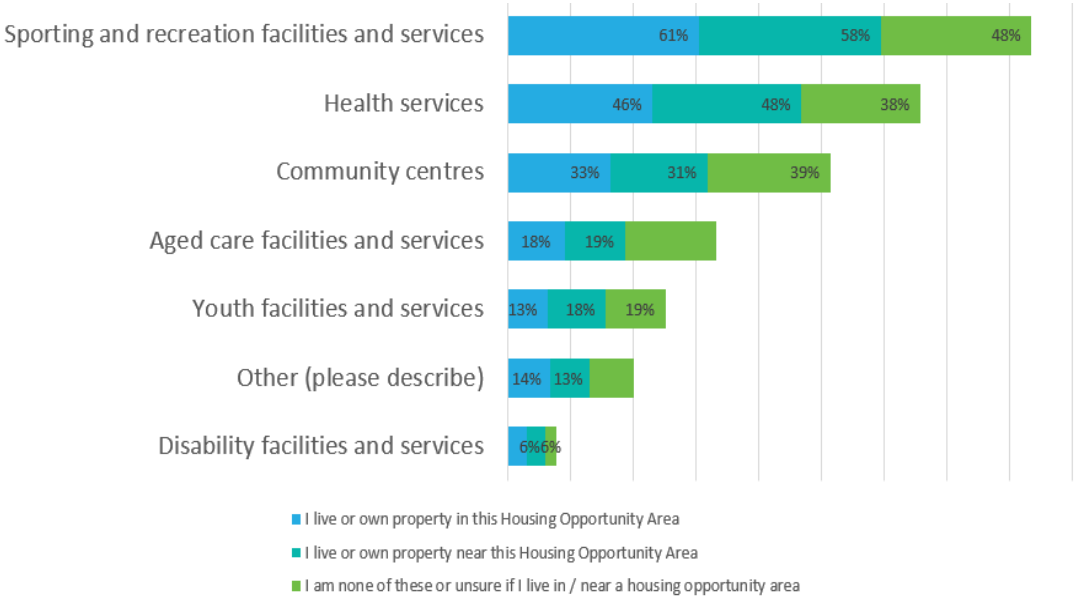


4.1.4 COMMUNITY SERVICES AND FACILITIES

Access to Community Services and Facilities comments

- provision of / access to community facilities is poor / insufficient – 11%;
- other – 5%:
  - traffic and parking;
  - change of local area character;
  - density concerns;
  - environmental impacts and sustainability;
  - support for infill / density / development;
- future provision of community facilities and services desired – 4%;
- provision of / access to community facilities and services is good / sufficient – 4%;
- transit-oriented development – 3%;
- HOA method / area – 2%.

Access to Community Services and Facilities top priorities



4.1.5 ACTIVITY CENTRES

Access to Activity Centres comments

- future provision of activity centres / commercial uses – 12%;
- other – 10%:
  - location of future activity centres;
  - density;
  - traffic and parking;
  - opposition to provision of activity centres;
  - social / wellbeing considerations;
- access to / provision of activity centres is good / sufficient – 8%;
- access to / provision of activities centres is poor / inadequate – 7%.

Top priorities for Activity Centres were not requested.

4.1.6 FUTURE PLANNING FOR INFILL DEVELOPMENT - GENERAL COMMENTS

Survey respondents also identified the two most important things they believed should be addressed in the future planning of areas for higher density. The ten major themes of response to this question across all HOAs are listed below. The number in brackets indicates the number of specific responses that relate to that theme.

1. environment and sustainability (479);
2. limiting density (478);
3. social and wellbeing considerations (284);
4. infrastructure, services and amenity (257);
5. desired housing typologies (252);
6. retain character of the local area (241);
7. quality development / built form outcomes desired (212);
8. managing impacts on neighbours (212);
9. transit-oriented development (212);
10. managing parking (188).

4.2 STAKEHOLDER INTERVIEWS

The aim of the stakeholder interviews was to gain feedback from key stakeholders on key planning and design issues and opportunities for the new planning framework for infill development. A total of 17 interviews was completed with 35 interviewees.

Table 2 summarises feedback obtained through interviews with parliamentary and government department/agency representatives. Feedback is presented as a single summary of findings below, categorised by key themes. Feedback is not attributed to any particular individual/department/agency.

4.3 LISTENING POST OUTCOMES

Five Listening Posts were held to gain feedback on key planning and design issues, strength and opportunities for areas of higher density from the City's ratepayers/residents, community networks and local businesses in a face-to-face manner. A total of 380 participants attended the Listening Post sessions.

Listening Posts – Housing and Built Form Issues/Concerns:

- change of neighbourhood character;
- parking and traffic;
- R40 / R60 zoning; and
- social housing / anti-social behaviour.

Listening Posts – Housing and Built Form Opportunities/Solutions:

- clear rules to ensure quality development;
- limit density;
- higher density closer to train stations and activity centres;
- support for development opportunities; and
- greater provision of housing diversity to cater for different needs.

Listening Posts – Transport and Infrastructure Issues/Concerns:

- concern about traffic;
- cul-de-sacs and convoluted networks not suited to density;
- not all bus services are high frequency;
- concern about parking; and
- accessibility of different areas differs.

Listening Posts – Transport and Infrastructure Opportunities/Solutions:

- greater number / more frequent public transport services;
- more footpaths/cycle paths;
- higher density closer to train stations and activity centres;
- more lighting and shading;
- provide adequate on-site parking (on housing lots).

Table 2 - Stakeholder Interview Feedback

Key Issues or Concerns	Key Opportunities
Housing and Built Form	
• Setbacks and building bulk • Privacy • Liveability (including lighting, size of spaces, etc.) • Poor designs with poor/inconsistent development outcomes • People have experienced negatives of density but not the positives • People purchase their properties expecting a certain lifestyle and character to their neighbourhood which is then changed – and this is confronting • R-Codes approach is not working, nor is plot ratio • Concern mostly about the impact of multiple dwellings and group dwellings in the neighbourhoods • Some in the community concerned that lower cost housing will bring down the value of the suburb • Changing nature/character of the suburbs an issue for some people • Some residents (mistakenly) believe they will have to develop if their property is rezoned • People don't want battle-axe developments • Conversion of R30 to R40 – which is better? • Impacts of multiple dwellings in R40 • Don't put density in the quarry area in Edgewater • Need to develop a variety of housing options including places for people to downsize to • Need to determine how we will cater for increased population in these areas including – schools; sporting, etc. • Amalgamations can lead to more multiple dwellings in residential streets • Multiple developments occurring without any consultation – at City of Wanneroo they require extra consultation on multiple dwellings • Over-reach of architects that can have unintended consequences (i.e. not all developments need an architect; the need for an architect could add to costs and affordability and increase red tape) • Southern side of Cook Avenue was missed out • Not clear how the different areas were designated for varying densities	• Treat HOAs separately • Focus on building communities rather than just "density" • Density should only be placed around areas with good amenity • Demonstrate what quality development should look like (demonstration projects) • Set conditions that result in better design • Sustainable design principles • Need to provide density development that creates community benefit • Review the yield analysis • Review impacts on utilities • Need to prevent a "Nollamara" by spreading lower densities too wide (removal of tree canopy) lack of intensification around key nodes • Look at different building typologies including 3 storey maisonettes • Need more housing diversity in the area to encourage people to downsize • Need more clarity around planning rules • Develop blocks so you can have laneways at the rear to get cars out the back (and bring buildings forward) • Increase passive surveillance to the street • A design led approach/outcome • Precinct-style design approach • Broad engagement with community and industry to inform planning and address issues of concern • Fine grained analysis to inform design led planning • Incentives to amalgamate lots – but beware of potential for orphan sites in the mid-block • Improving streetscapes and street frontages • Need to determine how to plan for effective redevelopment that doesn't leave isolated blocks between other large sites that have been amalgamated • Reduce red tape • Explore alternative typologies in R40 areas • There are some areas that are prime for development that could be included in Sorrento in the older areas that need renewal (e.g. Harcourt / McWay Road) • Northshore want R30, Cook Avenue already includes 20/30 unit developments • Some of the ageing areas within Craigie, Kallaroo, Sorrento, Padbury may be appropriate for redevelopment • R40 and higher densities should only be on those streets that have direct access to a main road (e.g. Marmion or Hepburn Ave) and not contained within cul-de-sacs • Use Council land and dead parkland in Whitfords City to locate density

Key Issues or Concerns	Key Opportunities
Getting Around/Transport	
• Buses not connecting to the train station / connecting at incorrect times (every second station has bus feeder services) • Increased parking and traffic in the streets – big issue in cul-de-sacs • Capacity of train station car parks (currently full and this limits train use) • Many of the services are low frequency, not high frequency • Warwick Station has poor surveillance and crime issues • Complaints about noise from trains • Hillarys Plaza – issues with access and egress	• Placing density around train stations (supports government priorities) • Build right next to or over the train stations (highest density right near stations) – triple-glaze the windows • Locating density right next to/close to train stations and major transport routes supports the Metronet vision • Create safe walking streets that connect to public transport • Multi-storey car parks at stations • Overpass at Wanneroo Road at Joondalup Drive and also at Ocean Reef Road to deal with the east-west traffic problems • Turn train stations into commercial activity centres (e.g. include cafés) • Build a bus service from Kingsway to Hillarys
Open and Green Spaces	
• Lack of green space in new developments • Community members are mistakenly concerned that parks will be developed • Lack of retention of tree canopy in street trees and site trees • Inconsistency in application of permeable verges (residents must meet 50%) with developers not having to if they have to provide on-street parking	• Create more parks/open space as population increases • Mandate green space, open space and tree retention or provision • Use the WALGA study on biodiversity corridors in this study • Create dog parks • Create a balance of active and passive spaces and flexible use of public spaces • Improve practical use of Bush Forever sites • Good fences and trees create good neighbours • Review the condition of the parks and green spaces and determine if they need upgrading in areas proposed for higher density • Provide shade in the parks (mature trees and shade sails)
Access to Community Facilities and Services	
• Increased density without increased facilities and services • Loss of child health centres is a key community concern • Placing density around schools a real issue – parking issues at pick up and drop off times	• Need multi-purpose centres (like the Rise in Maylands) • Place density near community centres, train stations and activity centres – not schools • Dealing with big box shopping centres – can there be more density around these • Potential to redevelop City assets in mixed development at activity centres to provide for community uses on ground floor and residential above
Access to Activity Centres	
• Lower and medium density around smaller centres is not always successful as there isn't a critical mass of people and there is no evidence to indicate that it creates greater community benefit • Densities too low around some bigger centres – similar to smaller centres	• Focus density in these areas (including to create the critical mass of people to make centres work) • Plan for the greatest density around the largest centres • Look at R100 in some key locations including activity centres and step down from there – don't spread too wide

Key Issues or Concerns	Key Opportunities
	• Increase density in the Joondalup City Centre • Place greatest density around the largest centres • Should be R80 at least facing Greenwood Village • Reorient houses that face away from Greenwood village to face it • Warwick centre – go for high density mixed use and use it to fund the redevelopment of the community facilities on site, so there is community benefit

Listening Posts – Access to Open and Green Space Issues/Concerns:

- loss of trees / green space on private property;
- impacts upon native flora and fauna loss of trees / green space on streetscapes;
- urban heat island effect; and
- parking/driveways count for open space in developments.

Listening Posts – Access to Open and Green Space Opportunities/Solutions:

- mandate open / green space in developments;
- provision of street trees and streetscaping;
- create / retain public open space;
- open and green space have positive impacts on health and wellbeing.

Listening Posts – Access to Community Services and Facilities Issues/Concerns:

- impact of increased number of residents on essential services and facilities;
- capacity of infrastructure;
- waste management;
- current access to community facilities and services is poor/insufficient; and
- lack of impact studies.

Listening Posts – Access to Community Services and Facilities Opportunities/Solutions:

- more community services and facilities investment; and
- increased number of residents will improve vibrancy and viability of community facilities.

Listening Posts – Access to Activity Centres Issues/Concerns:

- activity centres are not true activity centres.

Listening Posts – Access to Activity Centres Opportunities/Solutions:

- place higher density closer to activity centres (including those not in HOAs); and
- good current access to activity centre/s.

4.4 INDUSTRY FORUM

Twenty invitees attended an Industry Forum, representing private, government and peak body organisations. Two group activities were facilitated that sought to gain feedback on market conditions and development opportunities. The feedback from these group activities is summarised in **Table 3** below:

Table 3 - Industry Forum Feedback

1. Feedback from participants on what type of development is desirable in areas of higher density in the current market context

Themes	Specific Responses
Feedback from participants on what type of development is desirable in areas of higher density in the current market context.	
Development style	• Development style is very much driven by the expectations, what is permitted and approvals processes of Local Governments. • Current local government requirements now focus on the external aspects (trees; deep soil zones; open space; setbacks) which are more focussed on integration with neighbours and the street. Less focus on internal space design and provision, which can impact liveability – these are the types of properties that are now on the market, as previous designs that were focussed on provision of good internal spaces – that still meet the planning requirements are no longer approved.
Developer priorities	• Want to optimise return on investment. • Want to get as much development on the block as possible to increase return on investment. • Many sites over-developed: o no space for gardens or amenity; o Immediate impact is significant – removal of existing trees; o Underdevelopment is better. • Balance yield and quality.
Parking	• Market still demands for car bays (two per grouped dwelling and one per apartment with visitor parking additional).
Department of Communities / affordable housing	• Must respond to the design requirements set down by the Department. • Mostly 2 x 2 dwelling configuration with some 1 x 1. • Development of affordable housing (private partnership model: shared equity scheme) looking for smaller, more compact developments: o Small apartments and villas; o Around activity centres; o Around train stations and high frequency bus routes (very picky about location); o Have a strict affordability mandate; and o Profit margin requirement to facilitate a 20% discount.
Grouped Dwellings	• At the higher end of the market, grouped villas are much lower risk than apartments. • Owner-developers prefer terraces. • Terraces are still group housing but introducing some small building overlap (e.g. wardrobe/storage overlapping) can make terraces count as multi-dwellings.

Themes	Specific Responses
Single Dwellings	• There are shoots of demand for 2-3 storey houses in other areas like Marmion and Carine with multiple dwellings (There is demand if it is located close to amenity and well designed). This demand is yet to be seen as much in the City of Joondalup • No real demand for monotonous two storey houses
Underground Parking	• Underground parking can stack up economically at R40/R60 (this is reliant on high land value to be financially efficient), but the trade-off is deep soil zones become challenging located over parking.
Intensify in Key Nodes	• Larger 3x2 apartments (six on a 700m^2 block) are currently working near Warwick train station.
State Policy	• Where does this project sit with regard to the medium density SPP – reflects the overarching SPP7 design principles and best practice in other states.
Flexible approaches to the "missing middle"	• There is a lack of a performance approach to development controls for the "missing middle". • Need something that provides an outcome but is flexible. • Small, humble developments are more respected.
Planting and Landscaping	• Like the idea of planting/landscaping zones.

2. Feedback from participants on key challenges/limitations and opportunities/incentives for how to achieve a good design outcome in areas of higher density

Topic	Challenges/Limitations	How to address the challenges / key incentives
Plot Ratio – considering alternatives	• Plot ratio is a not a good way to mandate housing – it should be height, bulk and scale – general agreement that: o Height, bulk and scale are more appropriate; and o The best LGAs are doing away with plot ratio.	• Have a height/bulk/scale mandate rather than plot ratio envelopes. • City North Joondalup used to have a massing model – can this be brought back? Currently effective in other States.
Parking	• Still a demand for car bays with each development. Those places without sufficient parking don't sell, even if they are close to transport. • Minimum parking quotas are okay, but the market does not want maximum quotas (this is a problem with western culture). Developers want to put parking on the street (why would you allow space on-site for cars if you don't have to).	• Perpendicular street parking allows more space for trees than parallel parking. • Street parking allows better open space and amenity on-site. • Reduce parking requirements which can be traded off for green space. • Design parking that can be converted into other uses (e.g. bedroom) when demand for cars is less. • Decouple parking from the development (i.e. you can buy an apartment, but parking space is a separate cost). • Look for how to create more on-street parking with less impact.

Topic	Challenges/Limitations	How to address the challenges / key incentives
		• Increase public transport connection and accessibility. • Create incentives for innovative parking solutions.
Setbacks	• Setbacks are not a planning outcome in and of themselves.	• Allow flexibility of setback sizes where they are permeable/active/integrate with the street. • Consider City of Vincent Policy on setback variations
Topography	• Challenging in some areas of the HOAs. • "A good challenge!" • Needs sensible responses, not just planning controls.	• Using built form as a retainer/terracing rather than retaining walls with a flat pad. • Can cause height limits to be exceeded when the actual built form is below the limit. • Limit the overall height and minimum internal ceiling height, not specific number of levels (a split-level garage – house transition can count as a "level" where sloping ground makes this a better planning outcome).
Design Approach and Character	• Developments are often not a design led approach. • Poor developments are not contextualised to the area. • Often try to fit an existing design into a lot, rather than designing to the context or creating fit for purpose designs that integrate into the local area/site.	• "Do conversations with clients start with built form or with yield?" – "Usually with built form" – "Good!" • Do not enforce colour. • Roof pitch only a concern where it is a tangible impact, not simply visual (some disagreement but agree that mandating something as trivial as roof pitch needs a good reason). • Good, contemporary design preferred to mirroring character of the area.
Lack of Housing Diversity	• The lack of support for infill/density from the community results in development being pushed out to the far reaches of Perth which impacts the environment and pushes people to outer areas. • There are limited choices of housing types in Perth and in the City of Joondalup. It is either apartments in town centres, single residential in the suburbs and some grouped dwellings/units. Very little maisonette; terrace etc.	
Accommodating Higher Density in Activity / Transit-Oriented Centres	• Need to locate higher density around transit-oriented centres and activity centres.	• Focus density around train stations; larger areas of POS and activity centres and reduce in other areas. • Warwick and other activity centres could go much higher. • Much higher density interfacing with activity centres (including more mixed use), which can then alleviate the density in other areas.

Topic	Challenges/Limitations	How to address the challenges / key incentives
		• Much higher density right next to train stations. • Look at station precincts with light industrial/big box centre to become mixed use. • Place density fronting onto parks with on street parking on the boundary. • Covering car parks near train stations to develop (e.g. Subiaco).
Lack of Mixed-Use zonings	• Most of the HOAs are just increases in residential zonings, without creating any mixed use.	• Need for more density near bigger activity centres – right on their interface or on the shopping centre sites themselves.
Waste	• Developments with insufficient space for bins. • Cul-de-sacs make access for bin trucks difficult.	• Consider shared bin/refuse spaces such as in Europe. • More than once/week pick-up would also reduce impact.
Block Size/Shape	• Odd shaped blocks in cul-de-sacs which make planning challenging. • Similar size blocks across the suburbs, lack of diverse blocks lead to a lot of the same type of development. Need different sizes to get different built form.	• Learn from older suburbs. • Locate higher density on some key corner sites or use of intersections.
Cul-de-sacs	• Challenging suburbs to develop in. • No defined separation of streets. • Can't get efficient development. • Can be small, dead-end streets which prove challenging for car parking; impact on neighbours. • Current suburbs designed for cars.	• Prevent multiple dwellings in small cul-de-sacs.
Typologies	• Typology 3 and Typology 4 look like what is happening already.	• How can these models create more green space? • Having one car bay per dwelling is an option (but good luck selling a survey-strata e.g. Typology 3 with less than 2 car bays).
Best practice / demonstration projects	• Need to ensure a design led approach and use examples from other locations.	• Terrace product is popular – but a challenge to find nice blocks. • Happens with multiple developers in other states, but more efficient to use the same developer. • Lightweight construction materials – more of this wanted. Develop a whole dwelling with lightweight materials, not just a small section of a building.

Topic	Challenges/Limitations	How to address the challenges / key incentives
		• Currently used only for part of many houses in WA, e.g. few entirely timber houses. • Acoustics is an issue. • Consider building over train stations (e.g. Warwick). • Develop demonstration projects (e.g. like White Gum Valley; or The Springs) that show how density can be done well, with quality products. • Develop demonstration projects that respond to market development.
Provision of green/open space	• Current paving areas counting as open space is viewed poorly by the community and creates a heat island effect. • With focus on outdoor spaces, the liveability of indoor spaces has suffered and leads to poor quality design from a liveability perspective. • Impacts are being seen on the viability of redevelopments from measures put in place. No profit margins.	• 12-20% deep soil requirements on odd shaped blocks (particularly R40) very difficult to achieve a well-designed and generous internal space, when so much is taken up by driveways, green space, etc. on the block. • 20% deep soil on an 800m^2 block in 160m of block taken up to provide deep soil zones. • Enable greater height to enable the provision of greater open space around the buildings. • Enable buildings to have an extra storey if this space is traded off to provide more green space. • Enable third storey, but with setbacks (trade off to create green space). • Up-zone R40 to R60 but with greater setbacks and space for vegetation. • Look at using different products that enable parking on green spaces/hard spaces using contemporary products. • Incorporate green space into upper storeys / roof deck,s etc. • Enable permeable paving. • Look at providing more street trees and landscaping on verges and in roads to increase the tree canopy. • Focus on quality of landscaping, not just the percentage.

Specific zoning	• R20/R60 is too much of a duality.
	• R40 zoning:
	  o Challenging zoning;
	  o Can't meet site coverage;
		• Incentivise both design and yield – flexibility of parking is a big incentive.
		• Also incentivise giving up street parking for open space on streets/verges.

Topic	Challenges/Limitations	How to address the challenges / key incentives
	o Triplex now very difficult to develop with the requirements for green / deep soil areas; o Common drive ways also a challenge; and o Have to get 55% site coverage, which is difficult with the deep soil provisions and a challenge with landscaping.	
Community expectations and political pressure	• People who bought into the suburb are now seeing them rezoned, which is causing concern. • Changes in community expectations. • Changes to zonings creating an issue for people who bought in expecting things to stay the same. They are seeing impacts from the higher zonings that change the character of their area, with increased parking on the street; over-looking; loss of back yards; loss of landscaping, etc. • There have been no changes in the planning scheme rules/requirements, but development that would have been approved 5-10 years ago and meet the planning scheme are no longer being approved due to a focus on the provision of outdoor spaces, setbacks and other requirements that impact the development and its viability (e.g. have to drop a bedroom/bathroom to meet the external requirements).	• Need to look at the demographics of the areas and potential future demographics and plan for that.
Amalgamation and viable yields	• Amalgamation is difficult but can create better built form outcomes.	• Encourage amalgamation – but note it is difficult to get neighbours to talk to each other. • Need to incentivise the amalgamation of blocks to enable sufficient density while also providing green space. • Provide development bonuses for amalgamation.
Industry education	• Need broad upskilling of the industry to inform good design that responds to local context.	
Planning process	• Challenges with the current planning requirements.	• Need a clear framework that supports trade-offs and meets local needs and aspirations. • Needs clear rules, but with flexibility that allows innovative design that responds to the local context. • A pragmatic approach needed. • Use Design WA guidelines to inform design to develop quality designs that are only slightly costlier but sell more quickly.

Topic	Challenges/Limitations	How to address the challenges / key incentives
Role of City/Council (not specific to LHS)	• Community needs to see benefits of density in their neighbourhood amenity.	• Need to upgrade pedestrian facilities to connect to activity centres and stations and parks. • Invest in amenities in parks and other areas where density can be closely located. • Should model the rates uplift and use this to budget for improved amenity. • Focus on future revenue streams from rates rather than just up-front developer contributions.

4.5 DESIGN WORKSHOPS

Five Community Design workshops were held with each workshop focused on two out of the ten HOAs. A total of 193 participants attended the design workshops. Presentations were completed by representatives from the external consultant team, including Taylor Burrell Barnett, Gresley Abas, Creating Communities and Collaborative Place Design. Participants were involved in their groups in an interactive three-dimensional (3D) modelling activity and, following the completion of the activity, participants were then asked to use the Suburban Co-Design Activity Feedback Form. Further feedback was then sought from the participants in relation to a range of alternative housing typologies that were possible at different densities. These typologies were developed by Gresley Abas and Taylor Burrell Barnett as alternative housing design options for densities from R25 to R60 for feedback from community and stakeholders.

4.5.1 CO-DESIGN FEEDBACK

Based on the community feedback in regards to informing built form design on individual sites, the following aspects were considered[1].

- Very important:
  - keeping existing trees;
  - creating space for gardens and planting;
  - maintaining a suburban character/streetscape;
  - creating pleasant private outdoor areas;
  - arranging on-site private car parking;
  - orientation and passive thermal design principles.
- Important:
  - Creating environmentally responsible housing.
- Moderately important:
  - Limiting height.
- Not important:
  - Creating communal/shared areas.

4.5.2 BUILT FORM TYPOLOGY FEEDBACK

In order to discuss and interrogate various development considerations and qualities with the public, nine building typologies were prepared each incorporating the key Design Principles of SPP 7.0.

These typologies were designed and tested by Gresley Abas reflecting local context and survey feedback.

The typologies were then introduced to the design workshop attendees for their consideration and feedback on appropriateness as alternative forms of development in their neighbourhoods.

Feedback is presented below in **Table 4**, according to each of the potential housing typologies and the potential HOAs and R-Code density zones in which they might be appropriate[2]. Further analysis is contained in **Appendix B**.

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1 Data sourced from Dr Anthony Duckworth-Smith | Collaborative Place Design.

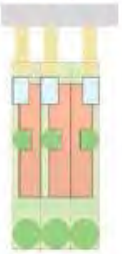
2 The number of times a typology was deemed suitable or not suitable was recorded. Associated comments and specific streets mentioned were also recorded and are included in the full Engagement Report. It is important to note that in some instances: A respondent did not always clearly indicate that the respective typology was suitable or not suitable (i.e. by ticking either the box "suitable" or "not suitable")

Table 4 - Built Form Typology Feedback

Typology	HOA 1	HOA 2	HOA 3	HOA 4	HOA 5	HOA 6	HOA 7	HOA 8	HOA 9	HOA 10	Total
Houses R25/R30											
Typology 1 (two dwellings detached) 	**Count of participants who clearly indicated that this typology would be suitable in their street / the street they are interested in**										
	13	2	5	10	14	18	4	14	6	0	86
	Count of participants who clearly indicated that this typology would not be suitable in their street / the street they are interested in										
	0	0	5	1	7	1	0	8	0	0	22
Typology 2 (duplex) 	**Count of participants who clearly indicated that this typology would be suitable in their street / the street they are interested in**										
	8	2	4	9	16	17	3	16	6	0	81
	Count of participants who clearly indicated that this typology would not be suitable in their street / the street they are interested in										
	5	0	5	2	4	2	1	7	0	0	26
Typology 3 (courtyard) 	**Count of participants who clearly indicated that this typology would be suitable in their street / the street they are interested in**										
	8	2	5	8	10	14	3	12	5	0	67
	Count of participants who clearly indicated that this typology would not be suitable in their street / the street they are interested in										
	5	0	5	3	12	3	1	10	0	0	39
Typology 4 (two dwellings laneway) 	**Count of participants who clearly indicated that this typology would be suitable in their street / the street they are interested in**										
	3	0	7	3	10	5	1	4	1	0	34
	Count of participants who clearly indicated that this typology would not be suitable in their street / the street they are interested in										
	6	0	3	6	8	12	2	15	4	0	56

however still chose to provide a comment relating to whether this typology was suitable or not suitable in their street or the street/area relevant to them.

Note: The street a respondent was commenting on in some instances did not fall within the HOA being focused on.

Typology	HOA 1	HOA 2	HOA 3	HOA 4	HOA 5	HOA 6	HOA 7	HOA 8	HOA 9	HOA 10	Total
Houses R40/R60											
Typology 1 (two dwellings detached) 	**Count of participants who clearly indicated that this typology would be suitable in their street / the street they are interested in**										
	12	2	0	12	13	16	4	18	2	3	82
	Count of participants who clearly indicated that this typology would not be suitable in their street / the street they are interested in										
	2	0	0	2	9	2	1	7	1	0	24
Typology 2 (duplex) 	**Count of participants who clearly indicated that this typology would be suitable in their street / the street they are interested in**										
	10	2	0	11	13	14	4	17	1	3	75
	Count of participants who clearly indicated that this typology would not be suitable in their street / the street they are interested in										
	4	1	0	2	9	3	1	7	2	0	29
Typology 3 (three dwellings detached) 	**Count of participants who clearly indicated that this typology would be suitable in their street / the street they are interested in**										
	7	1	0	6	9	6	4	8	1	3	45
	Count of participants who clearly indicated that this typology would not be suitable in their street / the street they are interested in										
	8	1	0	7	13	11	1	16	2	0	59
Typology 4 (terrace) 	**Count of participants who clearly indicated that this typology would be suitable in their street / the street they are interested in**										
	3	1	0	5	8	4	4	4	0	3	32
	Count of participants who clearly indicated that this typology would not be suitable in their street / the street they are interested in										
	9	1	0	7	14	13	1	18	3	0	66

Typology	HOA 1	HOA 2	HOA 3	HOA 4	HOA 5	HOA 6	HOA 7	HOA 8	HOA 9	HOA 10	Total
Apartments R40/R60											
Typology 1 (manor house apartments) 	**Count of participants who clearly indicated that this typology would be suitable in their street / the street they are interested in**										
	4	1	0	4	10	5	2	7	1	3	37
	Count of participants who clearly indicated that this typology would not be suitable in their street / the street they are interested in										
	5	1	0	8	11	13	3	18	2	0	61
Typology 2 (apartments – single lot) 	**Count of participants who clearly indicated that this typology would be suitable in their street / the street they are interested in**										
	2	1	0	4	4	3	2	4	0	3	23
	Count of participants who clearly indicated that this typology would not be suitable in their street / the street they are interested in										
	8	1	0	8	17	4	3	20	3	0	64
Typology 3 (apartments – amalgamated lots) 	**Count of participants who clearly indicated that this typology would be suitable in their street / the street they are interested in**										
	3	1	0	4	5	1	1	4	0	2	21
	Count of participants who clearly indicated that this typology would not be suitable in their street / the street they are interested in										
	9	1	0	8	16	17	4	21	2	1	79

In addition to referencing the appropriateness of each typology on a specific street, respondents indicated other locations where each of the potential housing typologies might be appropriate. The graphs below at **Figure 3** –Figure **13** show the total number of respondents who indicated that a typology would be appropriate in a particular location.

Figure 3 Locations where House R25/R30 – Typology 1 would be suitable

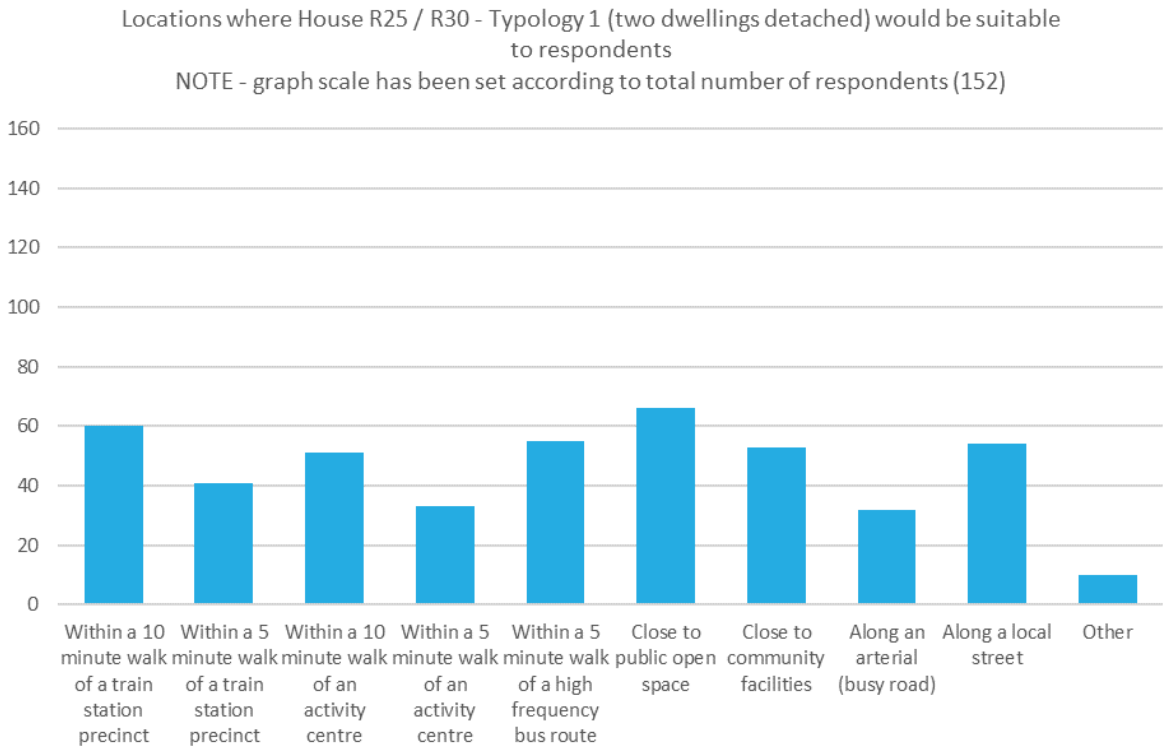


Figure 4 Locations where House R25/R30 – Typology 2 would be suitable

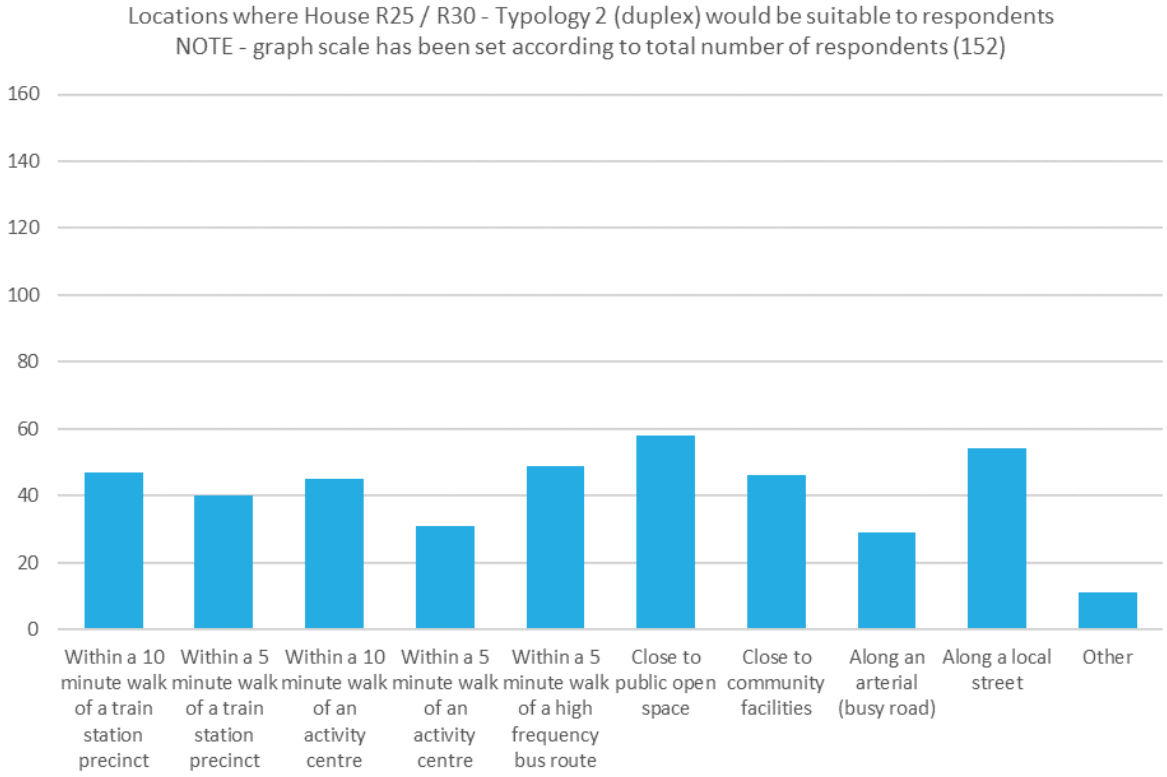


Figure 5 Locations where House R25/R30 – Typology 3 would be suitable

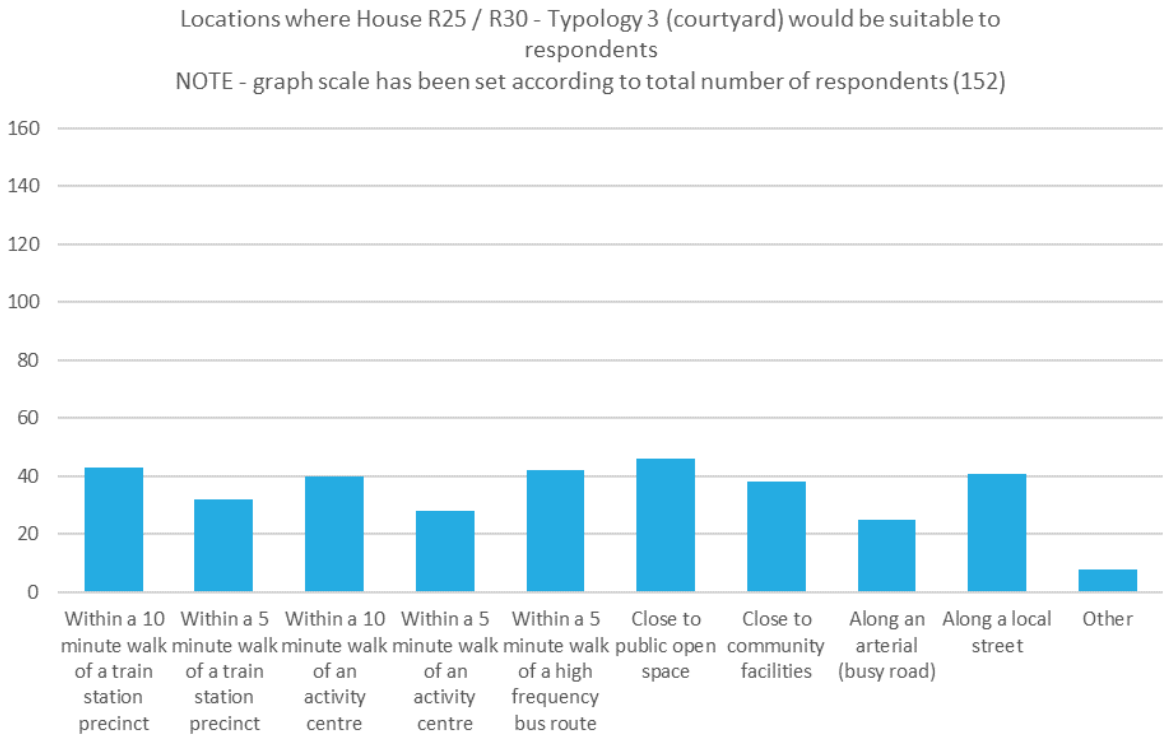


Figure 6 Locations where House R25/R30 – Typology 4 would be suitable

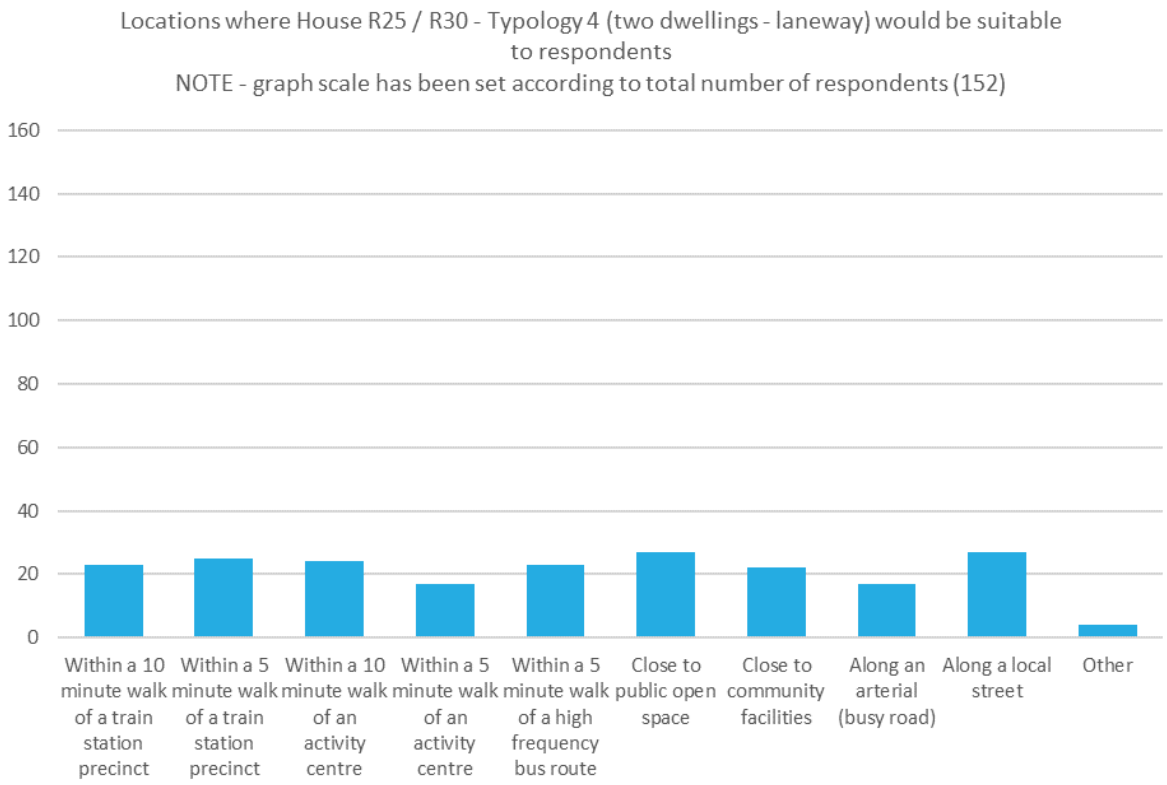


Figure 7 Locations where House R40/R60 – Typology 1 would be suitable

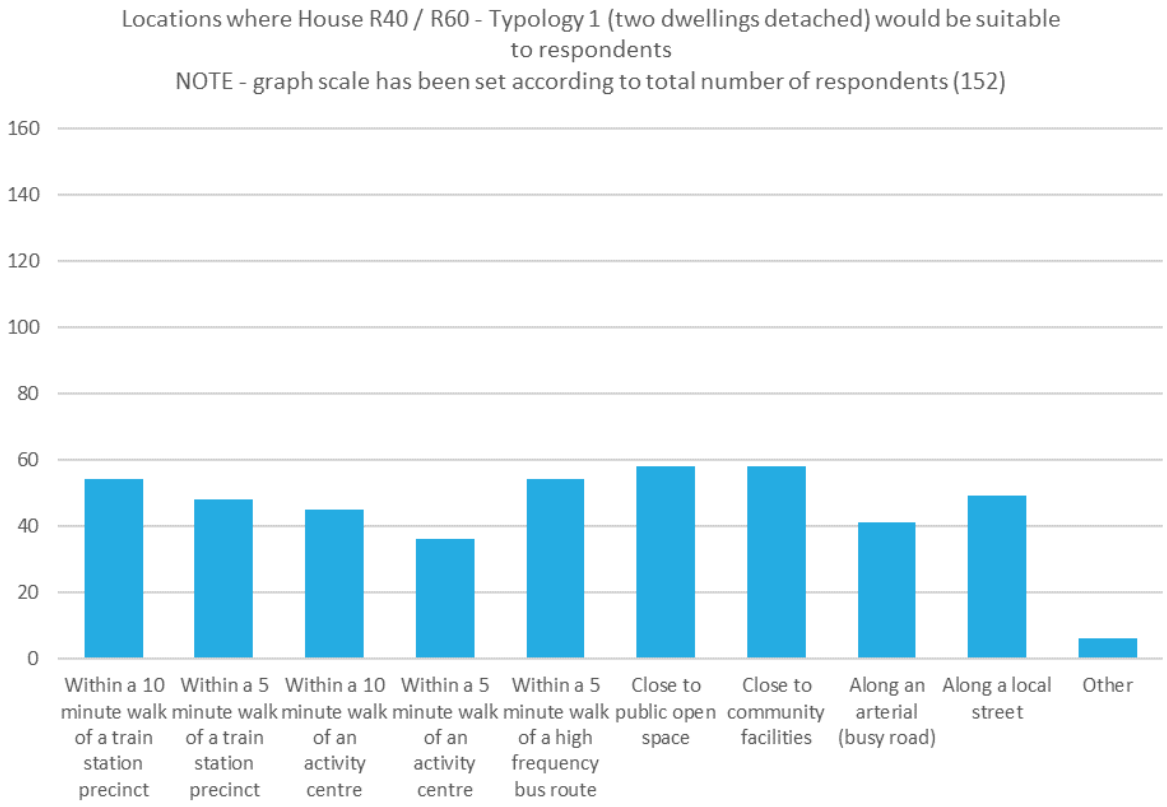


Figure 8 Locations where House R40/R60 – Typology 2 would be suitable

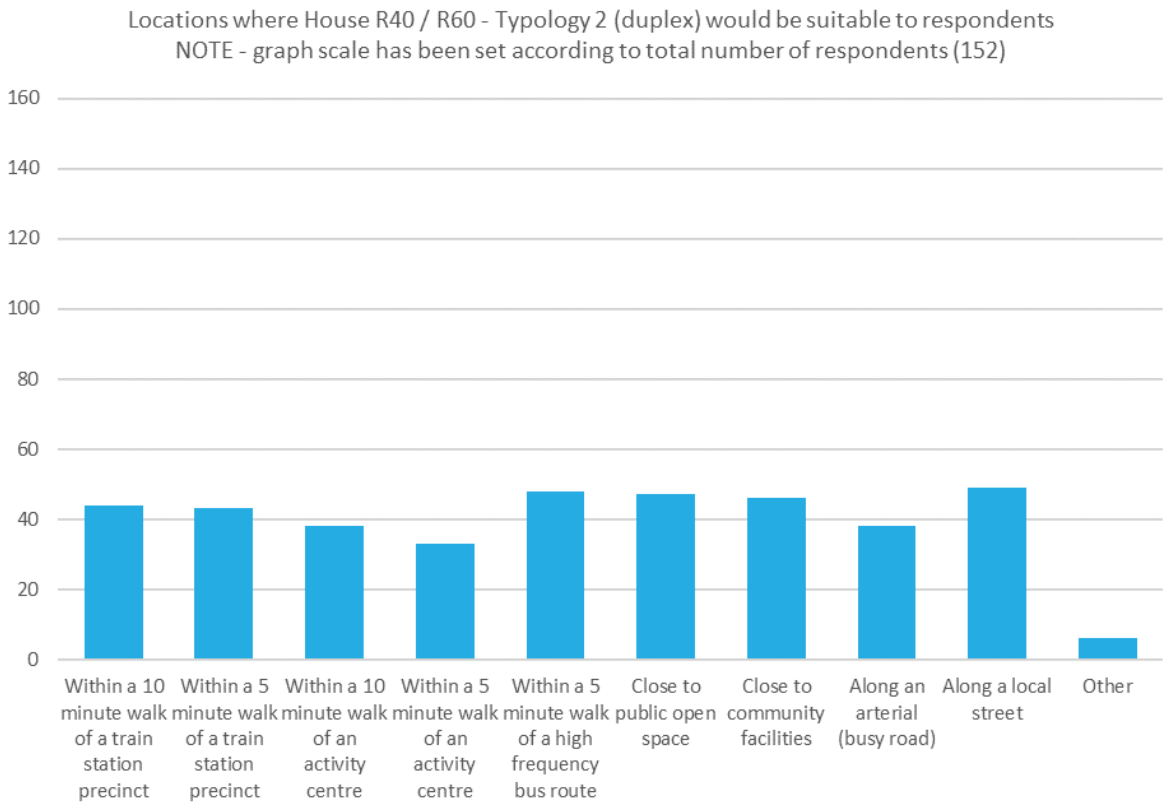


Figure 9 Locations where House R40/R60 – Typology 3 would be suitable

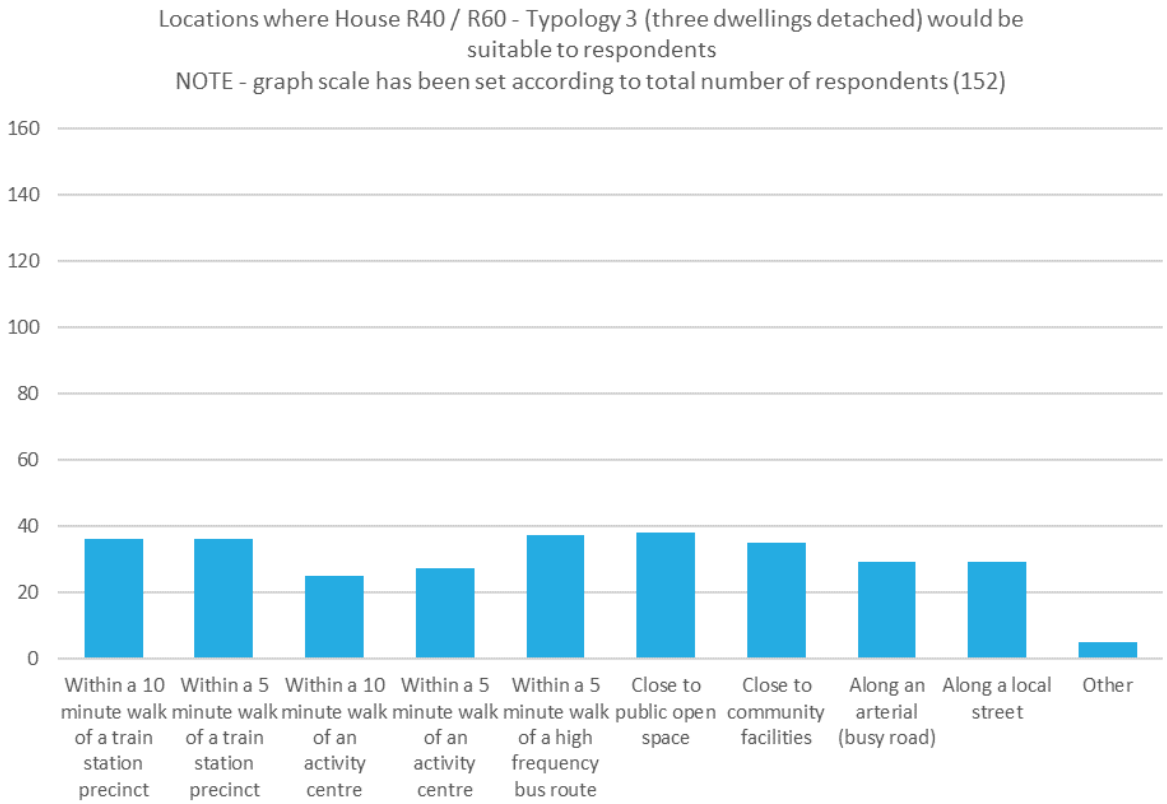


Figure 10 Locations where House R40/R60 – Typology 4 would be suitable

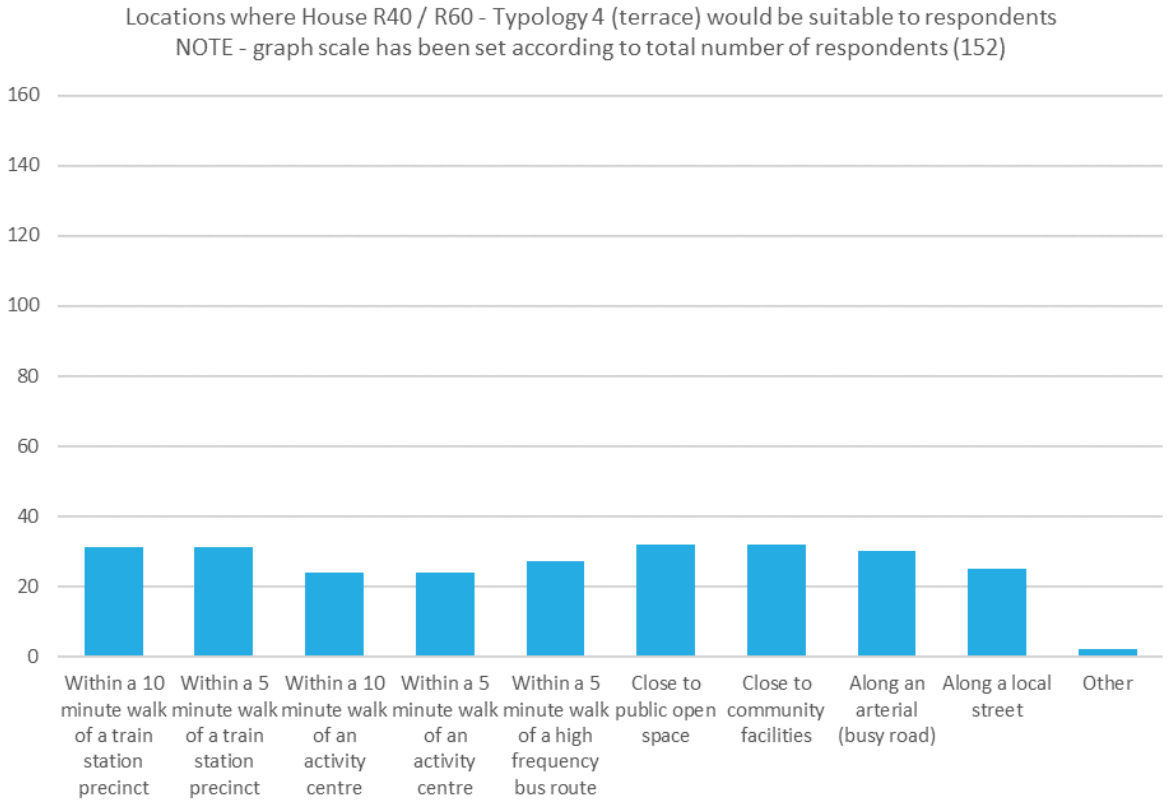


Figure 11 Locations where Apartment R40/R60 – Typology 1 would be suitable

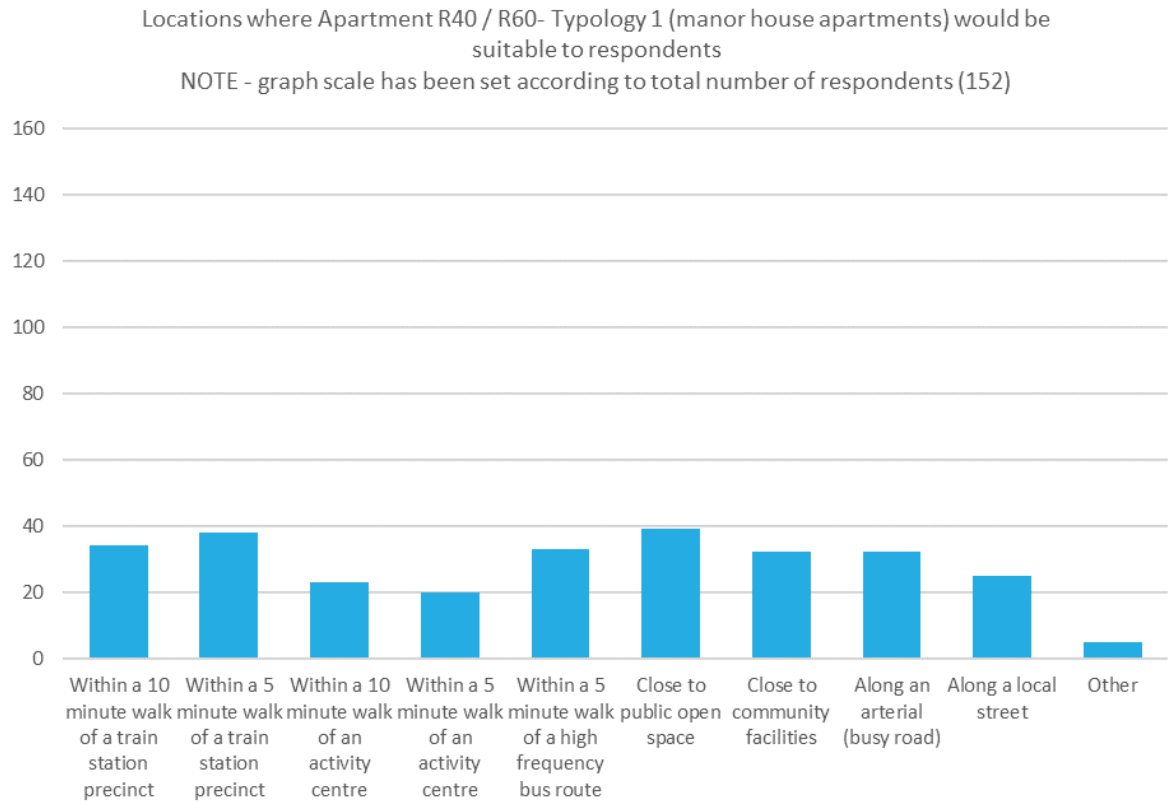


Figure 12 Locations where Apartment R40/R60 – Typology 2 would be suitable

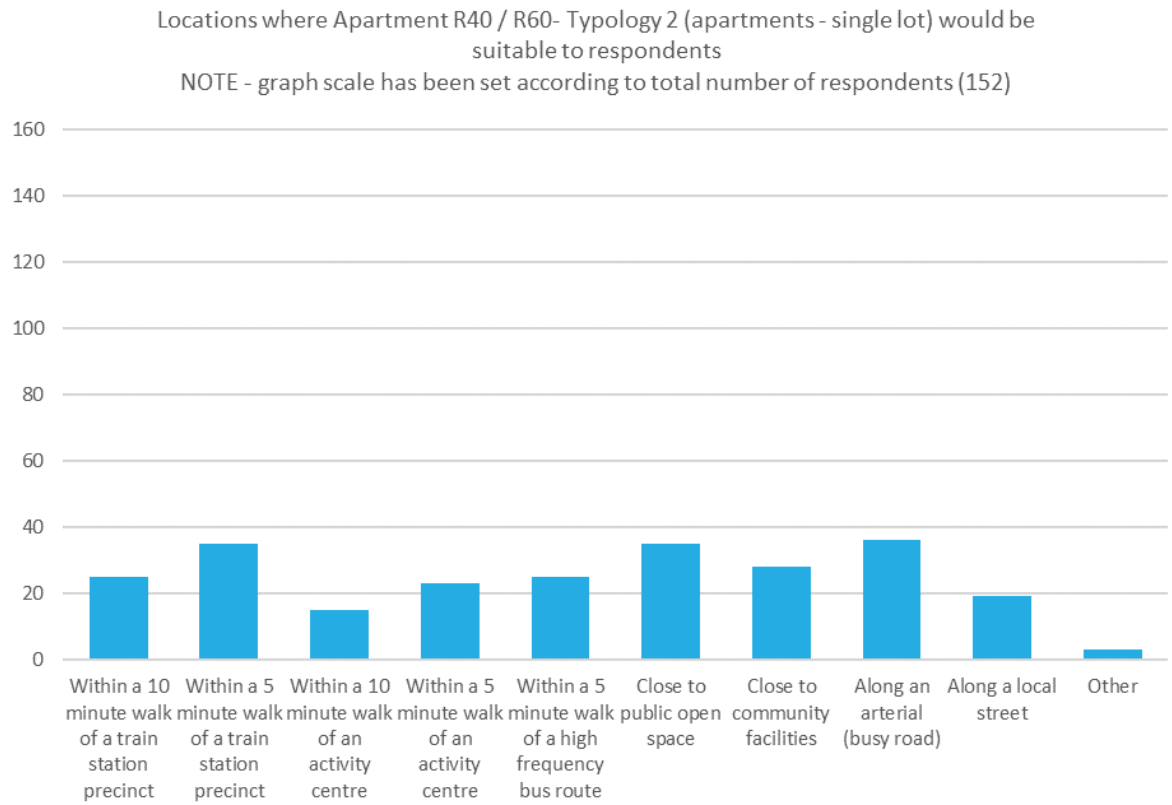
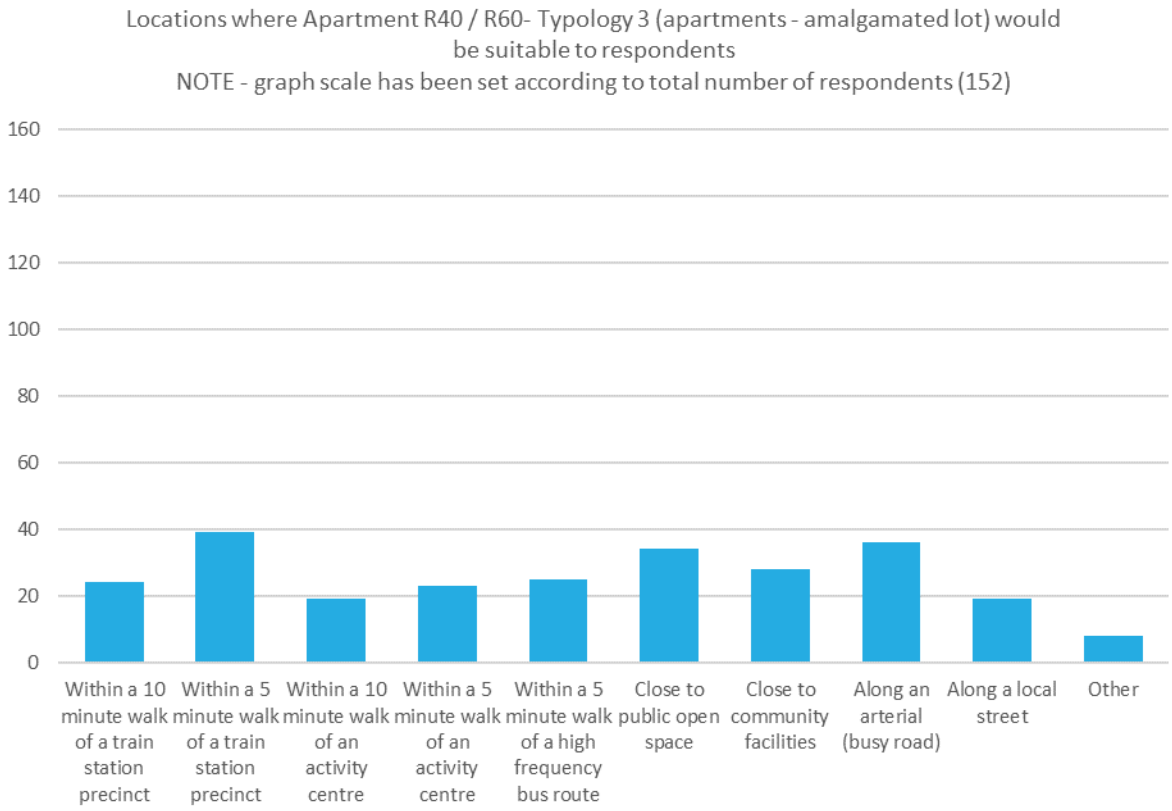


Figure 13 Locations where Apartment R40/R60 – Typology 3 would be suitable



4.5.3 IDEAS FOR DESIGN AND PLANNING CONTROLS

Participants responded to the question: "What design considerations do you think are important to ensure appropriate design and development is achieved?"

Participants were able to "support," "don't support" or indicate they are "not sure" about potential controls, as well as provide a comment. Participants were also able to suggest their own design considerations.

Table 5 below summarises the number of participants who selected a particular response option.

Table 5 - Design Considerations Feedback

Potential planning controls	Support	Do not support	Not sure
Context and Character			
Street/building interface to achieve compatibility with neighbourhood character	152	6	7
Minimise the impact of bulk and scale of the building on the streetscape	148	11	7
Ensure building height controls address topography changes on lots	151	8	8
Consider verge tree planting and landscaping requirements	151	9	6
Landscape Quality			
Retain useable areas of open space on lots • Set minimum requirements for open space areas • Set minimum requirements for landscape (green) areas for each development	140	14	10
Retain mature trees on lots (set quantity?)	119	17	24
Built Form and Scale			
Ensure adequate separation between dwellings	134	17	13
Set appropriate building setbacks from lot boundaries	138	13	15
Ensure privacy of adjacent buildings is maintained	157	4	4
Functionality and Build Quality			
Provide adequate on-site car parking for each dwelling	145	7	15
Ensure parking areas do not compromise landscape outcomes on a lot	133	12	20
Locate visitor parking within the lot to improve streetscape character	177	23	28
Sustainability			
Ensure adequate cross ventilation and natural light to all dwellings	154	2	4

4.5.4 OTHER FEEDBACK DATA ANALYSIS

The Consultation Report also identifies the data results from the website campaign and the various enquiries made directly to the dedicated HOA phone and email.

5 PLANNING FRAMEWORK IMPLICATIONS

5.1 KEY CONSIDERATIONS, OPPORTUNITIES AND ISSUES

Tables 6 and **13** represent a summary of the key considerations, opportunities and issues emerging from engagement exercises and a review of the existing planning framework and consequential impact on the planning framework and housing typologies. The key outcomes of this analysis will inform the recommended changes to the planning framework in order to achieve the desired vision for areas of higher density.

5.1.1 PLANNING FRAMEWORK CONSIDERATIONS

Table 6 - Planning Framework Considerations

Key Considerations, Opportunities, Issues	Design	Planning Framework			Other
		LPS Amendment	Existing LPP	New LPP	
1. Land Use					
1.1 **Social wellbeing considerations (concerns about increases in renting, social housing, crime, etc).**	CPTED[3] design response to optimise passive surveillance outcomes.				
1.2 **Concerns about existing density coding (multiple dwellings – generally too high density, limiting infill).**	Consider design response through typology testing	Review existing LPS3 provisions and consider revised controls	Consider suitability of existing LPP and revised policy provisions	Consider integration and alignment and variations of R Codes/Design WA suite	
1.3 **Control the impact of multiple dwellings on existing residents and streetscapes including minimum - lot size, frontage, pedestrian access width, vehicular access from laneways, LPP compliance.**	Consider design response through typology testing	Review existing LPS3 provisions and consider revised controls	Consider suitability of existing LPP and revised policy provisions	Potential for not only general requirements but also specific requirements associated with key characteristics of the different areas	

[3] Crime Prevention Through Environmental Design

Key Considerations, Opportunities, Issues	Design	Planning Framework			Other
		LPS Amendment	Existing LPP	New LPP	
1.4 **Consider criteria for development at higher density coding of dual coded lots.**	Consider design implications. Consider need for dual coding.	Review existing LPS3 provisions and consider revised controls.	Consider suitability of existing LPP and revised policy provisions.	Consider integration and alignment and variations of R Codes/Design WA suite.	Consideration be given to amending the LHS (as and where appropriate) to reflect the new policy approach. A major review of the LHS be undertaken before increased density is applied to any other areas of the City outside of the existing HOA's.
1.5 **Consider ways of delivering housing diversity compatible with the local character and amenity of existing residential areas.**	Analysis to determine suitability of current density allocation based on sound planning principles.	Review existing LPS3 provisions and consider inserting specific objectives areas of higher density	Consider suitability of existing LPP and revised policy provisions	Potential for not only general requirements but also specific requirements associated with key characteristics of areas of higher density	
1.6 **Review current residential densities and identify appropriate residential densities via the designation of R-Codes for the study area while considering the local and state planning policies**	Analysis to determine suitability of current density allocation based on sound planning principles	Review existing R-Coding designations	Review existing LPP to determine ability to manage density outcomes		The City should consider making changes to the LHS (as and where appropriate) to reflect the new position on density allocation. A major review of the LHS should be undertaken before density is allocated to other areas of the City, outside the current HOAs.
1.7 **Current access to/provision of activity centres is inadequate. Need for a hierarchy of centres.**					The City should consider future provision of activity centres/commercial land uses to meet demands of increased population in a future review of the City's *Local Commercial Strategy*. The City should consider initiatives for placemaking, economic development and investment attraction in

Key Considerations, Opportunities, Issues	Design	Planning Framework			Other
		LPS Amendment	Existing LPP	New LPP	
					context of a review of the City's *Economic Development Plan* and any place activation strategies. The City should consider improved access to community facilities and activity centres in context of ongoing infrastructure and service delivery strategies
2 Movement					
2.1 **Concerns about parking provision- impact on streetscape (both verge and on-street), inadequate provision (including for visitors)**	Consider capacity of existing streets to accommodate parking having regard to safety, amenity and local area character.	Review existing LPS3 provisions and consider revised controls.	Consider suitability of existing LPP and revised policy provisions.	Potential for not only general requirements but also specific requirements associated with key characteristics of the HOAs.	
2.2 **Concerns about increased traffic on local streets**				Requirement for traffic impact study for large multiple dwelling applications.	The City should undertake traffic analysis of the proposed new approach to determine the likely trip generation for each area of higher density and the impact of these new trips on the 2031 road network. Assumptions will need to be made about anticipated take-up rates of development opportunity.
2.3 **Consider improved pedestrian accessibility (poor connectivity to train stations/activity centres)**	Consider opportunity to improve connectivity and therefore accessibility to public transport.	Consider potential for contributions to support improvements to footpaths and cycleways.		Consider potential for appropriate policy provisions to support improvements to footpaths and cycleways in relevant catchment areas.	The City should consider improved access to community facilities and activity centres in any review of its *Bike Plan* and *Walkability Plan* and in the context of ongoing

Key Considerations, Opportunities, Issues	Design	Planning Framework			Other
		LPS Amendment	Existing LPP	New LPP	
					infrastructure and service delivery strategies.
2.4 **Improve level of pedestrian amenity**	CPTED design response.	Consider potential for contributions to support improvements to footpaths and cycleways.		Consider potential for appropriate policy provisions to support improvements to footpaths and cycleways in relevant locations.	The City should consider improved access to community facilities and activity centres in any review of it's the *Bike Plan* and *Walkability Plan* and in the context of ongoing infrastructure and service delivery strategies. City to consider opportunities to levy infrastructure contributions within the HOA's to fund public realm and other infrastructure items.
2.5 **Walking and cycling infrastructure needs/improvement (footpaths, safety, lighting, cycle routes)**	CPTED design response.	Consider potential for contributions to support improvements to footpaths and cycleways.		Consider potential for appropriate policy provisions to support improvements to footpaths and cycleways in relevant locations	City to consider outcomes of *Traffic Study* with respect to network requirements. City to consider preparation of *Public Realm Strategy* to address pedestrian and cycling infrastructure upgrades. City to consider opportunities for intensification to contribute to funding of infrastructure.
2.6 **Improve pedestrian connections to centres and public transport nodes/stops.**	Consider opportunity to improve connectivity and therefore accessibility to public transport.	Consider potential for contributions to support improvements to footpaths and cycleways.		Consider potential for appropriate policy provisions to support improvements to footpaths and cycleways in relevant locations.	City to consider outcomes of *Traffic Study*.

Key Considerations, Opportunities, Issues	Design	Planning Framework			Other
		LPS Amendment	Existing LPP	New LPP	
2.7 **Improved public transport needed (bus connectivity to train stations, more bus services).**					The City should work with Perth Transit Authority regarding network requirements having regard to the objectives of State Government to provide accessibility within Transit Oriented Development (TOD) precincts
2.8 **Support for TOD (reduction in urban sprawl, reduction in car dependency).**		Review existing LPS3 provisions and consider inserting specific objectives for areas of higher density.		Consider potential for appropriate policy provisions to support TOD and reduce parking in relevant catchment areas.	
3 Public Realm					
3.1 **Good current access to and provision of open and green space**	Analysis to determine suitability of current density allocation based on sound planning principles.	Review existing LPS3 provisions and consider inserting specific objectives areas of higher density.	Consider suitability of existing LPP and revised policy provisions.	Potential for not only general requirements but also specific requirements associated with key characteristics of the areas of higher density.	
3.2 **Concerned about loss of/importance of trees – removal, more planting desired, retention during development.**	Consider characteristics of existing streets having regard to amenity and local area character.	Review existing LPS3 provisions and consider revised controls/specific objectives.	Consider suitability of existing LPP and revised policy provisions.	Potential for not only general requirements but also specific requirements associated with key characteristics of areas of higher density.	City to consider preparation of Public Realm Strategy to address pedestrian and cycling infrastructure upgrades. City to consider opportunities for intensification to contribute to funding of infrastructure.
3.3 **Facilitate the development of an attractive public realm**					City should consider preparation of a Public Realm Strategy for areas of higher density. City to consider opportunities to levy infrastructure

Key Considerations, Opportunities, Issues	Design	Planning Framework			Other
		LPS Amendment	Existing LPP	New LPP	
					contributions within the HOA's to fund public realm and other infrastructure items.
3.4 **Consider impact on environment and sustainability resulting from intensification (retention of trees, greenery, flora and fauna)**					
3.5 **Consider implications on existing public open space provision resulting from intensification and increase in population.**					City to review Local Housing Strategy and consider future provision of public open space to meet demands of increased population. City should consider what enhancements and improvements are needed to areas of public open space in/near areas of increased density in a future review of its *Parks and Open Space Classification Framework* and as part of its *Five-Year Capital Works* programming.
3.6 **Protection of environmental values (identified in the City's *Local Biodiversity Strategy* and draft *Green Growth Plan*) which are outside the currently identified POS areas.**	Consider characteristics of existing streets and POS within areas of higher density having regard to amenity and local area character.	Review existing LPS3 provisions and consider revised controls/specific objectives.	Consider suitability of existing LPP and revised policy provisions.	Potential for not only general requirements but also specific requirements associated with key characteristics of areas of open space.	
3.7 **Consider impact on established character of local area (impacts upon a quiet/family area, new**	Analysis to determine suitability of current density allocation based on sound planning principles.	Review existing LPS3 provisions and consider inserting specific objectives for areas of higher density.	Consider suitability of existing LPP and revised policy provisions.	Potential for not only general requirements but also specific requirements associated with key	

Key Considerations, Opportunities, Issues	Design	Planning Framework			Other
		LPS Amendment	Existing LPP	New LPP	
development not complimentary).				characteristics of areas of higher density.	
3.8 **Concerns about impact of parking on streetscape**	Consider capacity of existing streets to accommodate parking having regard to safety, amenity and local area character.	Review existing LPS3 provisions and consider revised controls.	Consider suitability of existing LPP and revised policy provisions.	Potential for not only general requirements but also specific requirements associated with key characteristics of the HOAs.	
3.9 **Concern about waste management**	Consider implications for street design and public realm impact.		Consider suitability of existing LPP and revised policy provisions.	Potential for not only general requirements but also specific requirements associated with key characteristics of areas of higher density.	The City should consider appropriate methods of waste collection for larger developments in the context of current and future waste collection contractual arrangements.
3.10 **Consider impact of urban heat island effect**	Consider design response through typology testing.	Review existing LPS3 provisions and consider revised controls.	Consider suitability of existing LPP and revised policy provisions.	Potential for not only general requirements but also specific requirements associated with key characteristics of areas of higher density.	
3.11 **Consider soil structure and deep soil zones**	Consider design response through typology testing.	Review existing LPS3 provisions and consider revised controls.	Consider suitability of existing LPP and revised policy provisions.	Potential for not only general requirements but also specific requirements associated with key characteristics of areas of higher density. Consider integration and alignment and variations of R-Codes/Design WA suite of policies.	

Key Considerations, Opportunities, Issues	Design	Planning Framework			Other
		LPS Amendment	Existing LPP	New LPP	
4 Built Form					
4.1 **Concerns about poor quality development/ built form outcomes (quality, liveability, lack of good design, aesthetics, setbacks)**	Consider design response through typology testing.	Review existing LPS3 provisions and consider inserting specific objectives for areas of higher density.	Consider suitability of existing LPP and revised policy provisions.	Consider integration and alignment and variations of R-Codes/Design WA suite of policies.	
4.2 **Concerns about existing density coding (multiple dwellings – generally too high density)**	Analysis to determine suitability of current density allocation based on sound planning principles.	Implement revised density codings.			
4.3 **Support for duplexes, triplexes, diversity of housing,**	Consider design response through typology testing.				
4.4 **Consider impact on established character of local area (impacts upon a quiet/family area, new development not complimentary).**	Analysis to determine suitability of current density allocation based on sound planning principles.	Review existing LPS3 provisions and consider inserting specific objectives for areas of higher density.			
4.5 **Explore increased building heights and development intensity in appropriate locations.**	Consider design response through typology testing.	Review existing LPS3 provisions and consider inserting specific objectives for areas of higher density.			
5 Other					
5.1 **Concern about increased number of residents and impact on essential services and facilities (health, education, etc)**					City should consider implications on existing infrastructure resulting from intensification and increase in population. This may include both community and traditional infrastructure. This should be factored into a future review of the LHS and any existing City

Key Considerations, Opportunities, Issues	Design	Planning Framework			Other
		LPS Amendment	Existing LPP	New LPP	
					infrastructure plans and processes.
5.2 **Provision of/access to community facilities and services is poor/insufficient.**					City to consider preparation/implementation of Community Needs Assessment that considers anticipated populations growth.
5.3 **Future provision of community facilities and services desired.**					City to determine outcome of Needs Assessment and preparation/implementation of *Community Infrastructure and Contribution Plan*.
5.4 **Concern about waste management**	Consider implications for street design and public realm impact.		Consider implications for bin storage in public realm on waste collection days.		
5.5 **Concern about capacity of infrastructure**					As part of any major review of the LHS, The City should consider implications for: • network capacity; • infrastructure upgrades; • asset management.
5.6 **Need for underground power**					City should liaise with Western Power to determine upgrade program and implications for areas of increased density.
5.7 **Prepare a Planning Consultation Policy to provide greater certainty and transparency regarding consultation undertaken for planning proposals**					City should prepare a *Planning Consultation Policy*.
5.8 **Terms of reference for the Joondalup Design Reference Panel to be amended to refer**					City should review and consider updated Terms of Reference for the Joondalup Development Referral Panel.

Key Considerations, Opportunities, Issues	Design	Planning Framework			Other
		LPS Amendment	Existing LPP	New LPP	
multiple dwelling proposals to independent design review					
5.9 **Concern about HOA method/area (change size/boundary of HOA)**					Consider where new planning framework might also be applied as part of LHS review.

5.1.2 DEVELOPMENT CONTROL CONSIDERATIONS

Table 7 - Key Consultation Conclusions

Issue / Concern	Planning Framework Response					
	Car Parking - Visitor Parking	Open Space	Landscape Area	Deep Soil Areas & Tree Size	Existing Tree Retention	Minimum Lot Frontages
Change of character to their neighbourhood	✓	✓	✓		✓	✓
Loss of trees/green space on private property as well as verges		✓	✓	✓	✓	
Urban heat island effect		✓	✓	✓	✓	
Concern about the density codes and the resultant building types/form		✓	✓		✓	✓
Concern about traffic and parking	✓					
Cul-de-sacs and convoluted networks not suited to density						✓
Concern that parking and driveways count as open space in developments		✓				
Concern about capacity of infrastructure						

Table 8 - Car Parking - Visitor Parking

	R Codes (SPP3.1) *[Single and Grouped Dwellings]*	Apartment Codes (SPP7.3 Vol 2) *[Multiple Dwellings]*	RDLPP *[Single, Grouped and Multiple Dwellings]*	Matters to be considered
Single and Grouped Development	• For grouped development (5 dwellings and greater) – 1 bay shall be provided per 4 dwellings, on-site. • For grouped development of 4 dwellings and less – **no visitor parking required.** • For single dwelling development – visitor bay provision is implied through garage setbacks to achieve parking in driveway.	Not applicable.	• 0.5 bays per lot/dwelling shall be provided in the verge. This is required in addition to the car parking provisions of R-Codes 5.3.3. • Where there is inadequate room in the verge: the visitor parking requirement shall be in the common property (where applicable) or the driveway of a lot (wholly within the lot boundaries).	• **Maintain visitor parking above current R-Code requirement.** • **Allow visitor parking on street (where appropriate/achievable), not in verge to manage traffic speeds, maximise area for landscaping in verges.** • **Moderate the measurement technique for parking ratio reductions to high frequency bus routes (due to high amount of cul-de-sacs).**
Multiple Dwelling Development	Not applicable	• 1 visitor bay per 4 dwellings up to 12 dwellings, on-site. • 1 visitor bay per 8 dwellings for the 13th dwelling and above, on-site. • Uncovered at grade parking is planted with trees at a minimum rate of 1 tree per 4 bays. • Where development is within 800m walkable catchment of a train station and 250m of a high frequency bus stop, measured along existing pedestrian routes (PED SHED), parking is permitted to be in accordance with Location A (SPP 7.3 Vol 2 (A-Codes) Table 3.9).		• **Maintain visitor parking above current requirements of SPP7.3, Vol. 2.** • **Allow visitor parking on street (where appropriate/achievable), not in verge to manage traffic speeds, maximise area for landscaping in verges.** • **Moderate the measurement technique for parking ratio reductions to high frequency bus routes (due to high amount of cul-de-sacs).**

Table 9 - Open Space

	R-Codes (SPP 3.1) *(Single and Groups Dwellings)*			Apartment Codes (SPP 2.7 Vol 2) *(Multiple Dwellings)*	RDLLP *(Single, Grouped and Multiple Dwellings)*	Policy Proposal	Outcomes
Single and Grouped Development	Density	Minimum Total % of site	Minimum Outdoor Living Area	Not applicable.	No variation to the R-Codes.	Controls as per R-Codes.	**Maintain R-Codes standard – but refine what constitutes Open Space to increase the 'greening' of lots.**
	R30	45%	24m²				
	R40	45%	20m²				
	R60	40%	16m²				
Multiple Dwelling Development	Not applicable			No specific % of site identified, however deep soil areas apply, landscaped setbacks apply, tree planting specifics apply.	No variation to the R-Codes.	Controls as per Apartment Codes.	

Table 10 - Landscape Area

	R Codes (SPP3.1) *[Single and Grouped Dwellings]*	Apartment Codes (SPP7.3) *[Multiple Dwellings]*	RDLPP *[Single, Grouped and Multiple Dwellings]*	Outcomes
Single and Grouped Development	• 50% of the street setback area required to be non-hardscaped • No other specific controls regarding % of soft scaped areas • Assumption that building setbacks will have landscaped components	Not applicable	No variation to the R-Codes	• **Increase minimum landscape areas to most development** (R60 District Activity Centre and Transit Hub Multiple Dwelling development excluded). • **Use controls that clearly describe minimum requirements for open space areas.** • **Landscape controls of SPP 7.3 Vol 2 apply for R60 District Activity Centres and Transit Hub Multiple Dwellings.**
Multiple Dwelling Development	Not applicable	No specific % of site identified, however deep soil areas apply, landscaped setbacks apply, tree planting specifics apply.	No variation to the R-Codes	

Table 11 - Deep Soil Area and Tree Size

	R Codes (SPP3.1) *[Single and Grouped Dwellings]*	Apartment Codes (SPP7.3 Vol 2) *[Multiple Dwellings]*	RDLPP *[Single, Grouped and Multiple Dwellings]*	Outcomes
Single and Grouped Development	No specific controls regarding quantity and size of introduced trees.	Not applicable.	Verge adjacent lot shall be landscaped to specifications of the City and include one tree per 10m frontage.	• **Introduce minimum standards for tree planting and deep soil areas to nurture trees for all development types** • **Offer the flexibility to vary the mix of tree sizes introduced /or maintained upon a lot** • **Deep Soil controls of SPP 7.3 are unchanged for R60 District Activity Centre and Transit Hub Multiple Dwelling**
Multiple Dwelling Development	Not applicable.	• Minimum deep soil area 10% of site area. • 7% if existing tree(s) retained. • Minimum tree requirement. • Site area <700m2 = 1 Medium Tree. • Site area 700m2-1000m2 = 2 Medium Trees or 1 large tree. • Site area >1000m2 = 1 Large + 1 Medium Tree /mix.		

Table 12 - Existing Tree Retention

	R Codes (SPP3.1) *[Single and Grouped Dwellings]*	Apartment Codes (SPP7.3 Vol 2) *[Multiple Dwellings]*	RDLPP *[Single, Grouped and Multiple Dwellings]*	Outcomes
Single and Grouped Development	Trees >3m height retained in communal open space areas.	Not applicable.	May support removal of tree >3m where suitable replacement is planted.	• **Introduce clear standards for tree retention prior and during all types of development**

Multiple Dwelling Development	Not applicable.	Retention of healthy specimens, height of >=4m, trunk diameter of 160mm + canopy of >=4m.		• **Address retention of neighbourhood character**

Table 13 - Minimum Lot Frontages

	R Codes (SPP3.1) *[Single and Grouped Dwellings]*	**Apartment Codes (SPP7.3 Vol 2)** *[Multiple Dwellings]*	**RDLPP** *[Single, Grouped and Multiple Dwellings]*	**Outcomes**
Single and Grouped Development	No minimum frontage applicable for lots with density greater than R30.	Not applicable	With the exception of battle-axe sites, the width of any lot, excluding an access leg to the rear lot shall be a minimum width of ten metres at both the primary street boundary and the lot frontage for single house and grouped dwellings and 20 metres for multiple dwellings.	• **Set minimum standards dependant on specific typology and specific place type location (density).** • **These will enhance the place neighbourhood character.** • **Introduce lot frontages narrower than current policy where appropriate to mitigate dominance of 'plexes' development.**
Multiple Dwelling Development	Not applicable.	No specific minimum frontage controls.		

Other key control areas in addition to 'Development Siting' being proposed:

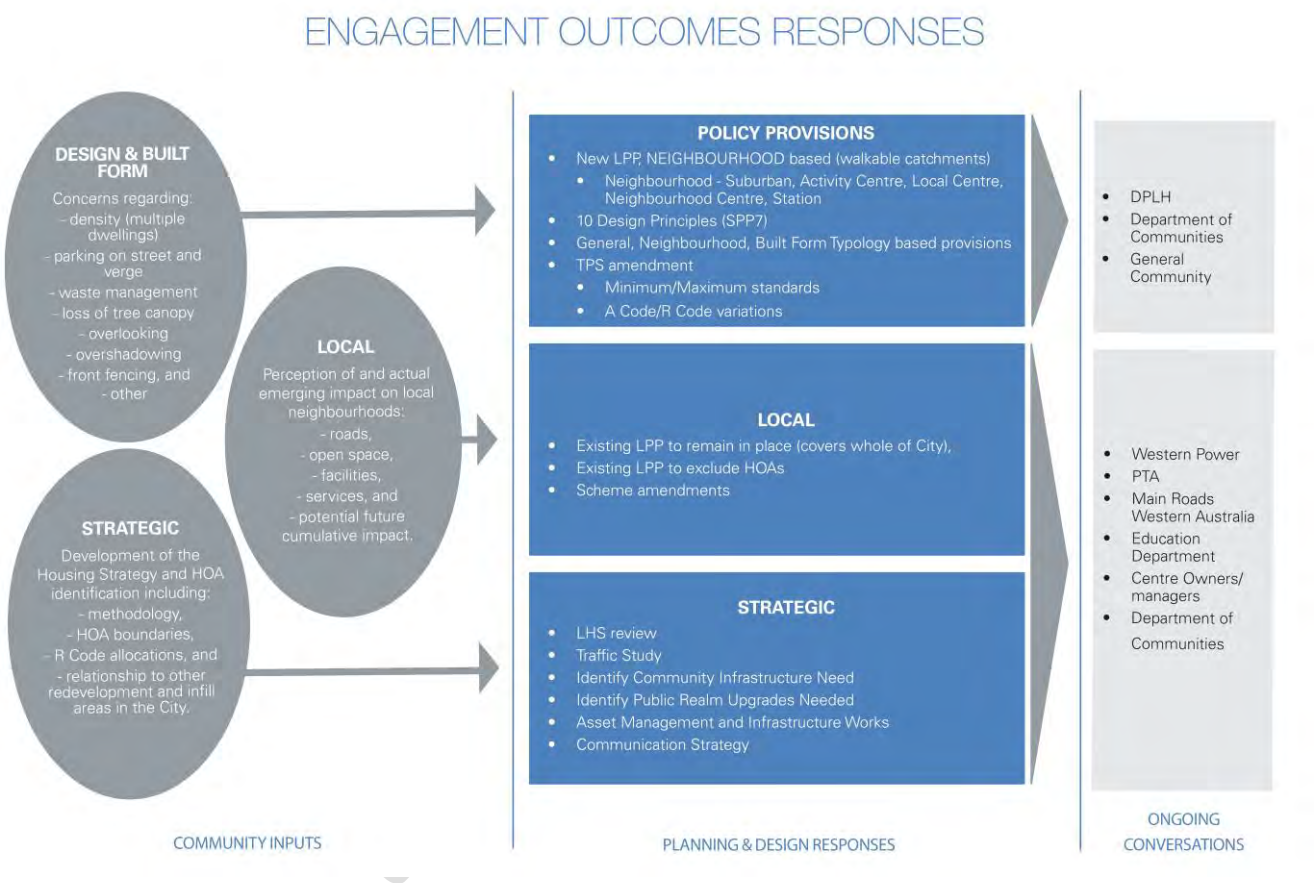
- Introduce primary controls of street and boundary setbacks, building separation.
- Urban design elements of context and character; functionality and build quality; built form and scale; public domain interface and aesthetics.
- Building design provisions - dwelling sizes and layouts; ceiling heights; solar access for adjoining sites.
- Locational criteria controls for scale of apartment development in cul-de-sacs.

6 RECOMMENDATIONS

6.1 RECOMMENDATION OVERVIEW

Figure 14 demonstrates a staged approach to the development of the new planning framework. The process has been informed by engagement outcomes, specifically community and stakeholder inputs which can be themed under strategic, local and design and built form considerations. These matters will be considered in the development of the revised planning framework in terms of strategic, local and policy actions. The process must also include ongoing conversations to facilitate the finalisation of the revised planning framework and effective implementation with the community, landowners and government departments.

Figure 14 - Proposed Planning Framework



6.2 IDENTIFICATION OF PLACE NEIGHBOURHOODS AND PLACE TYPES

The Place Neighbourhoods were identified by the City (formerly Housing Opportunity Areas), through the LHS as being appropriate for increased densities, based on a set of locational criteria including proximity to train stations, high frequency bus routes and activity centres. The foundation of this vision is sound, and the LPP should look to refine and expand on the principles for the HOA's. However, the policy, with a clear focus to accommodate the City's changing demographics, whilst combating urban sprawl and the cost of living pressures, should also focus on liveability by encouraging high quality urban infill development with an increased emphasis on greening of the suburbs. For this reason, the LPP should consider promoting aspirational neighbourhoods of the future, where increased density is only one aspect. For this reason, the HOA's have been rebranded as Place Neighbourhoods.

Place Neighbourhoods (Urban and Suburban) are designed for walkability using a five-minute walkable catchment around a focal point or centre. This central focus is also a key part of neighbourhoods and the mix of non-residential uses depends on the context. All neighbourhoods provide a variety of housing types with the range and balance of this housing reflective of the neighbourhood type.

Place Neighbourhoods will be defined based on urban neighbourhoods (higher density, mixed use walkable neighbourhoods) and suburban neighbourhoods (low-medium density, walkable neighbourhoods) each containing 'place types' including:

- Suburban Places: characterised generally by low – medium density single residential.
- Local Activity Centres: mixed use node generally characterised by the provision of small shops and services, medium density, with a diversity of housing.
- Neighbourhood Activity Centres: mixed use centre generally characterised by a small range of convenience shops, local professional services and/or supermarket, possible community facilities and medium to high density diversity of housing.
- Transit Nodes: no/limited retail or commercial amenity.
- District Activity Centres: medium to high density places generally characterised by locally focussed convenience and specialty shops, typically with a supermarket and may contain small scale convenience shopping or department stores, local professional services and some district level office development.

6.3 IDENTIFICATION OF CONTROLS FOR DEVELOPMENT TYPOLOGIES

General and specific development controls based on the characteristics of each Place Neighbourhood will be developed using appropriate housing typologies to demonstrate good outcomes. A number of housing typologies ranging from detached to attached dwellings and apartments will be produced in response to the relevant place types.

6.4 AMENDMENTS TO *LOCAL PLANNING SCHEME NO. 3*

The LPS3 amendment will be subject to further discussion between the City and the Department of Planning Lands and Heritage as follows:

1. Scheme Amendment for existing HOA's only.
    - Introduction of scheme provisions:
        - introduce Place Neighbourhood/Special Control Areas provisions;
        - Linkages to policy;
        - introduce Place Neighbourhoods via location (LPS3 Maps) and schedule; and
        - general standards and special provisions;
    - Recode split coded areas based on Place Type walkability.
2. Following the completion of the Traffic and Transport Assessment and the update of the LHS, a future LPS3 amendment may consider boundary adjustments to the Place Neighbourhoods, new areas for infill development and further coding amendments.

6.5 REVIEW OF LOCAL PLANNING POLICY (RDLPP)

The current RDLPP relates to the whole of the City and not specifically to the HOAs. The RDLPP distinguishes between development in R-Codes above and below R40 in Tables 1 and 2 (of the RDLPP) but does not distinguish between the various HOAs.

It is recommended that the RDLPP should be amended to exclude the HOAs and that a separate policy should be prepared which relates specific requirements to the various place types of the HOAs.

A specific HOA policy could provide for general provisions for development and also specific provisions related to the various neighbourhoods. Provisions should relate to land use, access and parking, built form, private and public realm and any other aspects of development requiring specific guidance.

In addition, such a policy could identify where R-Code/A-Code provisions prevail or where they may be varied and how they may be varied through the application of suitable objectives or replacement provisions.

Application of the provisions for the various character neighbourhoods should be informed by the description of the neighbourhood and its context, a statement of intent for future development, and considerations and appropriate treatment in areas of transition between zones and land uses. On the basis of feedback from the community and stakeholders, as well as on the basis of sound planning principles and physical analysis, five place types are recommended to form the basis of the new policy;

1 **Suburban Place Type** – the areas remaining outside of the walkable catchments identified above.
2 **Local Activity Centre** – based on walkable catchment analysis
3 **Neighbourhood Activity Centre** – based on walkable catchment analysis
4 **Transit Node** – based on walkable catchment analysis
5 **District Activity Centre** – based on walkable catchment analysis

Built form typologies (similar to those considered in the Community Design Workshops) can be used in the LPP to explain development controls and examples of appropriate forms of development for each Place Neighbourhood.

6.6 APPLICATION OF LOCAL DEVELOPMENT PLANS (LDP)

LPS3 (by way of amendment) may require that for certain locations, zones and scale of development, development applications be considered in the context of an LDP. An LDP may be prepared by the City or land owner/applicant and provide additional details in regard to development siting, height, scale, topographical and natural ground level considerations, the extent or footprint of multiple dwellings, sites for lot amalgamation and interface with existing development and other matters which are particularly relevant to the site.

6.7 APPLICATION OF HOUSING TYPOLOGIES

As described above, housing typologies (similar to those considered in the Community Design Workshops) can demonstrate key considerations and approaches to built form and this is particularly relevant in urban infill scenarios such as the Place Neighbourhoods.

Following the feedback received at the Community Design Workshops, the typologies applied in the workshops are being reviewed and tested for applicability and refined prior to finalising for the purpose of inclusion in the LPP. The typologies will be applied to appropriate locations and used to demonstrate the application of R-Codes/A-Codes, any variations to be considered and other design requirements.

In addition, the following supplementary typologies are being prepared:

- mixed use;
- street end block amalgamation;
- ancillary accommodation; and
- corner lot.

6.8 FUNDING STRATEGY

The Place Neighbourhoods project will promote redevelopment of the neighbourhoods from predominantly low density residential development into high-quality and thriving neighbourhoods with a range of housing, employment and recreational opportunities. In order for this to occur, it will necessary to invest in a significant amount of infrastructure and/or infrastructure upgrades. The fragmented and established nature of the Place Neighbourhoods presents challenges for the funding and integrated delivery of such infrastructure, and it is therefore necessary to provide mechanisms to ensure an equitable and integrated approach. Potential infrastructure items for infill development include:

- new pedestrian and cycle paths;
- existing road upgrades including verges, street lighting and street tree planting;
- public open space improves to basic landscaping;
- upgrades to community facilities; and
- upgrades to public transport infrastructure.

Typically, funding for common infrastructure works (particularly in areas of fragmented landholdings) will be partly, or wholly, obtained through development contributions, collected by way of a Development Contribution Plan (DCP), and a Statutory Development Contributions Scheme (DCS). However, urban infill precincts present some different challenges, including:

- A less legible need and nexus connection.
- Some cost items would not be supported for inclusion in a DCP under State Planning Policy 3.6: *Development Contributions for Infrastructure* (SPP 3.6) even though their inclusion should be justified in an infill situation.
- The high cost of infrastructure provision in an urban renewal environment. Furthermore, if the entire cost is imposed through a DCP, it may render development unaffordable or at least financially less attractive.

While a DCP should be considered, it is important to ensure that the cost burden placed on development does not cause a financial impediment to the area's redevelopment. To this end it is important to examine other methods to achieve many of the infrastructure outcomes required. Other potential funding sources may include:

- general revenue – (with the investment ultimately returned through uplift in rate revenue);
- Specified Area Rate;
- Differential Area Rate;
- Federal/State grants (Smart Cities Plan and other City Building initiatives);
- Lotteries Commission grants;
- developer in-kind provision (through development bonuses or scheme requirements or negotiated outcomes as a result of development approvals); and
- value capture initiatives – betterment tax, tax increment finance, value add to public assets (although at present the main technique for value captive in Western Australia is via a DCP/DCS.

As a result of the population growth projected to occur within the Place Neighbourhoods, it will be necessary to review the implications on community infrastructure needs and public realm and open space upgrades. A suitable funding strategy to deliver this infrastructure, based on the plans for the future development and population increases in the Place Neighbourhoods, will also need to be determined.

6.9 OTHER MATTERS FOR CONSIDERATION

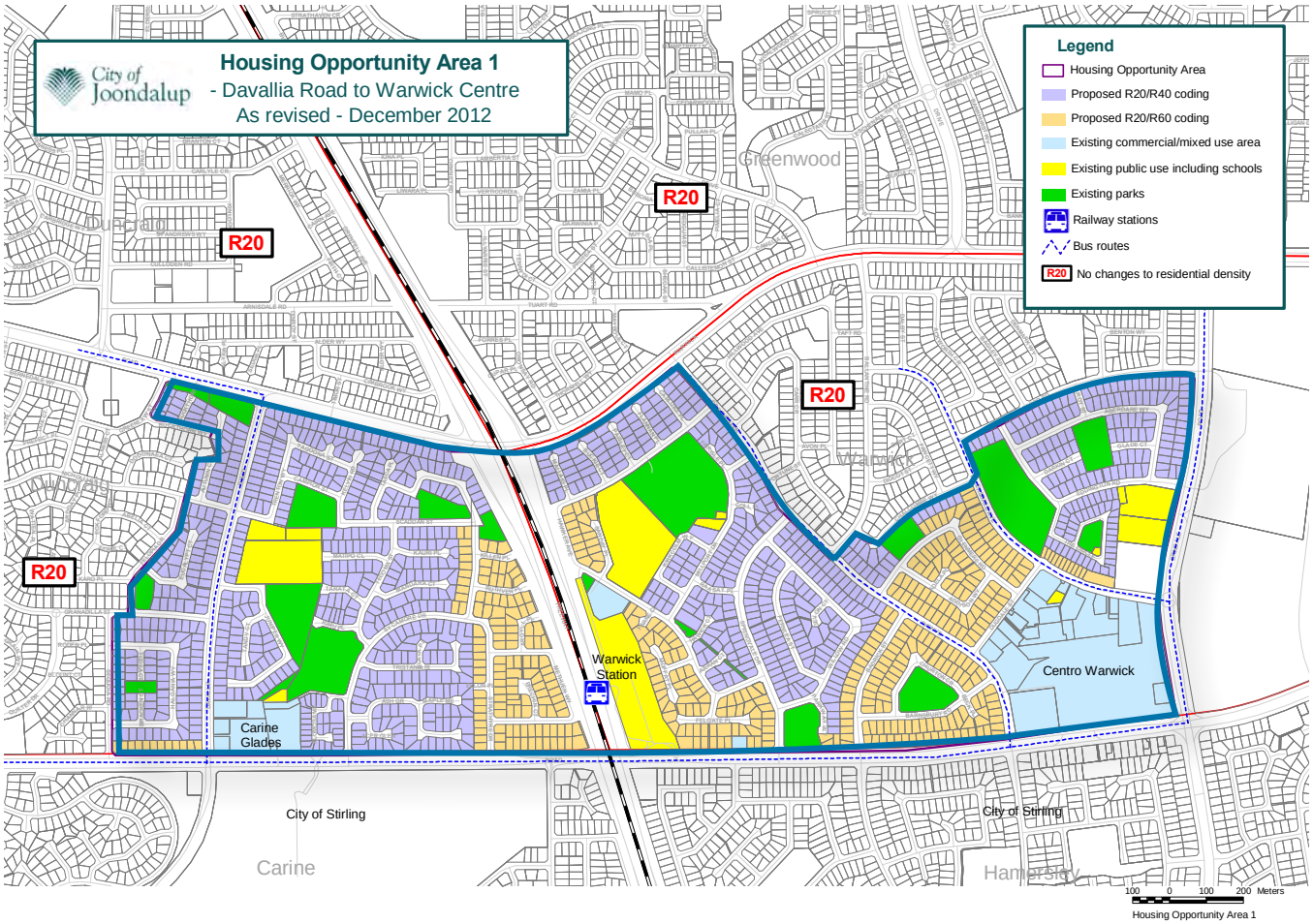
Other considerations and actions which have been identified include;

- finalisation of a Traffic and Transport assessment;
- future update of the LHS; and
- potential for alignment of ongoing City capital works to upgrade parks, streetscape and public realm within areas of development intensification in the Place Neighbourhoods to provide increased amenity for the growing population.

APPENDIX A
PHYSICAL ANALYSIS

HOUSING OPPORTUNITY AREA 1

OVERVIEW



AMENITY

Centro Warwick - Secondary Centre
Several parks & reserves such as Hawker Park & Juniper Reserve
Hawker Park PS
Davallia PS
Police Station

OTHER FEATURES

Carine Glades (shops) - Neighbourhood Centre
Bethane Nursing Home
Proximity to Warick High School
Warwick open space
Leisure Centre
Glengarry Private Hospital

TARGET YIELD

Target yield is currently R20/R40 & R20/R60

PUBLIC TRANSPORT

Access to Warick Station and multiple bus routes

DEVELOPMENT TO DATE

Recent grouped & multiple dwellings common, these are typically observed on corner and cul-de-sac sites.

ALSO WORTH NOTING

Appeal of area noted by residents is:
Good schools
Safe quiet streets
Open space
Established trees

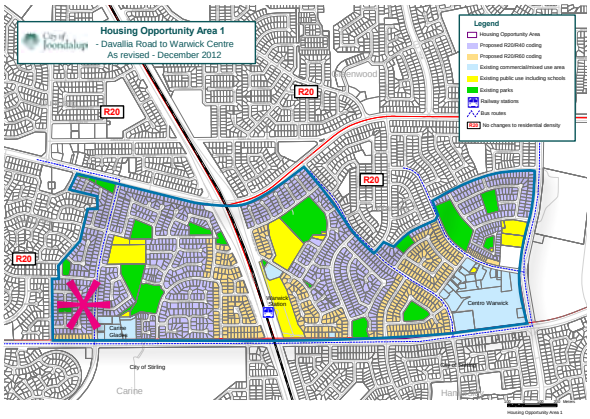
Inversely the WAPC note that the density should be much higher in the 800m to the station and the whole HOA should be much bigger.

LOT TYPOLOGIES

-Rectilinear
-Cul-de-sac
-Corner site

CONTEXT & CHARACTER ANALYSIS

HOA1 - DAVALLIA ROAD TO WARWICK CENTRE



BUILT FORM & SCALE

Single detached dwellings, some double storey
1st Generation 1970s
2nd Generation 2010s - includes multiple dwellings and grouped dwellings

CONTEXT & CHARACTER

Generally no front fence in 1st generation housing
Single carports or single garages
Double garages to 2nd generation

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Rendered brick work to some of the newer housing stock
Concrete tiles for roofing

LANDSCAPE QUALITY

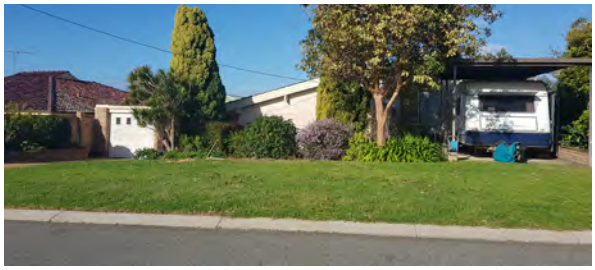
Gently sloping terrain
Mature trees within some street setbacks
Footpaths uncommon and on one side of street. Footpaths generally absent on cul-de-sac streets
Undefined grassed verges

AMENITY

Established trees in private land and in street verges

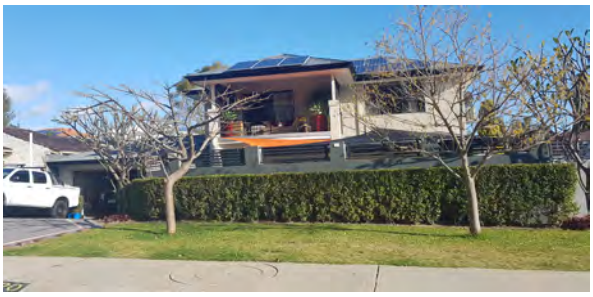
ISSUES FOR CONSIDERATION

Double garage door dominating street front
Narrow or no eaves in new houses
Minimal verge trees



1st generation housing

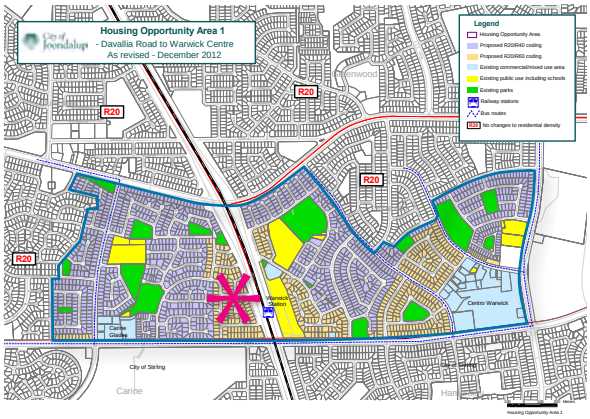
1st generation housing, double storey



2nd generation housing, double carports, fences

CONTEXT & CHARACTER ANALYSIS

HOA1 - DAVALLIA ROAD TO WARWICK CENTRE



BUILT FORM & SCALE

Single detached dwellings, some double storey
1st Generation 1970s
2nd Generation 2010s - includes multiple dwellings and grouped dwellings

CONTEXT & CHARACTER

Generally no front fence in 1st generation housing
Single carports or single garages
Double garages or gated driveways to 2nd generation

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Rendered brick work to some of the newer housing stock
Concrete tiles for roofing
Metal roof sheet to newer housing stock

LANDSCAPE QUALITY

Sloping terrain
Mature trees within some street setbacks
Footpaths uncommon and on one side of street. Footpaths generally absent on cul-de-sac streets
Undefined grassed or paved verges

AMENITY

Established trees in private land and in street verges

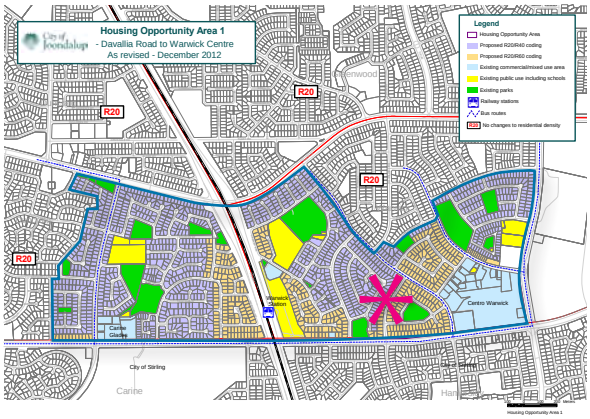
ISSUES FOR CONSIDERATION

Double garage door dominating street front
Narrow or no eaves in new houses
Minimal verge trees
Private land mature trees lost

New multiple dwellings, loss of trees on private land

CONTEXT & CHARACTER ANALYSIS

HOA1 - DAVALLIA ROAD TO WARWICK CENTRE



BUILT FORM & SCALE

Single detached dwellings, some double storey
1st Generation 1970s
2nd Generation 2010s - includes multiple dwellings and grouped dwellings

CONTEXT & CHARACTER

Generally no front fence in 1st generation housing - however some have renovated to add front fences and vehicle gates
Single carports or single garages
Double garages to 2nd generation

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Rendered brick work to some of the newer housing stock
Concrete tiles for roofing

LANDSCAPE QUALITY

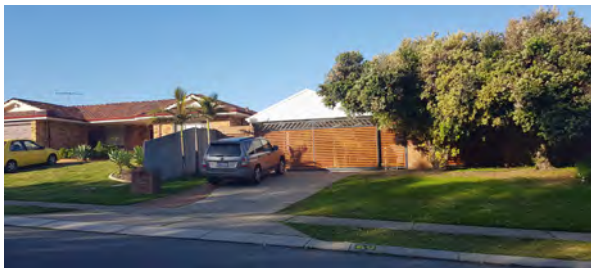
Undulating terrain
Mature trees within some street setbacks
Footpaths limited to one side of street and absent from cul-de-sac streets
Undefined predominantly grassed verges

AMENITY

Established trees in private land and some in street verges

ISSUES FOR CONSIDERATION

Double garage door dominating street front
Narrow or no eaves in new houses
Walls to street front
Minimal verge trees
Loss of mature trees on private land with new developments



1st generation

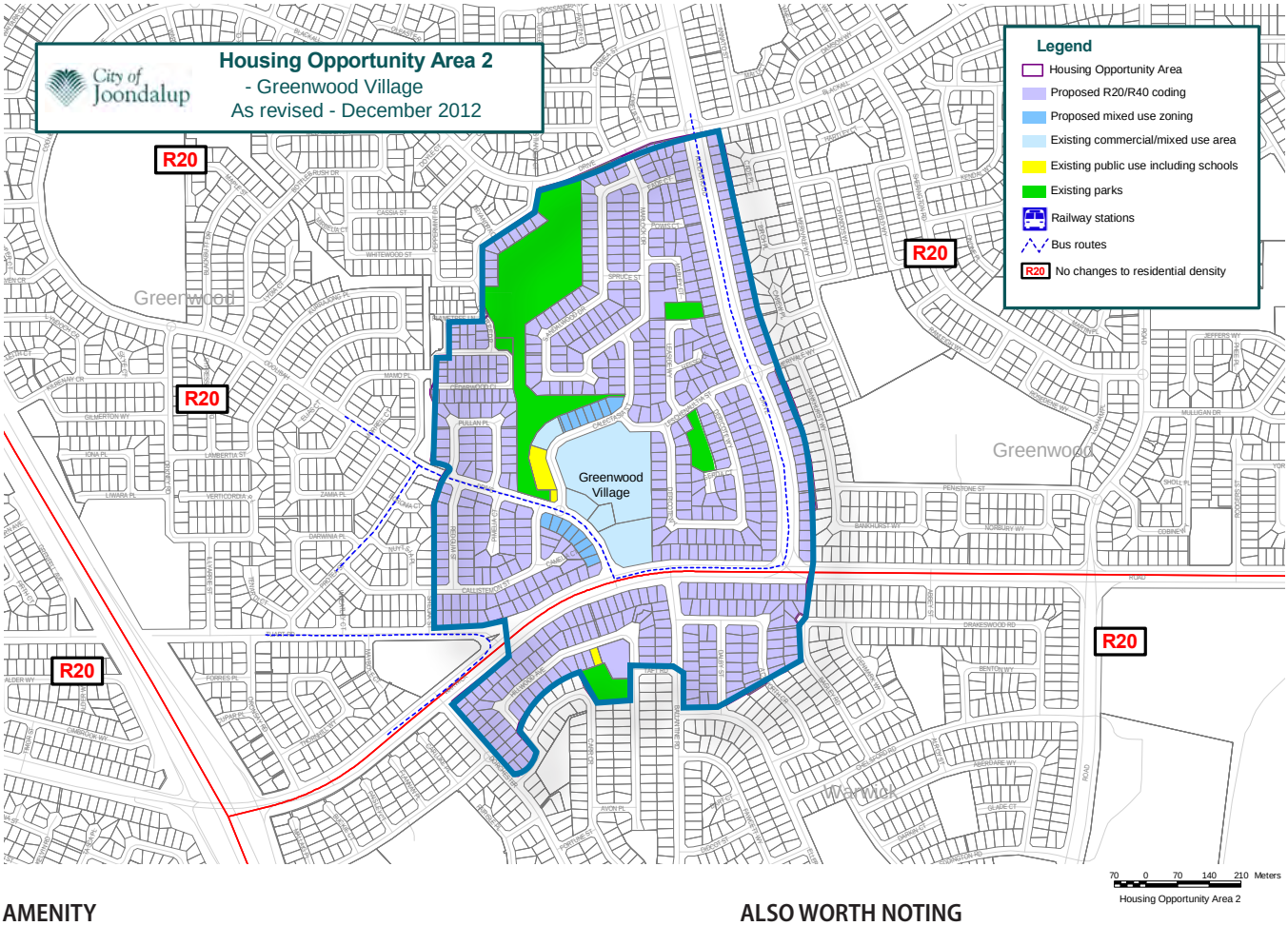
Poor outcome - walls

Carport dominates street front

Fully cleared site, no mature trees remain, no eaves

HOUSING OPPORTUNITY AREA 2

OVERVIEW



AMENITY

Based around Greenwood Village (designated a District Centre)
Blackall Reserve

OTHER FEATURES

Proximity to Greenwood PS
Proximity to Greenwood College
Proximity to Liwara Catholic PS
Proximity to West Greenwood PS

TARGET YIELD

Target yield is currently R20/R40
Some mixed use zoning proposed next to centre

PUBLIC TRANSPORT

No High Frequency transport links, bus routes along Warick Rd, Allenswood Rd & Coolibah Drive

DEVELOPMENT TO DATE

Evidence of low density infill development on the west side of Blackall Park where new lot sizes are typically smaller than areas of 1st generation development.

ALSO WORTH NOTING

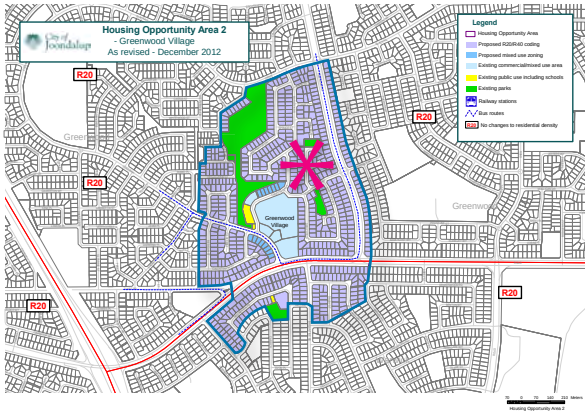
Nil

LOT TYPOLOGY

-Rectilinear
-Cul-de-sac
-Corner sites

CONTEXT & CHARACTER ANALYSIS

HOA2 - GREENWOOD VILLAGE



BUILT FORM & SCALE

Single detached dwellings
1st Generation 1970s
2nd Generation 2010s

CONTEXT & CHARACTER

Generally no front fence in 1st generation housing
Single carports or single garages
Double garages to 2nd generation

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Rendered brick work to some of the newer housing stock
Concrete tiles for roofing

LANDSCAPE QUALITY

Gently sloping terrain
Mature trees within some street setbacks
Footpaths limited to one side of street and absent from cul-de-sac streets
Undefined grassed or paved verges

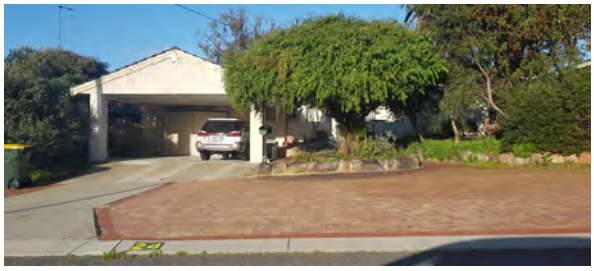
AMENITY

Established trees in private land and in street verges

ISSUES FOR CONSIDERATION

Double garage door dominating street front
Narrow or no eaves in new houses
Minimal verge trees
No outlook from front windows to the street

1st generation, single garage, living areas address street



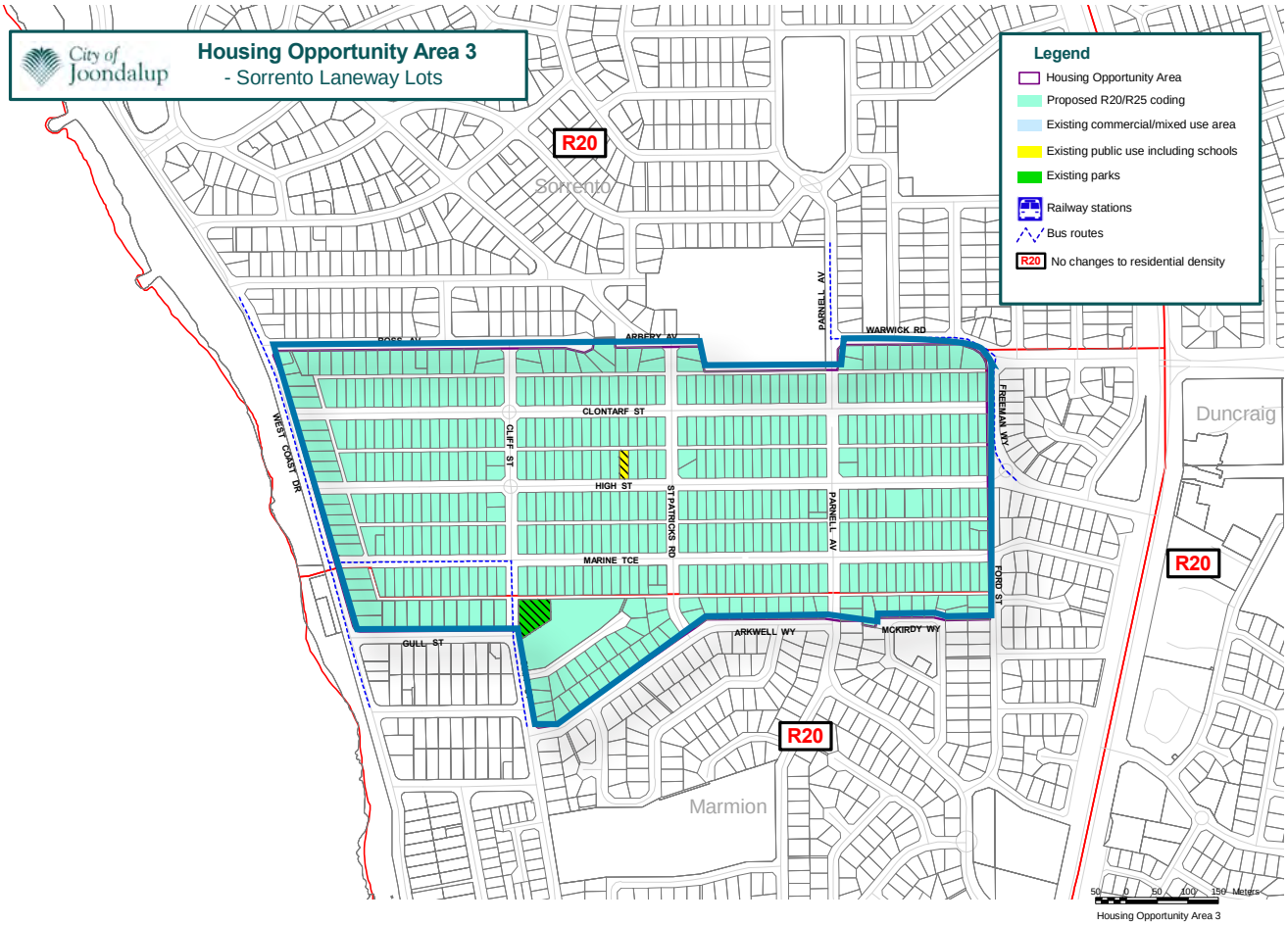
1st generation, double carport, established trees within site

2nd generation, double carport, varied surveillance

Blank walls to street

HOUSING OPPORTUNITY AREA 3

OVERVIEW



AMENITY

Adjacent to beach
Adjacent to Robin Reserve

Proximity to Duncraig Public Library & Leisure Centre
Proximity to Aquatic club
Proximity to sports clubs at Percy Doyle Reserve
Proximity to Nursing Homes on Marmion Ave
Proximity to Sorrento PS & Marmion PS
Proximity to Sacred Heart College

LOT TYPOLOGIES

-Rectilinear
-Corner

TARGET YIELD

Target yield is currently R20/R25

PUBLIC TRANSPORT

Access to bus routes on Marmion Ave and Cliff Street

DEVELOPMENT TO DATE

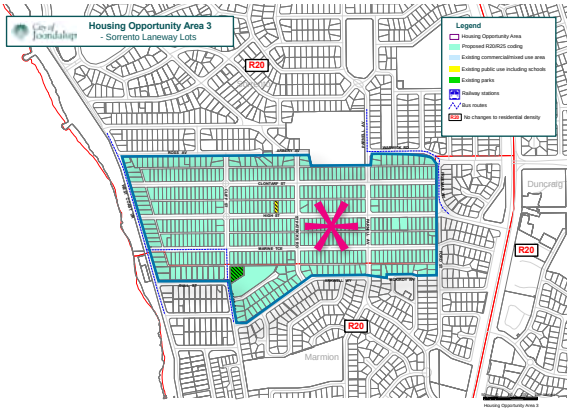
Some laneway facing lots developed
Some cleared lots for new developments

ALSO WORTH NOTING

Undulating topography and potential ocean views

CONTEXT & CHARACTER ANALYSIS

HOA3 - SORRENTO LANEWAY LOTS



BUILT FORM & SCALE

Single detached dwellings with rear / laneway access
Some double storey houses
1st Generation 1970s
2nd Generation 2010s

CONTEXT & CHARACTER

Driveways, open carports or single garage to street side
Generally no front fence
Laneway side: garage doors and high walls
Double garages to 2nd generation on street front

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Rendered brick work to some of the newer housing stock
Concrete tiles for roofing
Some 2nd generation housing metal sheet roof

LANDSCAPE QUALITY

Steep undulating terrain
Retaining walls common
Mature trees within some street setbacks, and along the laneways
Footpaths limited to one side of the street and absent from laneways
Undefined grassed or paved verge

AMENITY

Established trees in private land and in street verges

ISSUES FOR CONSIDERATION

Double garage door dominating street front
Narrow or no eaves in new houses
Minimal verge trees
Existing private trees being cleared for developments

1st generation housing, address street, single & double storey

Double garages and high fences to laneway address

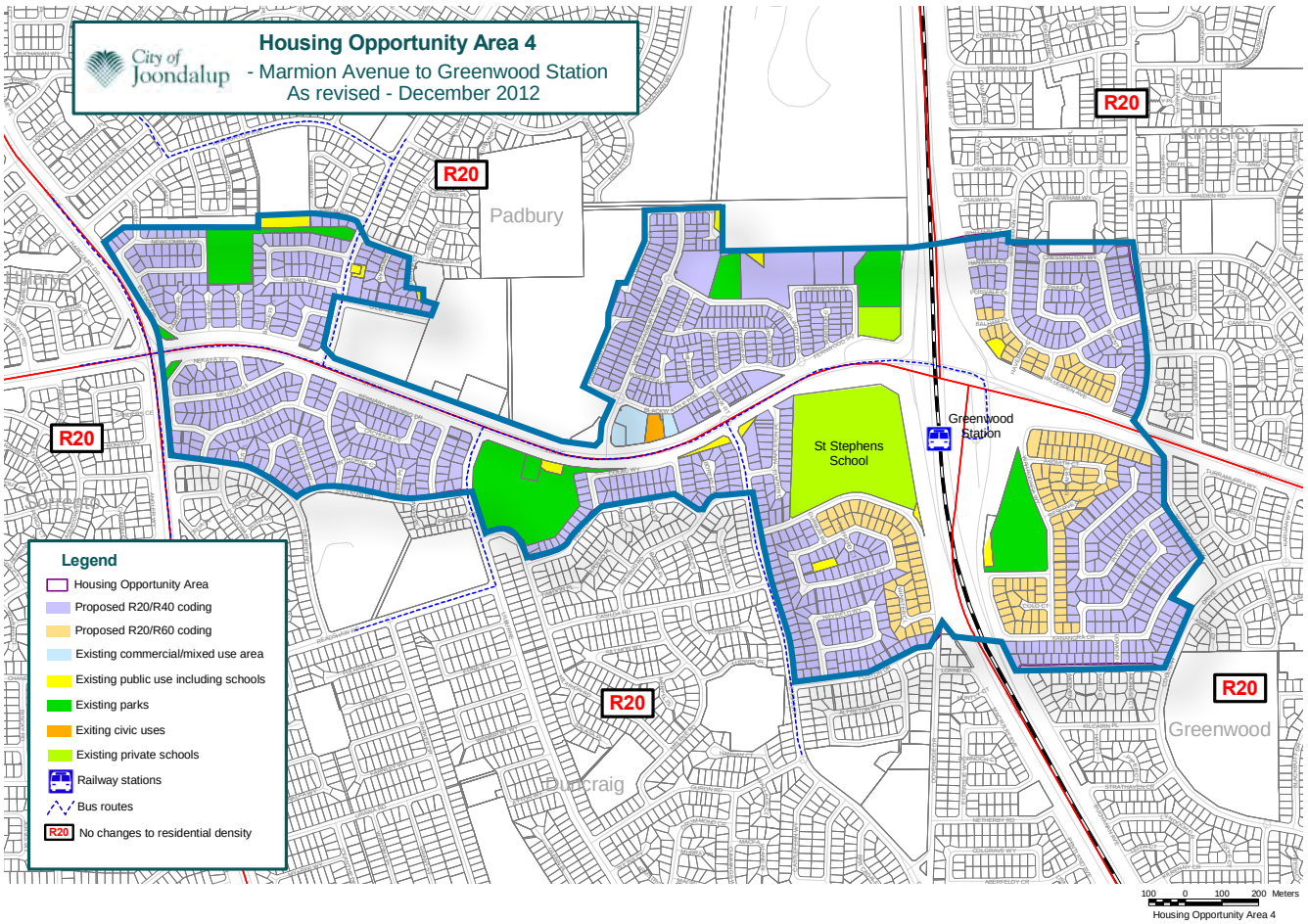
Double garages to new developments

No eaves in some new developments

Flattened site - loss of trees or topography

HOUSING OPPORTUNITY AREA 4

OVERVIEW



AMENITY

Adjacent to Duncraig Senior High School
Adjacent to Padbury Catholic Primary School
St Stephen's School and Early Learning Centre
Lilburne reserve
Adjacent to Hepburn Conservation Area
Several parks including Ferwood Park and Kanangra Park

OTHER FEATURES

Proximity to Dalmain PS
Proximity to Greenwood College
Pinnaroo Memorial Park (Cemetery, native bushland animals and kangaroos)
St Stephens School & Early Learning Centre
Fire Station

TARGET YIELD

Target yield is currently R20/R40 & R20/R60

PUBLIC TRANSPORT

Greenwood Station and high frequency bus route on Hepburn Ave

DEVELOPMENT TO DATE

Evidence of low density infill development on the east side of Hepburn Conservation Area where new lot sizes are typically smaller than areas of 1st generation development.

Also some evidence of subdivision and grouped dwelling development, typically on corner or cul-de-sac streets

ALSO WORTH NOTING

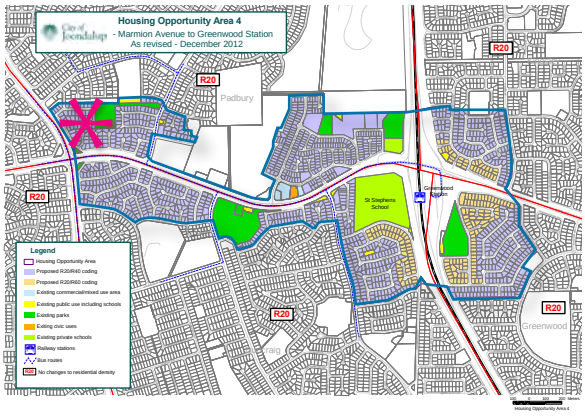
Nil

LOT TYPOLOGIES

-Rectilinear
-Cul-de-sac
-Corner sites

CONTEXT & CHARACTER ANALYSIS

HOA4 - MARMION AVENUE TO GREENWOOD STATION



BUILT FORM & SCALE

Single detached dwellings, some duplexes
1st Generation 1970s
2nd Generation 2000s - minimal new houses, mostly renovations and extensions.

CONTEXT & CHARACTER

Generally no front fence in 1st generation housing
2nd generation- brick piers with infill timber slats for fencing
Single carports or single garages, some
Double garages to 2nd generation

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Concrete tiles for roofing

LANDSCAPE QUALITY

Gently sloping terrain
Mature trees within some street setbacks
Footpaths limited to one side and absent from cul-de-sac streets
Undefined verges generally grassed or garden beds

AMENITY

Established trees in private land and in street verges
Minimal double carports to street to date

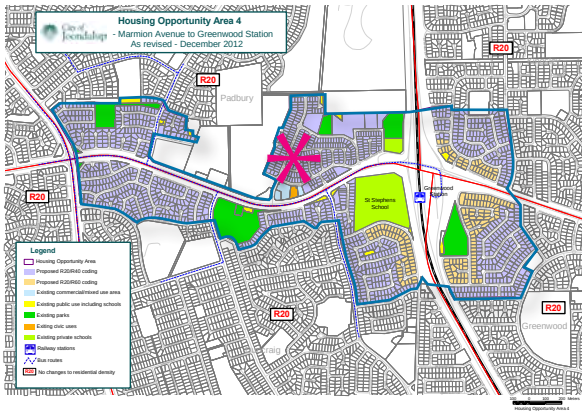
ISSUES FOR CONSIDERATION

Minimal verge trees

1st generation housing

CONTEXT & CHARACTER ANALYSIS

HOA4 - MARMION AVENUE TO GREENWOOD STATION



BUILT FORM & SCALE

Single detached dwellings, single and double storey
1st Generation 1990s-2000s urban infill

CONTEXT & CHARACTER

1st generation housing- generally no front fence, double garage
2nd generation- brick piers with infill timber slats for fencing, double garages, windows facing street

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Concrete tiles for roofing

LANDSCAPE QUALITY

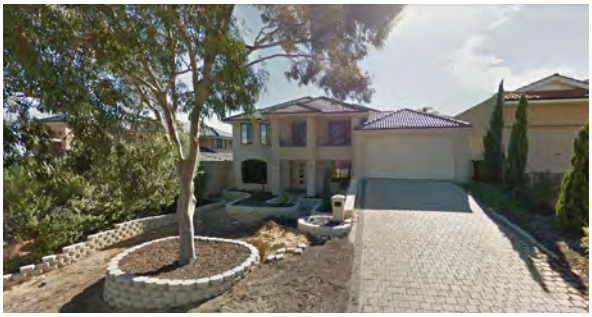
Sloping terrain
Minimal mature trees within street setbacks or verge trees
Footpaths limited to one side and absent in cul-de-sac streets
Undefined grassed or paved verges

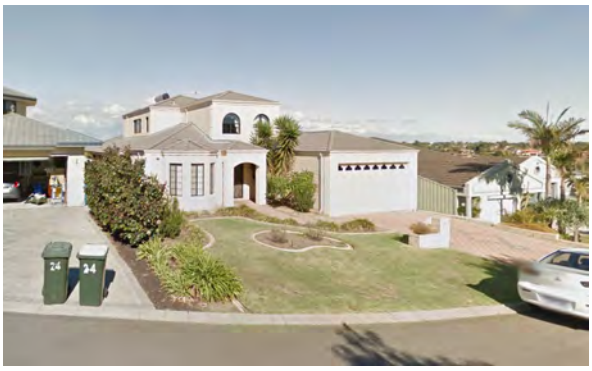
AMENITY

Nil

ISSUES FOR CONSIDERATION

Minimal verge trees
High lot coverage with built form - minimal deep soil zones in private land





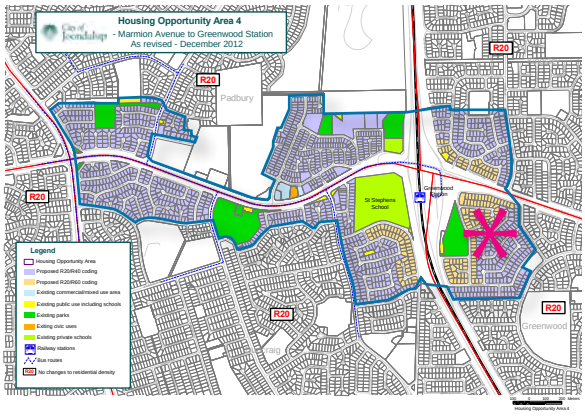
1st generation housing, double storey

1st generation housing, double storey

Typical single storey

CONTEXT & CHARACTER ANALYSIS

HOA4 - MARMION AVENUE TO GREENWOOD STATION



BUILT FORM & SCALE

Single detached dwellings, some duplex, some grouped dwellings
1st Generation 1970-1980s
2nd Generation 2010s - includes multiple dwellings and grouped dwellings

CONTEXT & CHARACTER

1st generation housing- generally no front fence, single or double carport
2nd generation- brick piers with infill timber slats for fencing, double garages, windows facing street

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Concrete tiles for roofing

LANDSCAPE QUALITY

Sloping Terrain
Minimal mature trees within street setbacks or verges trees
Footpaths to some streets
Verges generally grassed or paved

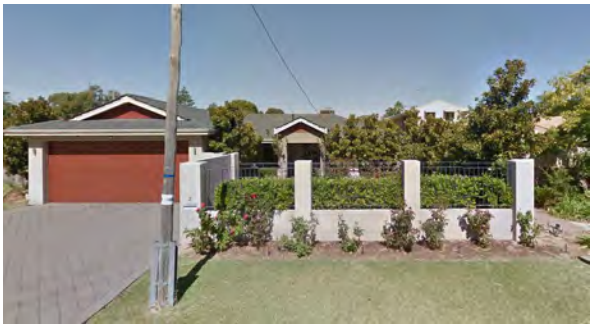
AMENITY

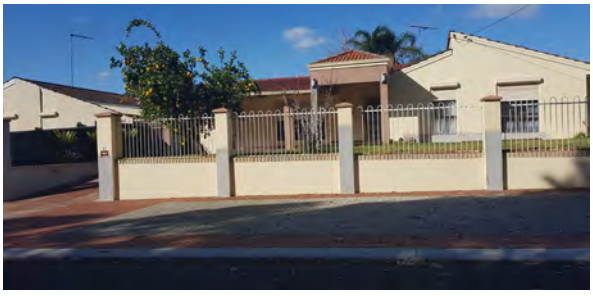
Relatively small number of mature trees

ISSUES FOR CONSIDERATION

Minimal verge trees

1st generation housing, single storey, carports, no fences

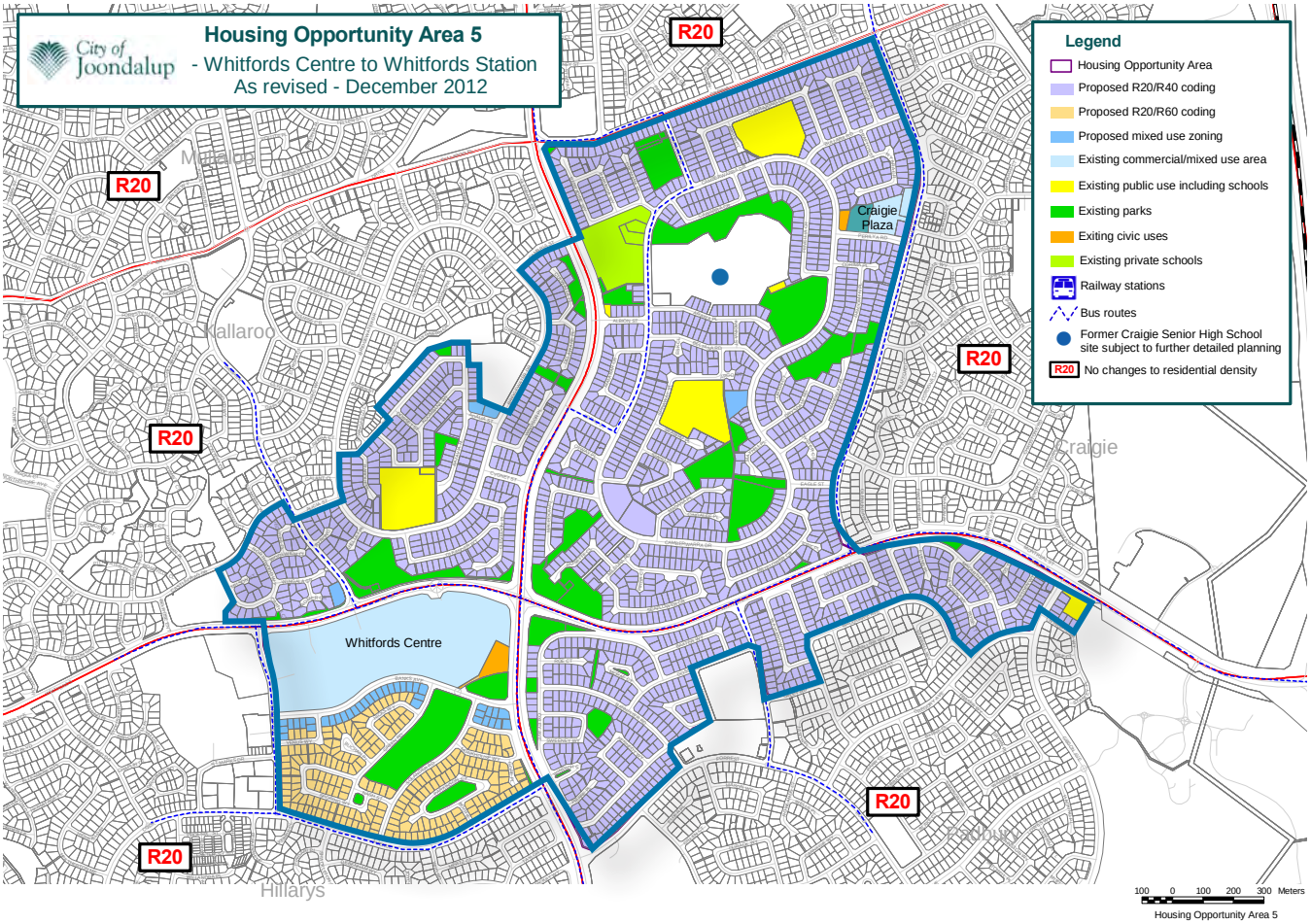




2nd generation housing

HOUSING OPPORTUNITY AREA 5

OVERVIEW



AMENITY

Craigie Heights PS
Springfield PS
Access to several public parks including James Cook Park and Mawson Park

OTHER FEATURES

West Coast Language Development Centre
Craigie Plaza - Neighbourhood Centre
Whitford City - Secondary Centre
Proximity to Padbury PS and associated community facilities
Whitfords Catholic PS
Aged Care Facilities

TARGET YIELD

Target yield is currently R20/R40 & R20/R60
Mixed use development

PUBLIC TRANSPORT

High frequency Bus links on Whitfords Ave

DEVELOPMENT TO DATE

Patches of infill development where single dwellings appear on smaller lot sizes in the north of the HOA. Grouped dwellings and subdivision evident, particularly on corner and cul-de-sac sites

ALSO WORTH NOTING

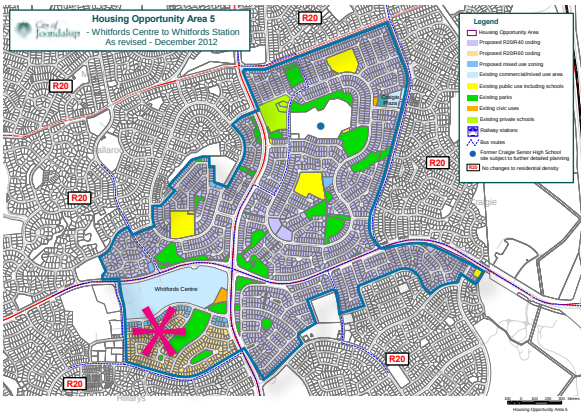
Craigie High School site is possible future housing site

LOT TYPOLOGIES

-Rectilinear
-Cul-de-sac
-Corners site
-Trapezoid site

CONTEXT & CHARACTER ANALYSIS

HOA5 - WHITFORDS CENTRE TO WHITFORDS STATION



BUILT FORM & SCALE

Single detached dwellings, some double storey
1st Generation 1970s/1980s, double storey rare
2nd Generation 2010s, double storey

CONTEXT & CHARACTER

1st generation housing- generally no front fence, single or double carport, some garages
2nd generation- brick piers with infill timber slats for fencing, double garages, windows facing street

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Concrete tiles for roofing

LANDSCAPE QUALITY

Gently sloping
Minimal mature trees within street setbacks or verges trees
Footpaths limited to one side of the street and absent from cul-de-sac streets
Undefined verges generally grassed

AMENITY

Mature trees in some sites. Park outlook for houses on James Cook Park and Parkinson Park

ISSUES FOR CONSIDERATION

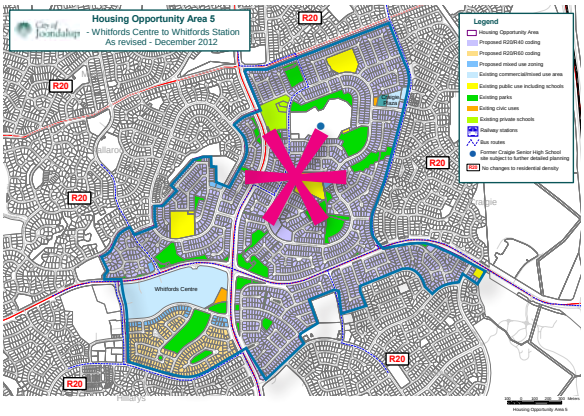
Minimal verge trees

1st generation housing

2nd generation housing

CONTEXT & CHARACTER ANALYSIS

HOA5 - WHITFORDS CENTRE TO WHITFORDS STATION



BUILT FORM & SCALE

Single detached dwellings, (1x double storey found)
1st Generation 1980s

CONTEXT & CHARACTER

1st generation housing- generally no front fence, single or double carport
2nd generation-single and multiple dwellings evident, single dwellings have brick pier fencing with infill timber slats, double carports or garages present

AESTHETIC & MATERIALITY

Double brick construction
Predominantly face brickwork
Concrete tiles for roofing

LANDSCAPE QUALITY

Relatively Flat
Minimal mature trees within street setbacks or verges trees
Footpaths to some streets
Verges generally grassed

AMENITY

Lots of mature trees on private land

ISSUES FOR CONSIDERATION

Minimal verge trees

1st generation housing

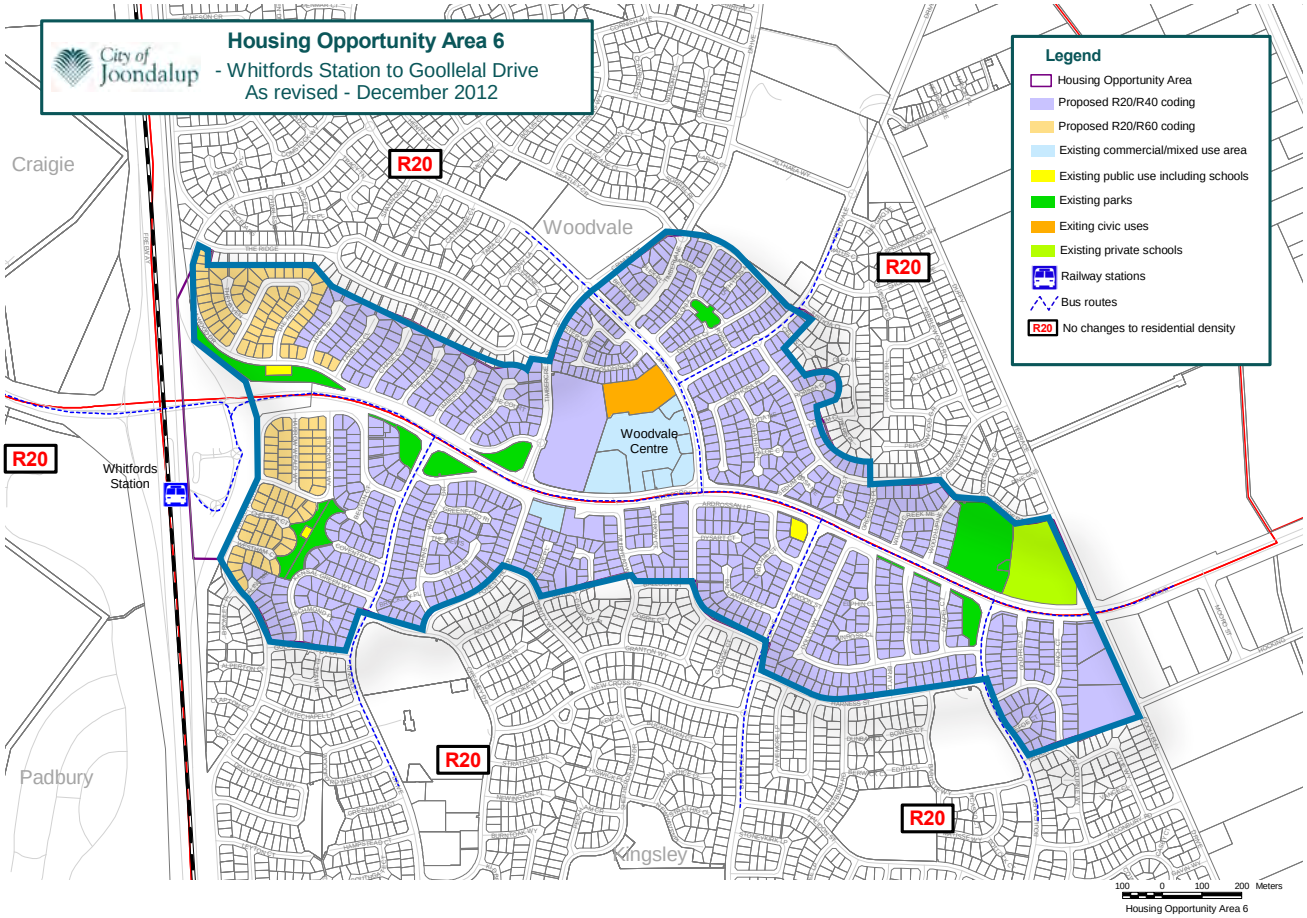
Subdivided land parcels

New single residential development

2nd generation housing

HOUSING OPPORTUNITY AREA 6

OVERVIEW



AMENITY

Whitfords Station
Library
Retirement village
Community centre
\Woodvale PS
Creaney PS

OTHER FEATURES

Woodvale Centre - District Centre
Adjacent to drive in theatre
St Lukes Catholic PS
Glengarry Private Hospital

TARGET YIELD

Target yield is currently R20/R40 & R20/R60

PUBLIC TRANSPORT

Whitfords Station & high frequency bus route

DEVELOPMENT TO DATE

Three waves of development - Original 1970s/80s housing, 1990s housing & 2010s housing (typically involving demolition to original housing).

ALSO WORTH NOTING

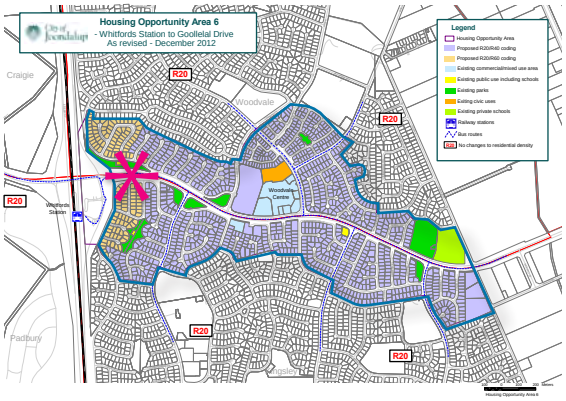
Good transport links
Craigie High School is possible future housing site

LOT TYPOLOGIES

-Rectilinear
-Cul-de-sac
-Corners site
-Trapezoid site

CONTEXT & CHARACTER ANALYSIS

HOA6 - WHITFORDS STATION TO GOOLLELAL DRIVE



BUILT FORM & SCALE

Single detached dwellings, limited double storey
1st Generation 1970s
2nd Generation 1990s
3rd Generation 2010s - includes duplex dwellings

CONTEXT & CHARACTER

No front fence
Double garages , with some single carports or single garages to 1st generation housing

AESTHETICS & MATERIALITY

Double brick construction
Face brickwork
Rendered brick work to some of the newer housing stock
Concrete tiles for roofing
Limestone retaining walls

LANDSCAPE QUALITY

Gently sloping terrain
Mature trees within some street setbacks, typically associated with 1st generation housing
Footpaths limited to one side of street and absent on cul de sac streets
Undefined verge typically grass or hard stand with absence of street trees

AMENITY

Established trees in private land of 1st generation housing

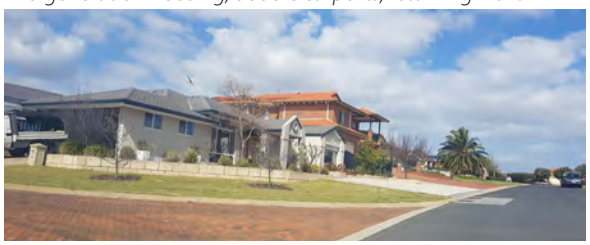
ISSUES FOR CONSIDERATION

Double garage door and double cross over / driveway dominating street front
Absence of street trees and pedestrian footpaths

1st generation housing - Double carports/garages, no verge trees

1st generation housing - established trees

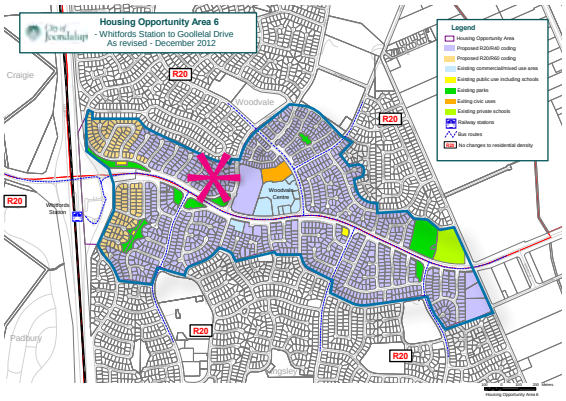
2nd generation housing, double carports, retaining walls



3rd generation housing, double garages, retaining walls

CONTEXT & CHARACTER ANALYSIS

HOA6 - WHITFORDS STATION TO GOOLLELAL DRIVE



BUILD FORM & SCALE

Single detached dwellings, double storey in newer housing stock
1st Generation 1970s
2nd Generation 2010s - includes duplex/terrace dwellings

CONTEXT & CHARACTER

No front fence
Some low font fences in newer housing stock
Double garages for detached dwellings
Single garages for attached housing

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Rendered brick work to some of the newer housing stock
Concrete tiles for roofing
Corrugated metal roof sheeting to some 2nd generation dwellings

LANDSCAPE QUALITY

Sloping terrain
Footpaths limited to one side of street and absent on cul de sac streets
Undefined verge typically grass or hard stand with absence of street trees

AMENITY

Established gardens in private land of older housing stock

ISSUES FOR CONSIDERATION

Double garage door and double cross over/driveway dominating street front
Absence of street trees and pedestrian footpaths
Narrow or no eaves in new houses

1st generation double storey housing

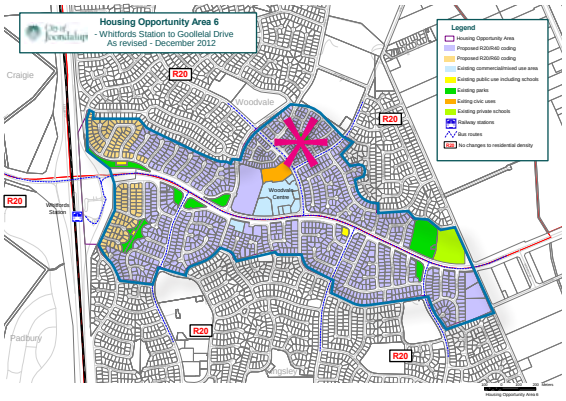
1st generation single storey housing

2nd generation single storey housing

2nd generation double storey housing

CONTEXT & CHARACTER ANALYSIS

HOA6 - WHITFORDS STATION TO GOOLLELAL DRIVE



BUILT FORM & SCALE

Single detached dwellings, predominately single storey
1st Generation 1990s

CONTEXT & CHARACTER

Generally no front fence
Double garages and double carports

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Concrete tiles for roofing

LANDSCAPE QUALITY

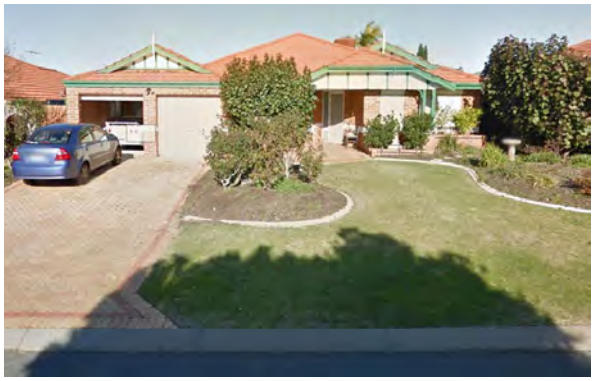
Gently sloping terrain
Footpaths limited to one side of street and absent on cul de sac streets
Undefined verge typically grass or hard stand with absence of street trees

AMENITY

Established gardens and some trees in private land addressing street

ISSUES FOR CONSIDERATION

Double garage door and double cross over/driveway dominating street front in newer housing stock
Absence of street trees and pedestrian footpaths
Narrow or no eaves in new houses

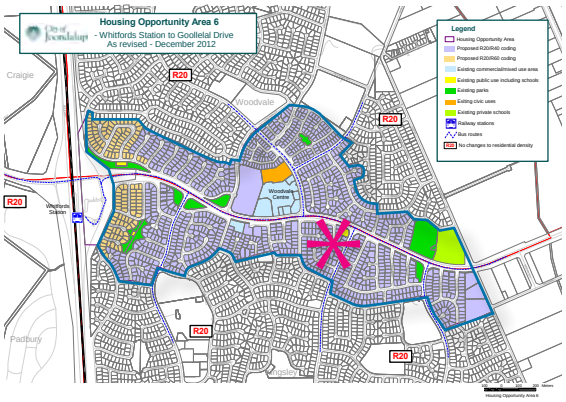


1st generation single storey housing

1st generation double storey housing

CONTEXT & CHARACTER ANALYSIS

HOA6 - WHITFORDS STATION TO GOOLLELAL DRIVE



BUILT FORM & SCALE

Single detached dwellings, double storey in newer housing stock
1st Generation 1970s
2nd Generation 1990s - includes some grouped dwellings
3rd Generation 2010s - includes duplex dwellings

CONTEXT & CHARACTER

No front fence to 1st generation dwellings
Some high fencing to 2nd generation dwellings, typically associated with corner sites
Single garages in 1st generation dwellings
Double garages and some double carports in newer housing stock

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Rendered brickwork to 3rd generation dwellings
Concrete tiles for roofing
Corrugated metal roof sheeting to some 2nd generation dwellings

LANDSCAPE QUALITY

Relatively flat terrain
Mature trees within some street setbacks in 1st generation dwellings
Footpaths limited to one side of street and absent on cul de sac streets
Undefined verge typically grass or hard stand with absence of street trees

AMENITY

Established gardens and some trees in private land addressing street. Established gardens along lot boundaries

ISSUES FOR CONSIDERATION

Double garage door dominating street front in newer housing stock
Absence of street trees and pedestrian footpaths
Narrow or no eaves in new houses
Minimal verge trees
Private land mature trees lost

1st generation housing

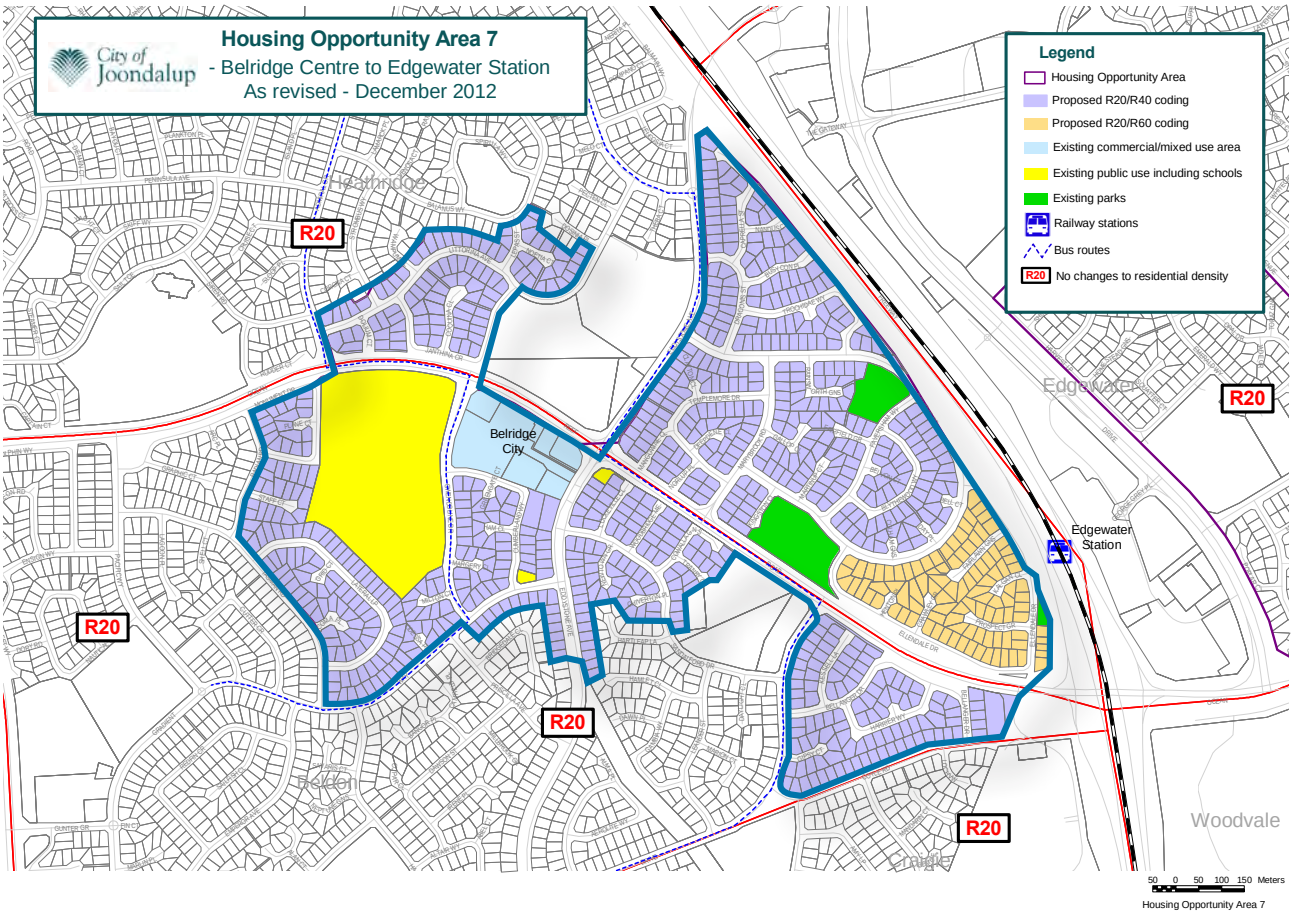
2nd generation housing

3rd generation housing

gresleyabas

HOUSING OPPORTUNITY AREA 7

OVERVIEW



AMENITY

Belridge Secondary College
Adjacent to Eddystone PS
Adjacent to Littorina Park

OTHER FEATURES

Adjacent to Sandalford Park
Belridge City - Neighbourhood Centre
Beldon School of Early Learning

TARGET YIELD

Target yield is currently R20/R40 & R20/R60

PUBLIC TRANSPORT

Access to Edgewater train station and multiple bus routes

DEVELOPMENT TO DATE

Limited development evident

ALSO WORTH NOTING

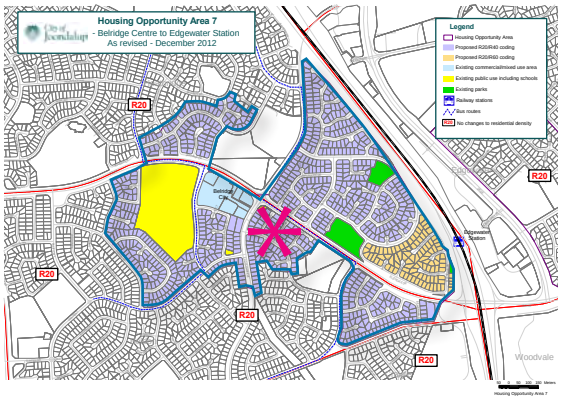
Nil

LOT TYPOLOGIES

-Rectilinear
-Cul-de-sac
-Corner site
-Trapezoid

CONTEXT & CHARACTER ANALYSIS

HOA7 - BELRIDGE CENTRE TO EDGEWATER STATION



EXISTING BUILDING TYPES

Single detached dwellings, limited double storey
1st Generation 1980s
2nd Generation 1990s
Renovations include render to existing brick dwellings

EXISTING STREET ADDRESS

Fences generally low and only present on corner lots - Cumberland Way shows more incidence of fences.
Undulating terrain, retaining walls common
Mix of double and single garages and/or carports

AESTHETICS & MATERIALITY

Double brick construction
Face brickwork
Rendered brick work to some housing stock
Concrete tiles for roofing

LANDSCAPE QUALITY

Gently sloping terrain
Established gardens and mature trees within some street setbacks, typically associated with 1st generation housing and early 1990s dwellings
Footpaths typical, excluding cul de sac streets
Verges not vegetated

AMENITY

Established gardens & trees in private land of older housing stock

ISSUES FOR CONSIDERATION

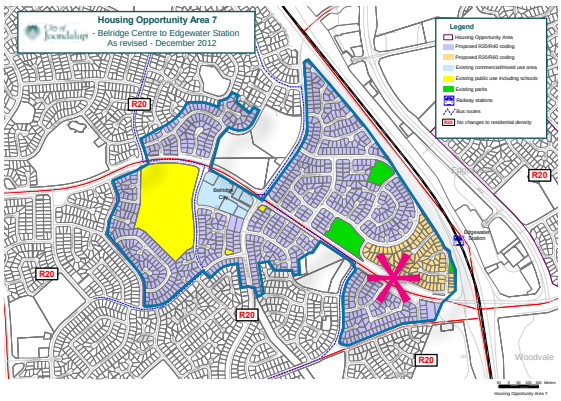
Garage door and paved driveway dominating street front
Absence of street trees

1st generation housing

2nd generation housing, double carports, fences

CONTEXT & CHARACTER ANALYSIS

HOA7 - BELRIDGE CENTRE TO EDGEWATER STATION



BUILT FORM & SCALE

Single detached dwellings generally, some examples of grouped dwellings on cul de sac sites
1st Generation1980-90s
2nd Generation 2010s

CONTEXT & CHARACTER

Fences generally low and only present on corner lots
Predominantly single garages and/or carports with additional Hardstand parking

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Rendered brick work to some of the newer housing stock
Some examples of 2 course bricks
Concrete tiles for roofing
Corrugated metal roof sheeting to some 3rd generation dwellings

LANDSCAPE QUALITY

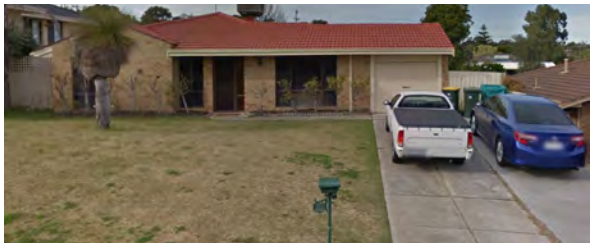
Gently sloping terrain
Established gardens within some street setbacks, typically associated with 1st generation housing and early 1990s dwellings
Footpaths typical, on one side of street and absent on cul de sac streets.
Verges not vegetated

AMENITY

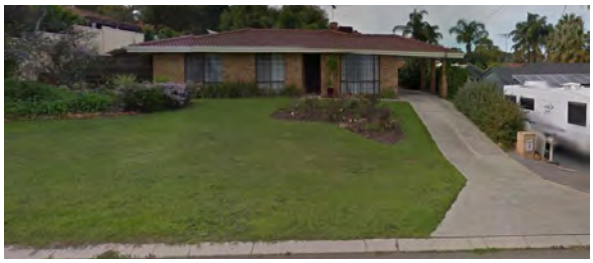
Established gardens in private land

ISSUES FOR CONSIDERATION

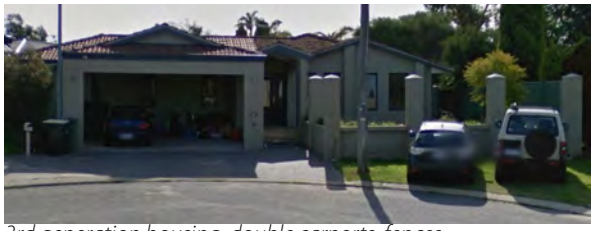
Wide driveways and garage / carports dominating street front
Absence of street trees and pedestrian footpaths
Narrow or no eaves in new houses
Absence of verge trees



1st generation housing



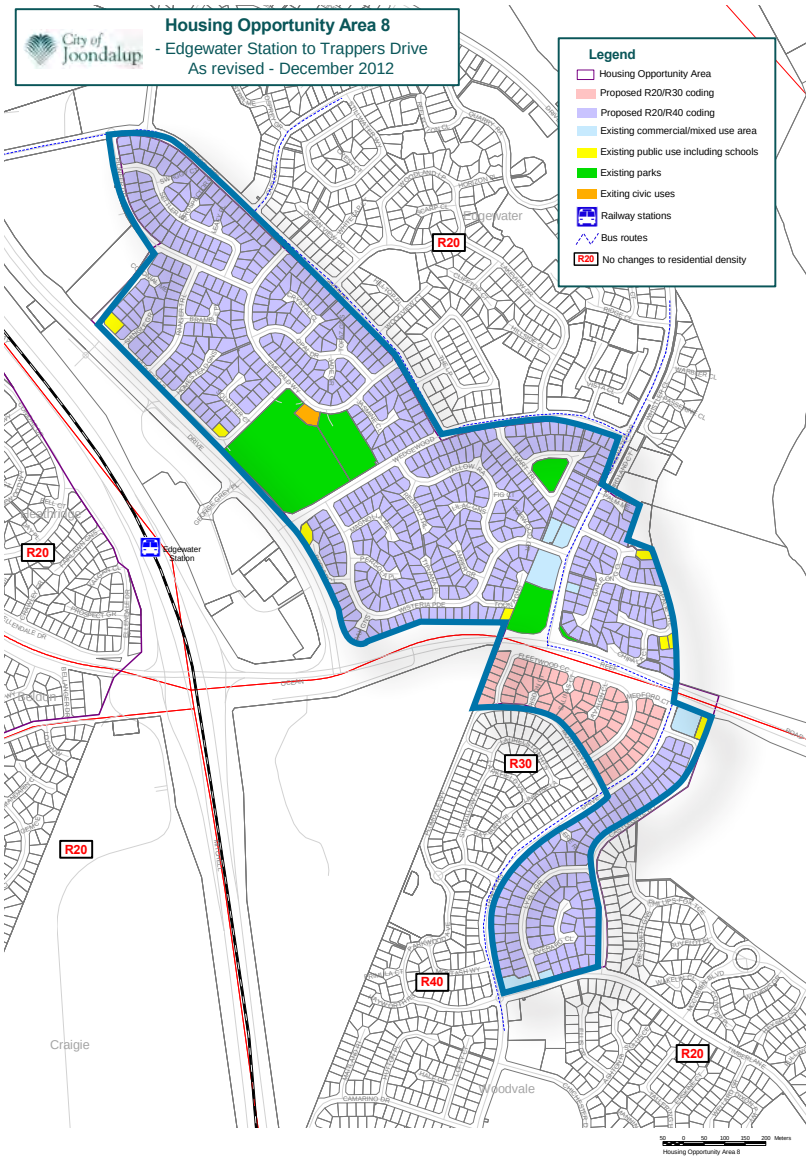
1st generation housing



3rd generation housing, double carports, fences

HOUSING OPPORTUNITY AREA 8

OVERVIEW



AMENITY

Emerald Park
Edgewater Markets
Edgewater Primary School
Woodvale Nature Reserve

OTHER FEATURES

Edgewater Mercy Hostel
Proximity to large parks
Marter Dei College
Proximity to Joondalup shopping precinct
Proximity to Lake Joondalup

TARGET YIELD

Target yield is currently R20/R30 & R20/R40

PUBLIC TRANSPORT

Access to Edgewater Station

DEVELOPMENT TO DATE

Limited subdivision evident, older housing stock being replaced with new housing stock.

ALSO WORTH NOTING

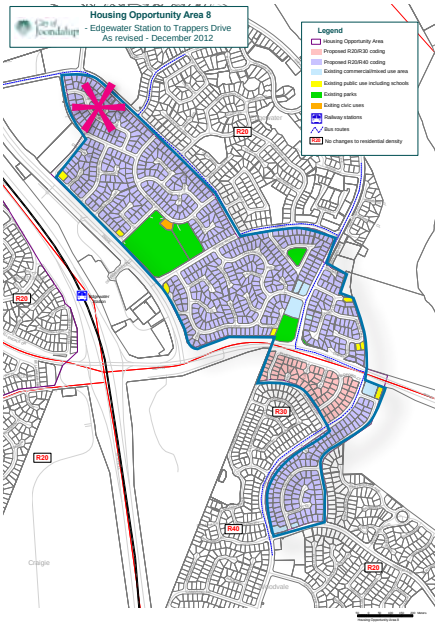
Some cul-de-sac conditions

LOT TYPOLOGIES

-Rectilinear
-Cul-de-sac
-Corner site

CONTEXT & CHARACTER ANALYSIS

HOA8 - EDGEWATER STATION TO TRAPPERS DRIVE



BUILT FORM & SCALE

Single detached dwellings, some examples of duplex housing
1st Generation 1970-80s
2nd Generation 1990s
3rd Generation 2010s

CONTEXT & CHARACTER

Fences only present on corner lots - some retaining walls present to address change in relief from verge to FFL.
Mix of double and single garages and/or carports

AESTHETICS & MATERIALITY

Double brick construction
Face brickwork
Rendered brick work to new housing stock, and some older brick dwellings rendered more recently.
Concrete tiles for roofing. Some examples of custom orb metal roof sheeting on new housing stock

LANDSCAPE QUALITY

Sloping terrain
Established gardens and mature trees within some street setbacks, and verges
Footpaths on one side, undefined verge on alternative side.

AMENITY

Established gardens & mature trees in private land and on verges

ISSUES FOR CONSIDERATIONS

Garage door and paved double crossover / driveway dominate street front

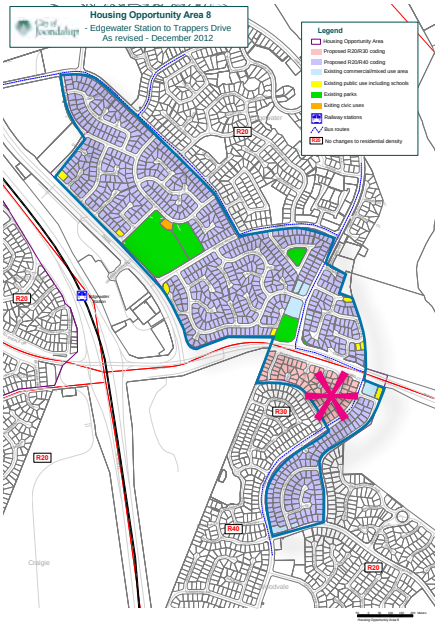
1st generation housing

2nd generation housing, double carports

3rd generation housing

CONTEXT & CHARACTER ANALYSIS

HOA8 - EDGEWATER STATION TO TRAPPERS DRIVE



BUILT FORM & SCALE

Single detached dwellings generally, some examples of grouped dwellings on cul de sac sites
1st Generation 1970-80s - predominantly
2nd Generation 1990s

CONTEXT & CHARACTER

Fences only present on corner lots
Retaining walls and steep driveways common
Mixture of single and double carports and garages

AESTHETICS & MATERIALS

Double brick construction
Predominantly face brickwork
Rendered brick work to some of the newer housing stock
Concrete tiles for roofing

LANDSCAPE QUALITY

Sloping terrain
Established front gardens with some mature trees in street setbacks and verge, more commonly associated with 1st generation housing
Footpaths often not present and verges not defined

AMENITY

Established gardens in private land and mature street trees in setback and on verges

ISSUES TO CONSIDER

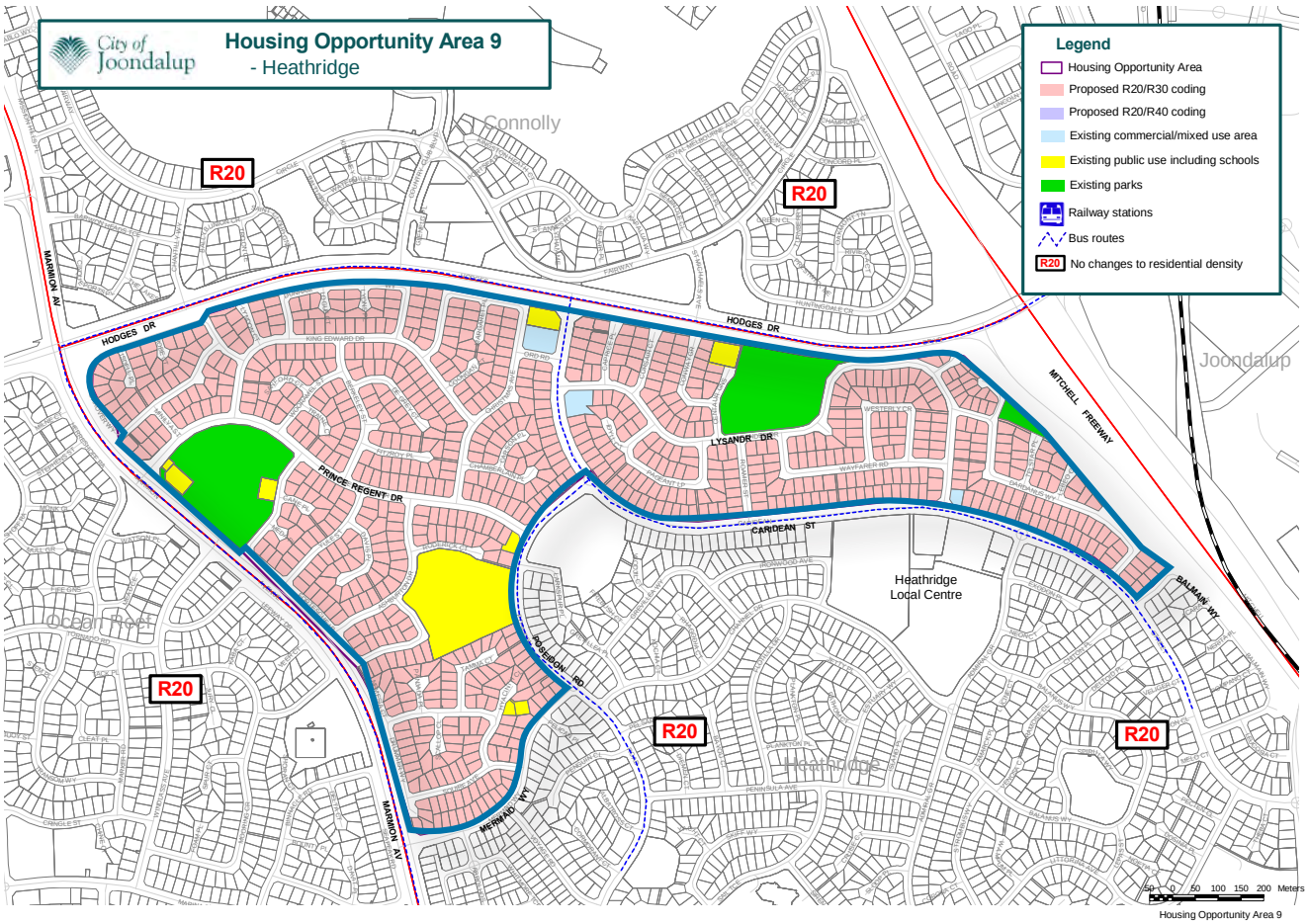
Wide driveways and garage / carports dominating street front

1st generation housing

2nd generation housing

HOUSING OPPORTUNITY AREA 9

OVERVIEW



AMENITY

Poseiden PS
Lysander Reserve
Prince Regent Park
Adjacent to Hearthridge Primary School

OTHER FEATURES

Heathridge Local Centre
Proximity to Ocean Reef Senior High School
Proximity to Joondalup shopping precinct

TARGET YIELD

Target Yield is R20/R30

PUBLIC TRANSPORT

High frequency bus route on Hodges drive and Marmion Ave

DEVELOPMENT TO DATE

Minimal development to date

ALSO WORTH NOTING

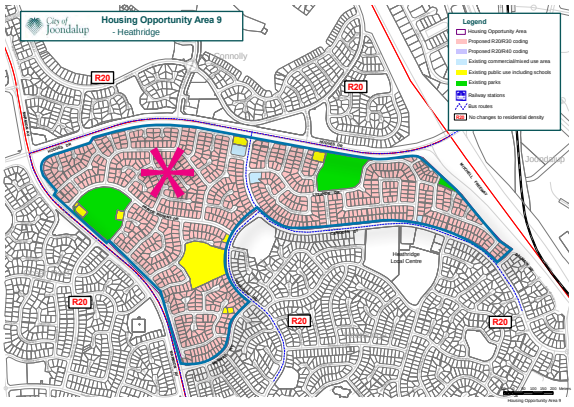
Some cul de sac conditions

LOT TYPOLOGIES

-Rectilinear
-Cul-de-sac
-Corner site

CONTEXT & CHARACTER ANALYSIS

HOA9 - HEATHRIDGE



BUILT FORM & SCALE

Single detached dwellings
1st Generation 1980s
2nd Generation 2000s - minimal new houses, some double storey

CONTEXT & CHARACTER

Generally no front fence in 1st generation housing, however most corner blocks have 1800h fences to the side road, and there is a high number of corner blocks. Extensive use of roller shutters to street facing windows. Single carports or single garages.
2nd generation- double garages, brick piers with infill timber slats for fencing.

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Concrete tiles for roofing

LANDSCAPE QUALITY

Steep sloping terrain
Mature trees within some street setbacks
Very few footpaths
Verges generally grassed or paved

AMENITY

Nil

ISSUES FOR CONSIDERATION

Roller shutters to most windows facing the street
Minimal verge trees

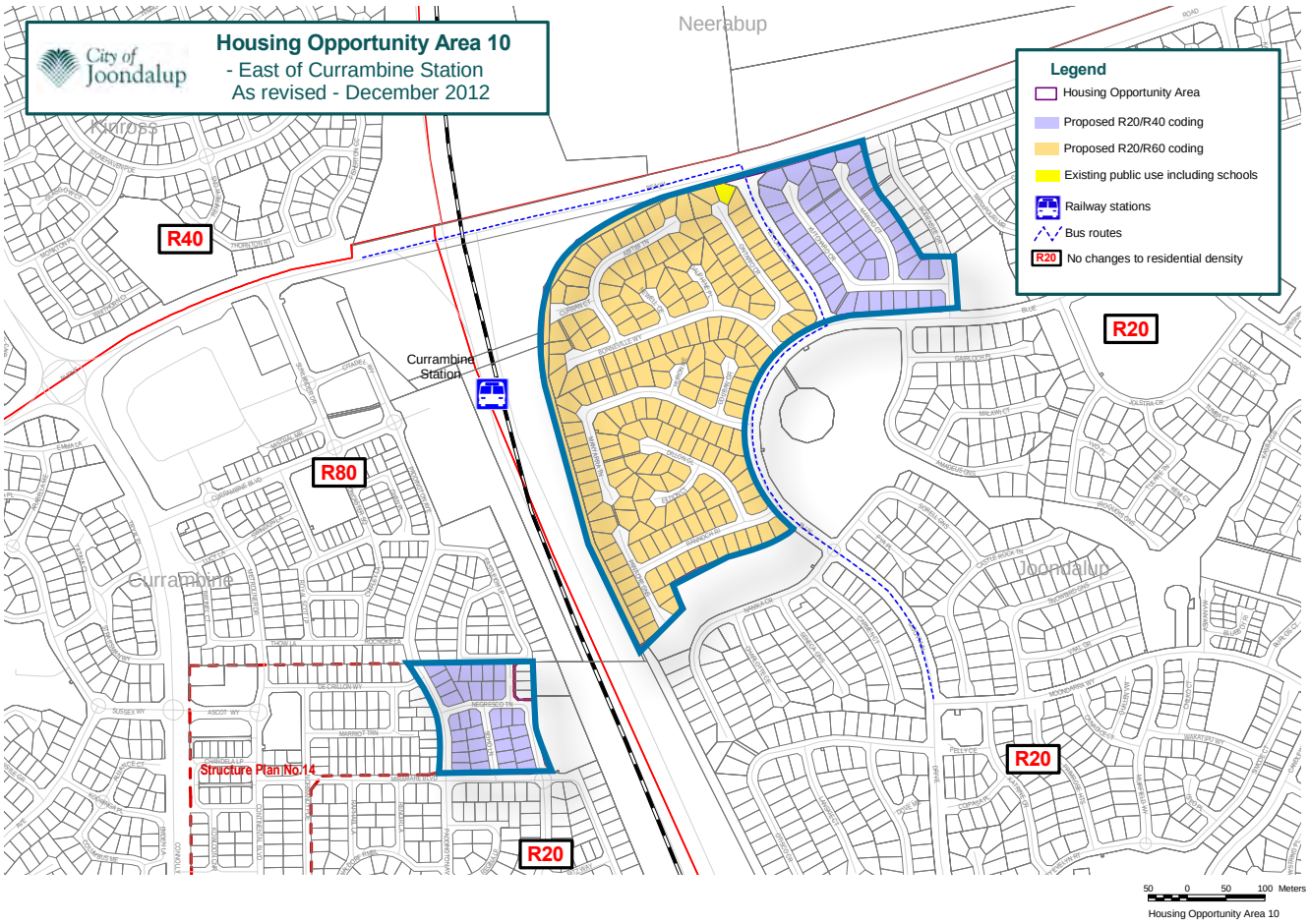
1st generation housing - roller shutters and garage to street

1st generation housing - high fence to street

2nd generation fencing and garages to street

HOUSING OPPORTUNITY AREA 10

OVERVIEW



AMENITY

Manapouri Park Adjacent
Blue Lake Park Adjacent
Joondalup Primary School
Joondalup Education Support Centre
Joondalup Family Centre

OTHER FEATURES

Sabah's Family Daycare
Brightwater Care Group
Good Start Family Centre
Proximity to Candlewood Village
Proximity to several parks including Lake Joondalup

TARGET YIELD

Target yield is currently R20/R40 & R20/R60
Some cul de sac conditions

PUBLIC TRANSPORT

Access to Currambine Station and multiple bus routes

DEVELOPMENT TO DATE

Minor subdivision to cul-de-sac lots. In addition, two storey development generally observed in cul-de-sac lots.

ALSO WORTH NOTING

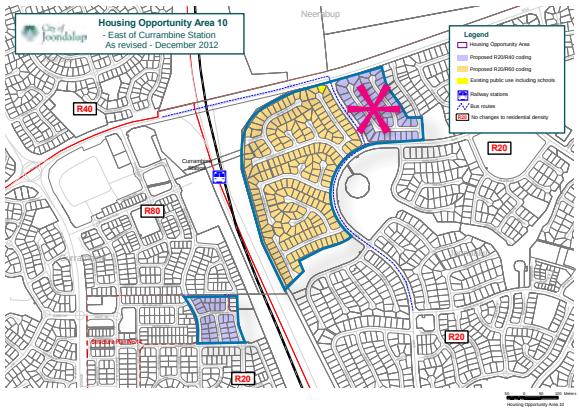
HOA is close to Neerabup National Park

LOT TYPOLOGIES

-Rectilinear
-Cul-de-sac
-Corner site

CONTEXT & CHARACTER ANALYSIS

HOA10 - CURRAMBINE STATION



BUILT FORM & SCALE

Single detached dwellings
1st Generation 1980-90s

CONTEXT & CHARACTER

Generally no front fence in housing, however most corner blocks have 1800h fences to the side road.
Single carports or single garages as well as double garages present

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Concrete tiles for roofing

LANDSCAPE QUALITY

Flat terrain
Mature trees within some street setbacks
Very few footpaths limited to main access roads.
Undefined verges generally grassed
Good access to high quality parkland.

AMENITY

Established gardens in private land and mature trees in setback

ISSUES FOR CONSIDERATION

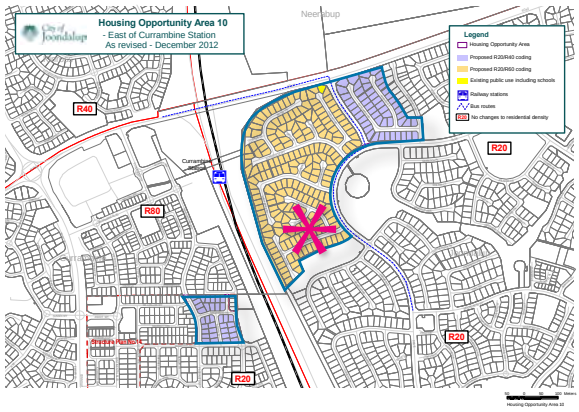
High fencing on main access roads mean no passive surveillance to pedestrian pathways and bus stops (i.e. Yellow Stone Way)

Mature trees in front setback

Grassed verges

CONTEXT & CHARACTER ANALYSIS

HOA9 - CURRAMBINE STATION



BUILT FORM & SCALE

Single detached dwellings
1st Generation 1980-90s
Minor higher density development in cul-de-sac where 2 storey dwellings were observed.

CONTEXT & CHARACTER

Fencing generally absent with exception of low retaining limestone walls at property boundaries. Single and double carports common as well as double garages.

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork
Concrete tiles for roofing

LANDSCAPE QUALITY

Sloping Terrain
Retaining wall and steps to front entry common
Mature trees within some street setbacks
No footpaths
Undefined verges generally grassed or paved

AMENITY

Established gardens in private land and mature trees in setback

ISSUES FOR CONSIDERATION

Minimal verge trees and no pedestrian paths. Double garages and paved driveways/hardstands dominate street character.

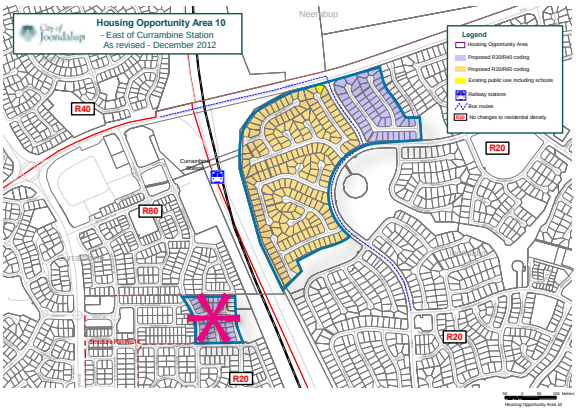
Paved verges and driveways dominating streetscape

Retaining walls to property

Established gardens in front yards

CONTEXT & CHARACTER ANALYSIS

HOA10 - CURRAMBINE STATION



BUILT FORM & SCALE

Single detached dwellings
1st Generation 2010s development
Dwellings on smaller lot sizes

CONTEXT & CHARACTER

Generally no front fence with exception of low retaining limestone walls at some property boundaries. Combination of limestone blocks and colourbond fencing on corner lots.
Double garages and driveways common.

AESTHETICS & MATERIALITY

Double brick construction
Predominantly face brickwork, with some examples of two course brick construction
Concrete tiles common, with some metal profile roof sheeting observed

LANDSCAPE QUALITY

Minor sloping terrain
Sporadic street trees
Established gardens common
Very few footpaths
Verges generally grassed or paved

AMENITY

Established gardens in street setback.

ISSUES FOR CONSIDERATION

Impermeable verges common
Minimal verge trees

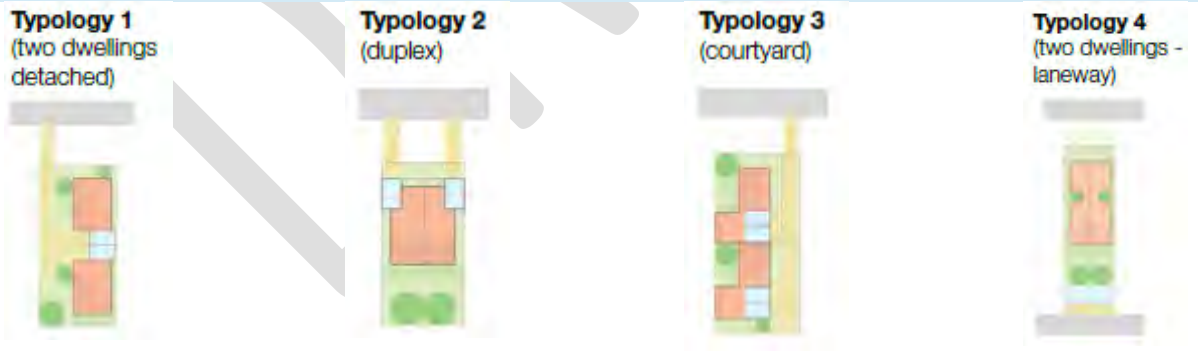
Dominance of double carports

Evidence of mature trees and retaining walls

APPENDIX B
BUILT FORM TYPOLOGY HOA SPECIFIC ANALYSIS

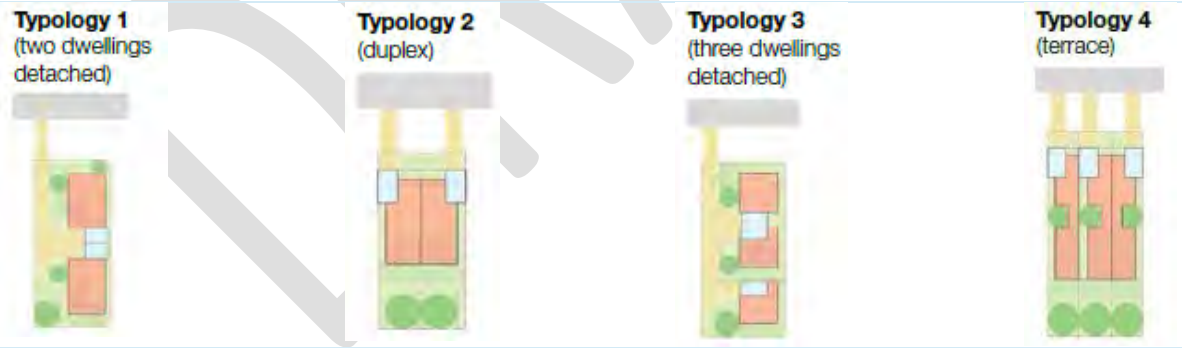
House typology ideas for House R25/30 - location suitability 35 responses HOA 1, 7 responses HOA 2, 10 responses HOA 3, 17 responses HOA 4, 24 responses HOA 5, 19 responses HOA 6, 5 responses HOA 7, 26 responses HOA 8, 6 responses HOA 9, 3 responses HOA 10									
	Within 10 minute walk of train station	Within 5 minute walk of train station	Within 10 minute walk of activity centre	Within 5 minute walk of activity centre	Within 5 minute walk of high frequency bus	Close to public open space	Close to community facilities	Along an arterial road	Along a local street
HOA 1	$1^{(10+)}$, $2^{(5+)}$, $3^{(5+)}$, $4^{(5)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(5+)}$, $4^{(5+)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(5+)}$, $4^{(3)}$	$1^{(4)}$, $2^{(5+)}$, $3^{(5+)}$, $4^{(4)}$	$1^{(5+)}$, $2^{(10+)}$, $3^{(5)}$, $4^{(5)}$	$1^{(10+)}$, $2^{(10+))}$, $3^{(5+)}$, $4^{(5)}$	$1^{(10)}$, $2^{(10+))}$, $3^{(5+)}$,$4^{(5+)}$	$1^{(5+)}$, $2^{(4)}$, $3^{(5+)}$,$4^{(4)}$	$1^{(10)}$, $2^{(10+))}$, $3^{(5+)}$,$4^{(5)}$
HOA 2	$1^{(2)}$, $2^{(1)}$, $3^{(0)}$, $4^{(0)}$	$1^{(2)}$, $2^{(1)}$, $3^{(0)}$, $4^{(0)}$	$1^{(2)}$, $2^{(1)}$, $3^{(0)}$, $4^{(0)}$	$1^{(2)}$, $2^{(1)}$, $3^{(1)}$, $4^{(0)}$	$1^{(3)}$, $2^{(2)}$, $3^{(0)}$, $4^{(1)}$	$1^{(2)}$, $2^{(1)}$, $3^{(0)}$, $4^{(0)}$	$1^{(2)}$, $2^{(1)}$, $3^{(0)}$, $4^{(0)}$	$1^{(3)}$, $2^{(2)}$, $3^{(2)}$, $4^{(1)}$	$1^{(2)}$, $2^{(2)}$, $3^{(1)}$, $4^{(1)}$
HOA 3	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$, $4^{(1)}$	$1^{(1)}$, $2^{(2)}$, $3^{(1)}$, $4^{(1)}$	$1^{(3)}$, $2^{(1)}$, $3^{(0)}$, $4^{(0)}$	$1^{(3)}$, $2^{(3)}$, $3^{(2)}$, $4^{(1)}$	$1^{(4)}$, $2^{(4)}$, $3^{(2)}$, $4^{(1)}$	$1^{(3)}$, $2^{(2)}$, $3^{(2)}$, $4^{(1)}$	$1^{(3)}$, $2^{(1)}$, $3^{(2)}$, $4^{(1)}$	$1^{(3)}$, $2^{(5)}$, $3^{(3)}$, $4^{(3)}$	$1^{(3)}$, $2^{(2)}$, $3^{(1)}$, $4^{(0)}$
HOA 4	$1^{(5)}$, $2^{(4)}$, $3^{(4)}$, $4^{(1)}$	$1^{(3)}$, $2^{(2)}$, $3^{(3)}$, $4^{(0)}$	$1^{(5)}$, $2^{(3)}$, $3^{(3)}$, $4^{(1)}$	$1^{(3)}$, $2^{(2)}$, $3^{(3)}$, $4^{(0)}$	$1^{(4)}$, $2^{(3)}$, $3^{(4)}$, $4^{(0)}$	$1^{(6)}$, $2^{(5)}$, $3^{(5)}$, $4^{(1)}$	$1^{(5)}$, $2^{(3)}$, $3^{(3)}$, $4^{(0)}$	$1^{(2)}$, $2^{(2)}$, $3^{(2)}$, $4^{(1)}$	$1^{(5)}$, $2^{(5)}$, $3^{(5)}$, $4^{(1)}$
HOA 5	$1^{(5+)}$, $2^{(5+)}$, $3^{(5+)}$, $4^{(5+)}$	$1^{(5)}$, $2^{(5)}$, $3^{(5+)}$, $4^{(5+)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(5)}$, $4^{(5+)}$	$1^{(4)}$, $2^{(3)}$, $3^{(2)}$, $4^{()}$	$1^{(5+)}$, $2^{(4)}$, $3^{(4)}$, $4^{(4)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(5)}$, $4^{(5+)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(5)}$, $4^{(5+)}$	$1^{(5+)}$, $2^{(5)}$, $3^{(4)}$, $4^{(5)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(4)}$, $4^{(5)}$
HOA 6	$1^{(13)}$, $2^{(10)}$, $3^{(9)}$, $4^{(4)}$	$1^{(8)}$, $2^{(7)}$, $3^{(5)}$, $4^{(5)}$	$1^{(8)}$, $2^{(6)}$, $3^{(7)}$, $4^{(4)}$	$1^{(5)}$, $2^{(4)}$, $3^{(5)}$, $4^{(4)}$	$1^{(10)}$, $2^{(9)}$, $3^{(8)}$, $4^{(5)}$	$1^{(11)}$, $2^{(8)}$, $3^{(7)}$, $4^{(4)}$	$1^{(10)}$, $2^{(7)}$, $3^{(6)}$,$4^{(3)}$	$1^{(4)}$, $2^{(6)}$, $3^{(3)}$,$4^{(2)}$	$1^{(7)}$, $2^{(5)}$, $3^{(4)}$,$4^{(1)}$
HOA 7	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$, $4^{(1)}$	$1^{(2)}$, $2^{(2)}$, $3^{(2)}$, $4^{(1)}$	$1^{(2)}$, $2^{(1)}$, $3^{(1)}$, $4^{(1)}$	$1^{(3)}$, $2^{(3)}$, $3^{(3)}$, $4^{(1)}$	$1^{(3)}$, $2^{(3)}$, $3^{(3)}$, $4^{(1)}$	$1^{(4)}$, $2^{(3)}$, $3^{(3)}$, $4^{(1)}$	$1^{(3)}$, $2^{(3)}$, $3^{(3)}$,$4^{(1)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$,$4^{(1)}$	$1^{(4)}$, $2^{(3)}$, $3^{(3)}$,$4^{(1)}$
HOA 8	$1^{(5+)}$, $2^{(5+)}$, $3^{(5+)}$, $4^{(2)}$	$1^{(5)}$, $2^{(5)}$, $3^{(3)}$, $4^{(2)}$	$1^{(5+)}$, $2^{(5)}$, $3^{(5+)}$, $4^{(2)}$	$1^{(5)}$, $2^{(4)}$, $3^{()}$, $4^{(2)}$	$1^{(5+)}$, $2^{(5)}$, $3^{(5+)}$, $4^{(2)}$	$1^{(10)}$, $2^{(5+)}$, $3^{(5+)}$, $4^{(2)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(4)}$,$4^{(2)}$	$1^{(4)}$, $2^{(4)}$, $3^{(4)}$,$4^{(1)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(5+)}$,$4^{(3)}$
HOA 9	$1^{(3)}$, $2^{(3)}$, $3^{(4)}$, $4^{(0)}$	$1^{(4)}$, $2^{(4)}$, $3^{(4)}$, $4^{(2)}$	$1^{(4)}$, $2^{(4)}$, $3^{(4)}$, $4^{(1)}$	$1^{(5)}$, $2^{(5)}$, $3^{(4)}$, $4^{(1)}$	$1^{(5)}$, $2^{(5)}$, $3^{(5)}$, $4^{(0)}$	$1^{(5)}$, $2^{(5)}$, $3^{(5)}$, $4^{(2)}$	$1^{(5)}$, $2^{(5)}$, $3^{(5)}$,$4^{(2)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$,$4^{(0)}$	$1^{(5)}$, $2^{(5)}$, $3^{(4)}$,$4^{(2)}$
HOA 10	$1^{()}$, $2^{()}$, $3^{()}$, $4^{()}$	$1^{()}$, $2^{()}$, $3^{()}$, $4^{()}$	$1^{()}$, $2^{()}$, $3^{()}$, $4^{()}$	$1^{()}$, $2^{()}$, $3^{()}$, $4^{()}$	$1^{()}$, $2^{()}$, $3^{()}$, $4^{()}$	$1^{()}$, $2^{()}$, $3^{()}$, $4^{()}$	$1^{()}$, $2^{()}$, $3^{()}$,$4^{()}$	$1^{()}$, $2^{()}$, $3^{()}$,$4^{()}$	$1^{()}$, $2^{()}$, $3^{()}$,$4^{()}$

HOUSE R25/R30 TYPOLOGIES 1-4



house typology ideas for House R40/R60 - location suitability 35 responses HOA 1, 7 responses HOA 2, 10 responses HOA 3, 17 responses HOA 4, 24 responses HOA 5, 19 responses HOA 6, 5 responses HOA 7, 26 responses HOA 8, 6 responses HOA 9, 3 responses HOA 10									
	Within 10 minute walk of train station	Within 5 minute walk of train station	Within 10 minute walk of activity centre	Within 5 minute walk of activity centre	Within 5 minute walk of high frequency bus	Close to public open space	Close to community facilities	Along an arterial road	Along a local street
HOA 1	$1^{(10+)}$, $2^{(4)}$, $3^{(5)}$, $4^{()}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(10+)}$, $4^{()}$	$1^{(10+)}$, $2^{(2)}$, $3^{(4)}$, $4^{()}$	$1^{(3)}$, $2^{(5)}$, $3^{(5+)}$, $4^{()}$	$1^{(5+)}$, $2^{(5)}$, $3^{(5)}$, $4^{()}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(5+)}$, $4^{()}$	$1^{(10+)}$, $2^{(5+)}$, $3^{(10)}$,$4^{()}$	$1^{(5+)}$, $2^{(10+)}$, $3^{(10+)}$,$4^{()}$	$1^{(5+)}$, $2^{(2)}$, $3^{(4)}$,$4^{()}$
HOA 2	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$, $4^{(1)}$	$1^{(1)}$, $2^{(2)}$, $3^{(1)}$, $4^{(1)}$	$1^{(3)}$, $2^{(1)}$, $3^{(0)}$, $4^{(0)}$	$1^{(2)}$, $2^{(3)}$, $3^{(2)}$, $4^{(1)}$	$1^{(4)}$, $2^{(4)}$, $3^{(2)}$, $4^{(1)}$	$1^{(3)}$, $2^{(2)}$, $3^{(2)}$, $4^{(1)}$	$1^{(3)}$, $2^{(1)}$, $3^{(2)}$,$4^{(1)}$	$1^{(3)}$, $2^{(5)}$, $3^{(3)}$,$4^{(1)}$	$1^{(3)}$, $2^{(2)}$, $3^{(1)}$,$4^{(0)}$
HOA 3	$1^{(0)}$, $2^{(0)}$, $3^{(0)}$, $4^{(0)}$	$1^{(3)}$, $2^{(3)}$, $3^{(2)}$, $4^{(2)}$	$1^{(0)}$, $2^{(0)}$, $3^{(0)}$, $4^{(0)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$, $4^{(1)}$	$1^{(2)}$, $2^{(2)}$, $3^{(1)}$, $4^{(1)}$	$1^{(1)}$, $2^{(0)}$, $3^{(0)}$, $4^{(0)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$,$4^{(1)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$,$4^{(1)}$	$1^{(1)}$, $2^{(1)}$, $3^{(0)}$,$4^{(0)}$
HOA 4	$1^{(8)}$, $2^{(6)}$, $3^{(3)}$, $4^{(2)}$	$1^{(6)}$, $2^{(5)}$, $3^{(4)}$, $4^{(3)}$	$1^{(6)}$, $2^{(5)}$, $3^{(1)}$, $4^{(2)}$	$1^{(6)}$, $2^{(5)}$, $3^{(4)}$, $4^{(3)}$	$1^{(7)}$, $2^{(6)}$, $3^{(5)}$, $4^{(4)}$	$1^{(9)}$, $2^{(7)}$, $3^{(2)}$, $4^{(2)}$	$1^{(7)}$, $2^{(5)}$, $3^{(1)}$,$4^{(2)}$	$1^{(5)}$, $2^{(4)}$, $3^{(2)}$,$4^{(2)}$	$1^{(5)}$, $2^{(5)}$, $3^{(3)}$,$4^{(1)}$
HOA 5	$1^{(5+)}$, $2^{(5)}$, $3^{(5)}$, $4^{(4)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(5+)}$, $4^{(5)}$	$1^{(5)}$, $2^{(5)}$, $3^{(3)}$, $4^{(3)}$	$1^{(4)}$, $2^{(2)}$, $3^{(2)}$, $4^{(3)}$	$1^{(5+)}$, $2^{(5)}$, $3^{(5)}$, $4^{(1)}$	$1^{(5)}$, $2^{(5)}$, $3^{(4)}$, $4^{(4)}$	$1^{(4)}$, $2^{(5)}$, $3^{(2)}$,$4^{()}$	$1^{(5+)}$, $2^{(5)}$, $3^{(5)}$,$4^{(4)}$	$1^{(5)}$, $2^{(4)}$, $3^{(4)}$,$4^{(3)}$
HOA 6	$1^{(7)}$, $2^{(4)}$, $3^{(4)}$, $4^{(2)}$	$1^{(10)}$, $2^{(8)}$, $3^{(4)}$, $4^{(4)}$	$1^{(5)}$, $2^{(3)}$, $3^{(3)}$, $4^{(2)}$	$1^{(5)}$, $2^{(5)}$, $3^{(2)}$, $4^{(2)}$	$1^{(9)}$, $2^{(6)}$, $3^{(3)}$, $4^{(3)}$	$1^{(6)}$, $2^{(4)}$, $3^{(3)}$, $4^{(2)}$	$1^{(8)}$, $2^{(5)}$, $3^{(4)}$,$4^{(2)}$	$1^{(3)}$, $2^{(4)}$, $3^{(4)}$,$4^{(5)}$	$1^{(3)}$, $2^{(2)}$, $3^{(4)}$,$4^{(2)}$
HOA 7	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$, $4^{(1)}$	$1^{(2)}$, $2^{(2)}$, $3^{(2)}$, $4^{(2)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$, $4^{(1)}$	$1^{(3)}$, $2^{(3)}$, $3^{(3)}$, $4^{(3)}$	$1^{(3)}$, $2^{(3)}$, $3^{(3)}$, $4^{(3)}$	$1^{(3)}$, $2^{(3)}$, $3^{(3)}$, $4^{(3)}$	$1^{(3)}$, $2^{(3)}$, $3^{(3)}$,$4^{(3)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$,$4^{(1)}$	$1^{(3)}$, $2^{(3)}$, $3^{(3)}$,$4^{(3)}$
HOA 8	$1^{(5+)}$, $2^{(5+)}$, $3^{(3)}$, $4^{(1)}$	$1^{(5+)}$, $2^{(5)}$, $3^{(4)}$, $4^{(2)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(3)}$, $4^{(1)}$	$1^{(5)}$, $2^{(4)}$, $3^{(3)}$, $4^{(2)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(3)}$, $4^{(2)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(4)}$, $4^{(2)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(5)}$,$4^{(3)}$	$1^{(3)}$, $2^{(3)}$, $3^{(2)}$,$4^{(1)}$	$1^{(10+)}$, $2^{(5+)}$, $3^{(5)}$,$4^{(4)}$
HOA 9	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$, $4^{(1)}$	$1^{(2)}$, $2^{(1)}$, $3^{(1)}$, $4^{(1)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$, $4^{(1)}$	$1^{(1)}$, $2^{()}$, $31^{()}$, $4^{(1)}$	$1^{(2)}$, $2^{(0)}$, $3^{(1)}$, $4^{(0)}$	$1^{(2)}$, $2^{(1)}$, $3^{(1)}$, $4^{(1)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$,$4^{(1)}$	$1^{(0)}$, $2^{(1)}$, $3^{(1)}$,$4^{(1)}$	$1^{(2)}$, $2^{(1)}$, $3^{(0)}$,$4^{(0)}$
HOA 10	$1^{(1)}$, $2^{(1)}$, $3^{(2)}$, $4^{(3)}$	$1^{(0)}$, $2^{(0)}$, $3^{(0)}$, $4^{(0)}$	$1^{(2)}$, $2^{(2)}$, $3^{(2)}$, $4^{(2)}$	$1^{(0)}$, $2^{(0)}$, $3^{(0)}$, $4^{(0)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$, $4^{(1)}$	$1^{(1)}$, $2^{(1)}$, $3^{(2)}$, $4^{(2)}$	$1^{(1)}$, $21^{()}$, $3^{(1)}$,$4^{(1)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$,$4^{(1)}$	$1^{(2)}$, $2^{(2)}$, $3^{(2)}$,$4^{(2)}$

HOUSE R40/R60 TYPOLOGIES 1-4



house typology ideas for Apartment R40/R60 - location suitability 35 responses HOA 1, 7 responses HOA 2, 10 responses HOA 3, 17 responses HOA 4, 24 responses HOA 5, 19 responses HOA 6, 5 responses HOA 7, 26 responses HOA 8, 6 responses HOA 9, 3 responses HOA 10									
	Within 10 minute walk of train station	Within 5 minute walk of train station	Within 10 minute walk of activity centre	Within 5 minute walk of activity centre	Within 5 minute walk of high frequency bus	Close to public open space	Close to community facilities	Along an arterial road	Along a local street
HOA 1	$1^{(5+)}$, $2^{(4)}$, $3^{(5)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(10+)}$	$1^{(5)}$, $2^{(2)}$, $3^{(4)}$	$1^{(5)}$, $2^{(5)}$, $3^{(5+)}$	$1^{(5+)}$, $2^{(5)}$, $3^{(5)}$	$1^{(+5)}$, $2^{(5+)}$, $3^{(5+)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(10)}$	$1^{(5+)}$, $2^{(10+)}$, $3^{(10+)}$	$1^{(2)}$, $2^{(2)}$, $3^{(4)}$
HOA 2	$1^{(0)}$, $2^{(0)}$, $3^{(0)}$	$1^{(2)}$, $2^{(2)}$, $3^{(2)}$	$1^{(0)}$, $2^{(0)}$, $3^{(0)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$	$1^{(2)}$, $2^{(1)}$, $3^{(1)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$	$1^{(1)}$, $2^{(0)}$, $3^{(0)}$
HOA 3	$1^{(1)}$, $2^{(1)}$, $3^{(0)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$	$1^{(0)}$, $2^{(0)}$, $3^{(0)}$	$1^{(0)}$, $2^{(0)}$, $3^{(0)}$	$1^{(2)}$, $2^{(1)}$, $3^{(1)}$	$1^{(0)}$, $2^{(0)}$, $3^{(0)}$	$1^{(0)}$, $2^{(0)}$, $3^{(0)}$	$1^{(0)}$, $2^{(0)}$, $3^{(0)}$	$1^{(2)}$, $2^{(1)}$, $3^{(1)}$
HOA 4	$1^{(4)}$, $2^{(3)}$, $3^{(4)}$	$1^{(2)}$, $2^{(2)}$, $3^{(4)}$	$1^{(3)}$, $2^{(2)}$, $3^{(2)}$	$1^{(2)}$, $2^{(2)}$, $3^{(3)}$	$1^{(3)}$, $2^{(2)}$, $3^{(3)}$	$1^{(2)}$, $2^{(2)}$, $3^{(4)}$	$1^{(1)}$, $2^{(2)}$, $3^{(2)}$	$1^{(2)}$, $2^{(2)}$, $3^{(3)}$	$1^{(2)}$, $2^{(3)}$, $3^{(3)}$
HOA 5	$1^{(5+)}$, $2^{(4)}$, $3^{(5)}$	$1^{(5+)}$, $2^{(5+)}$, $3^{(5)}$	$1^{(5)}$, $2^{(2)}$, $3^{(4)}$	$1^{(2)}$, $2^{(2)}$, $3^{(3)}$	$1^{(4)}$, $2^{(3)}$, $3^{(3)}$	$1^{(5)}$, $2^{(3)}$, $3^{(3)}$	$1^{(4)}$, $2^{(2)}$, $3^{(3)}$	$1^{(4)}$, $2^{(5+)}$, $3^{(4)}$	$1^{(4)}$, $2^{(1)}$, $3^{(1)}$
HOA 6	$1^{(6)}$, $2^{(4)}$, $3^{(2)}$	$1^{(4)}$, $2^{(2)}$, $3^{(4)}$	$1^{(2)}$, $2^{(1)}$, $3^{(2)}$	$1^{(3)}$, $2^{(1)}$, $3^{(1)}$	$1^{(4)}$, $2^{(2)}$, $3^{(3)}$	$1^{(6)}$, $2^{(6)}$, $3^{(6)}$	$1^{(4)}$, $2^{(2)}$, $3^{(2)}$	$1^{(5)}$, $2^{(5)}$, $3^{(5)}$	$1^{(3)}$, $2^{(2)}$, $3^{(2)}$
HOA 7	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$	$1^{(2)}$, $2^{(2)}$, $3^{(2)}$	$1^{(0)}$, $2^{(1)}$, $3^{(1)}$	$1^{(3)}$, $2^{(3)}$, $3^{(3)}$	$1^{(3)}$, $2^{(3)}$, $3^{(3)}$	$1^{(3)}$, $2^{(3)}$, $3^{(3)}$	$1^{(3)}$, $2^{(3)}$, $3^{(3)}$	$1^{(2)}$, $2^{(2)}$, $3^{(3)}$	$1^{(2)}$, $2^{(2)}$, $3^{(2)}$
HOA 8	$1^{(4)}$, $2^{(3)}$, $3^{(3)}$	$1^{(3)}$, $2^{(3)}$, $3^{(4)}$	$1^{(3)}$, $2^{(3)}$, $3^{(3)}$	$1^{(1)}$, $2^{(4)}$, $3^{(4)}$	$1^{(4)}$, $2^{(5)}$, $3^{(5)}$	$1^{(4)}$, $2^{(4)}$, $3^{(4)}$	$1^{(3)}$, $2^{(4)}$, $3^{(3)}$	$1^{(4)}$, $2^{(4)}$, $3^{(5+)}$	$1^{(4)}$, $2^{(3)}$, $3^{(3)}$
HOA 9	$1^{(1)}$, $2^{(1)}$, $3^{()}$	$1^{(2)}$, $2^{(1)}$, $3^{()}$	$1^{(1)}$, $2^{(0)}$, $3^{()}$	$1^{(1)}$, $2^{(1)}$, $3^{(0)}$	$1^{(2)}$, $2^{(1)}$, $3^{(1)}$	$1^{(2)}$, $2^{(0)}$, $3^{(0)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$	$1^{(1)}$, $2^{(1)}$, $3^{(1)}$	$1^{(1)}$, $2^{(0)}$, $3^{(0)}$
HOA 10	$1^{(1)}$, $2^{(0)}$, $3^{(0)}$	$1^{(2)}$, $2^{(2)}$, $3^{(1)}$	$1^{(3)}$, $2^{(0)}$, $3^{(0)}$	$1^{(1)}$, $2^{(1)}$, $3^{(0)}$	$1^{(1)}$, $2^{(1)}$, $3^{(0)}$	$1^{(2)}$, $2^{(2)}$, $3^{(1)}$	$1^{(2)}$, $2^{(2)}$, $3^{(1)}$	$1^{(1)}$, $2^{(1)}$, $3^{(0)}$	$1^{(2)}$, $2^{(1)}$, $3^{(0)}$

APARTMENT R40/R60 TYPOLOGIES 1-3

Typology 1
(manor house apartments)

Typology 2
(apartments – single lot)

Typology 3
(apartments – amalgamated lots)

APPENDIX C
ECONOMIC OBSERVATIONS

YOLK PROPERTY GROUP

JOONDALUP HOA REPORT

Version C | Draft | March 22, 2019

CONTENTS

1 OVERVIEW

1.1 Background

Yolk Property Group have been engaged by Taylor Burrell Barnett **(TBB)** to provide commentary and financial feasibility advice in relation to the Proposed Planning Framework **(PPFW)** associated with Housing Opportunity Areas **(HOA)** within the City of Joondalup. Yolk Property Group **(YPG)** have been involved as requested through the consultation process, providing industry input as requested.

This report identifies potential influences and the basis for these influences on underlying land values due to the Proposed Planning Framework. It is not intended to be treated as a valuation of current land values or final development values.

1.2 Summary

For simplification of this report we have focused on the Housing Opportunity Area of Davallia Road to Warwick Centre **(Warwick)** and provided further commentary on how this relates to other Housing Opportunity Areas.

The new Proposed Planning Framework will operate in parallel to the current Residential Design Codes WA **(R-Codes)**. State Planning Policy 7.3: Residential Design Codes Volume 2 – Apartments **(A-Codes)** along with any other state or local legislation. Where there is a contradiction between the existing legislation and the Proposed Planning Framework, the contradiction has been noted in this report along with any potential influence on property value.

The Proposed Planning Framework utilises a series of mechanisms including minimum setbacks, maximum storeys and revising the definition of open space to improve the development built-form outcomes. The nominated setbacks in general are larger than those defined in the R-Codes and the revised open space definition could be considered a severer definition than that of the R-Codes.

The Proposed Planning Framework mechanisms has the following influences on underlying value:

- A reduction of site cover and therefore developable built-form area for each storey. The decreased built-form area per storey results in an increased built form area that needs to be located on the second storey when compared to a similar sized dwelling built under the current R-Codes only. Given second storey construction is at premium over single storey construction this will lead to an increased construction cost;
- There is potential for decreased density due to setbacks defining lot size and not minimum areas as defined in the R-Codes. This potential influence becomes greater with the increasing density. Reduced density, ultimately increases the land value of new lots as the underlying land value is distributed across fewer lots;
- Increase to landscaping costs due to the increased open space and minimum landscape requirements;
- Increased final development value due to larger lots;
- Increased final development values due to improved built-form and external areas.

The above noted influences do not automatically mean that the underlying land values have decreased or increased in the Housing Opportunity Areas.

2 METHODOLOGY

2.1 Housing Opportunity Areas

The Proposed Planning Framework is applicable to the following Housing Opportunity Areas:

- HOA 1: Davallia Road to Warwick Centre**;**
- HOA 2: Greenwood Village;
- HOA 3: Sorrento Laneway Lots;
- HOA 4: Marmion Avenue to Greenwood Station;
- HOA 5: Whitfords Centre to Whitfords Station;
- HOA 6: Whitfords Station to Goollelal Drive;
- HOA 7: Belridge Centre to Edgewater Station;
- HOA 8: Edgewater Station to Trappers Drive;
- HOA 9: Heathridge; and
- HOA 10: East of Currambine Station.

It is acknowledged that the new Housing Opportunity Area's each have their own unique characteristics which influence many of the assumptions made throughout this report. We have assumed the characteristics of each neighbourhood will result in a proportional change to input and for simplification we have analysed the Warwick HOA only. The net result is the analysis conducted throughout this report will apply to each of the HOA's identified, with each assumption changing proportionately. A simplified example is, while the unimproved land value in each HOA may differ, so too will the improved land value and final sales price. Similarly, while construction costs may be higher or lower in one HOA than another due to buyer preferences for a higher or lower standard of finishes, so too will the final sales prices of the dwelling. It is assumed that outcomes within one HOA will result in the same outcome within another HOA, albeit with different input and output values.

2.2 Typology Grouping

Several typologies have almost identical characteristics with only minor layout changes, some typologies have therefore been grouped together. The following is summary of typology grouping:

Group One:	Typology 1,2 &3;
Group Two:	Typology 4;
Group Three:	Typology 5;
Group Four:	Typology 6;
Group Five:	Typology 7;
Group Six:	Typology 8, 9 & 10.

2.3 Typical Pre-Subdivided Lot Size (Test Lot)

As per typical development process in a density infill area, larger primarily residential lots will be subdivided into smaller subdivided residential lots. In each typology group, the provided pre-subdivided lot size has been

analysed, it is acknowledged that the typologies are not restricted to the test lot size, in the instance that a larger lot is developed, outcomes across current and proposed regulations would proportionately increase

2.4 Typical Post-Subdivided Lot Size & Floorplate (Residential Lot)

For simplicity purposes final lot sizes, as well as dwelling floorplates have been averaged over the test lot.

2.5 Building Envelope

Current typical residential construction practice is to develop the entire permitted building envelope for a single storey dwelling and limit second storey construction to what is required. Analysis has been completed maximising single storey floorplates and constructing second storey floorplates in line with comparable sized product within the local market and economics of the area. Refer to Figure 2.5.1 for a typical two-storey small lot house for the area. Given the Proposed Planning Framework will have an impact on development area on the ground plan, second storey floorplates will need to be larger to accommodate the same sized dwelling. Refer to Figure 1 for an example of plans under the proposed framework.

Figure 2: Typical Current Two-Storey

Figure 1: Proposed Framework

2.6 Comparable (Current R-Codes vs PPFW) Modelling

In order to assess the effect and viability of the proposed framework, each grouping has been analysed by comparing current development controls vs proposed development controls for each applicable legislation.

3 CURRENT PROPERTY MARKET | WARWICK

3.1 Market Overview

Warwick is situated 13 km's south of the City of Joondalup and 16 km's north of the City of Perth, comprising largely of single residential dwellings (92.7%) and villa/townhouse dwellings (7.3%).

The following is a breakdown of property ownership:

Owner Occupied (fully owned):	40.4%;
Being Purchased:	39.5%;
Rented:	18.7%;
Other:	1.4%.

The average age of residents is 42, with most households being made up of older couples with children (51.9%) and younger couples with children (32.9%).

3.2 Average Dwelling Prices

Average sales pricing provides a snapshot of typical available stock within a suburb as well as price expectations of buyers. While relying on averages in isolation is problematic due to the range of variables that influence the average price it still provides an indication as to what buyer expectations are for a product as well as their likely maximum price-points for the respective area. Average sales prices (Source: Realestate.com.au) for dwellings in the suburb of Warwick are:

- 3-bedroom x 2-bathroom x 2-car garage: $521,000;
- 4-bedroom x 2-bathroom x 2-car garage: $530,000.

3.3 Recent Sales

Refer to Figure 3 for a sample of recent sales and on the market properties in the Warwick area.

Property Image	Street Address	Suburb	Bed	Bath	Car	Land Size	Building Area (Inc. Garage)	Sale Price	Sale Date	Build Year	Product
	LOT 1/41 Glenmere Road	Warwick	3	2	2	209	137	$520,000	14-Nov-18	2018	Villa
	38 Hawker Avenue	Warwick	3	2	2	184	176	$640,000	10-Sep-18	2018	House Double Storey
	40 Hawker Avenue	Warwick	3	2	2	162	170	$605,000	25-Dec-18	2018	House Double Storey
	27A Addison Way	Warwick	2	2	1	200	124	$415,000	27-Oct-18	2018	House
	11A Dalby Street	Warwick	3	2	2	220	140	$505,000	27-Feb-18	2017	Villa
	11C Dalby Street	Warwick	3	2	2	244	145	$515,000	15-Feb-18	2017	Villa
	11B Dalby Street	Warwick	3	2	2	199	137	$530,000	20-Dec-17	2017	Villa
	8A Eddington Road	Warwick	3	2	2	233	138	$530,000	21-Jun-18	2018	Villa
	8B Eddington Road	Warwick	3	2	2	225	131	$521,000	10-Jul-18	2018	Villa
	8C Eddington Road	Warwick	3	2	2	255	149	$575,000	22-Feb-18	2018	Villa
	18 Ackworth Crescent	Warwick	4	2	2	245	180*	List Mid $600,000's	N/A	2018	House Double Storey
	20 Ackworth Crescent	Warwick	3	2	2	245	180*	List $640,000+	N/A	2018	House Double Storey
	22 Ackworth Crescent	Warwick	4	2	2	213	180*	List Low $600,000's	N/A	2018	House Double Storey

Figure 3: Sales Evidence

3.4 Typical Dwelling Values

After analysing both average sales prices and recent sales within the Warwick area the following typical dwelling prices for newly constructed dwellings on small lots have been determined:

2-bedroom, 2-bathroom, double garage single storey dwelling:	$425,000 - $450,000;
3-bedroom, 2-bathroom, double garage single storey dwelling:	$500,000 - $525,000;
4-bedroom, 2-bathroom, double garage single storey dwelling:	$550,000 - $575,000;
3-bedroom, 2-bathroom, double garage double storey dwelling:	$600,000 - $640,000;
4-bedroom, 2-bathroom, double garage double storey dwelling:	$640,000 - $660,000.

These prices provide a reference point for comparative purposes throughout this report.

3.5 Land Value

Recent land sales within the Warwick locality are provided in Figure 4, land value on a per meter basis is higher for smaller lot sizes, a reflection of the increased costs associated with producing the lots (higher headworks, civil costs etc.). Land value typically represents 50-60% of the overall dwelling value.

Street Address	Suburb	Land Size	Sale Price	Sale Date
2 Alroy Street	Warwick	242	$290,000	19-Sep-18
42A Dorchester Avenue	Warwick	364	$360,000	16-Jul-18
42B Dorchester Avenue	Warwick	364	$360,000	07-Mar-18
28A Waitara Crescent	Greenwood	345	$325,000	03-Feb-19

Figure 4 : Land Sales Evidence

The following land rates have been adopted, based on the above market evidence and used throughout this report to show the effects of any reduced yield.:

Lot Pricing	
Circa 750 m² R40 lot	$1000 per m²
Circa 750 m² R60 lot	$1100 per m²
Circa 350 m² lot	$1000 per m²
Circa 300 m² lot	$1100 per m²
Circa 250 m² lot	$1200 per m²
Circa 200 m² lot	$1350 per m²
Circa 150 m² lot	$1500 per m²

Figure 5: Average Lot Prices

4 VALUE INFLUENCES

This report provides comment on the Proposed Planning Framework changes and the effects on development of land in the HOA's. The Proposed Planning Framework utilises a series of mechanisms including minimum setbacks, maximum storeys and revising the definition of open space to improve the development built-form outcomes. The nominated setbacks in general are larger than those defined in existing legislation and the revised open space definition could be considered a severer definition than that of the existing legislation.

The Proposed Planning Framework mechanisms has the following influences on underlying value:

- Build costs;
- Reduced potential densities;
- Landscaping costs;
- Increased value due to larger lot;
- Increased end value due to improved design;

This is explained further in the following sections.

4.1 Build Costs (Decrease value)

Given the increased setbacks, we have noted that this is likely to impact on the permitted building envelopes of new lots. This is likely to lead to increased construction costs due to the higher costs of constructing second storey floorplates. Refer to Figure 1 and Figure 2 for typical floor plans under existing legislation and the proposed planning framework. These figures indicate an increased 2nd storey due to the decreased site cover.

Typical constructions costs for one storey residential buildings are:

$1,150-$1,400 per m² plus GST for typical residential construction (source RBB handbook).

Construction of a two-storey dwelling typically adds circa 40% to the overall building cost (when compared to a single storey dwelling).

Typical construction costs for two storey buildings are:

$1,700-$2,250 per m² plus GST for typical residential construction (source RBB handbook).

Typical construction costs within the Warwick market are in the upper range of typical residential construction costs. A rate of $1400 per m² has been adopted for single storey residential dwellings and $2,000 per m² for double storey dwellings.

Apartments typically cost between $2,850 and $3,350 per m² for 2-3 storey walk up style apartments (source RBB handbook) (which is the typical product offering available in Warwick and permitted under the new regulations.

A rate of $3,000 per m² has been adopted for two storey apartment construction costs;

A rate of $3,300 per m² has been adopted for three storey apartment construction costs.

4.2 Potential Density Reduction (Decrease Value)

Increased setbacks, landscaping areas and open space requirements potentially reduced density through increased post-subdivision lot sizes. This increases the overall cost of delivering dwellings as the new dwelling

has a higher underlying land value. Refer to for a simplified example.

4.3 Landscaping Costs (Decrease Value)

Typical landscaping costs including plant supply, installation, irrigation, mulch and soil preparation are between $2,500 and $5,000 per lot, depending on lot size, landscape area and plant selection. Plants would typically be made up of smaller trees, shrubs and ground cover costing between $10 and $20 each with a smaller number of 45 litre plantings, typically costing $100 each. The cost of supply, irrigation, preparation and mulching is typically $20 per m².

Proposed changes will increase landscaping costs due to increased costs associated with more developed plant stock and larger landscaped areas. The lowest price-point for required plant stock specified in the PPFW is outlined in Figure 6.

Small Tree (100 L)	$260 (minimum)
Medium Tree (200 L)	$400 (minimum)
Large Tree (500 L)	$1650 (minimum)

Figure 6: Plant Stock Pricing

These costs are largely considered to be additional costs as there will still be a requirement to plant smaller sized stock. Minimum landscaped areas have also been imposed, which will also add to the cost of landscaping overall. It is difficult to determine the exact cost of larger landscaping areas as they are dependent on the exact form of landscaping selected. For analytical purposes it has been assumed that an additional $2,000 in landscaping costs would apply to a 350 m² lot, which has been applied on a sliding scale to other lot sizes. A summary of average additional costs is provided in Figure 7.

	700 m² lot 245 m² landscaping		350 m² lot 87 m² landscaping		300 m² lot 60 m² landscaping		250 m² lot 50 m² landscaping		200 m² lot 40 m² landscaping		150 m² lot 30 m² landscaping	
	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost
Large Trees	2	$3,300	1	$1,650	0	$0	0	$0	0	$0	0	$0
Medium Trees	4	$1,600	1	$400	1	$400	1	$400	1	$400	1	$400
Small Trees	12	$3,120	4	$1,040	3	$780	2	$520	2	$520	1	$260
Additional Landscaping		$4,000		$2,000		$1,715		$1,428		$1,143		$857
Total		$12,020		$5,090		$2,895		$2,348		$2,063		$1,517

Figure 7: Increased Landscaping Costs

The replacement of paved driveways or landscaping areas with permeable paving is understood to be optional and the cost implications have therefore not been analysed, however it is noted that this is a more expensive design option.

Landscaping costs have been sourced from either RBB handbook or nursery price lists. Any implications associated with increased BAL ratings due to landscaping requirements have not been analysed.

4.4 Larger Lots (Increase Value)

In the case of density reduction this will lead to larger lot sizes and hence should lead to an underlying increase in lot value dependent on market conditions. We do not believe that this increase in value will fully offset the potential decrease in value attributable to the decreased value from density reduction.

4.5 Improved Design (Increase Value)

The Proposed Planning Framework is anticipated to lead to improved built-form outcomes, which in turn is likely to lead to a market willingness to pay a premium for an improved product offering. It is difficult to determine the exact premium the market would be willing to pay, and it is likely to fluctuate between products and locations, however we anticipate that, on average, a 5% premium would be accepted by the market.

5 TYPOLOGY COMMENTRY

5.1 Group One (Typology 1, 2 & 3)

5.1.1 Tested Pre-Subdivided Lot Size

The tested pre-subdivided lot size under this typology is an 18 meter by 38-meter lot, totalling 684 m²

5.1.2 R30 Comparison (Current R-Codes vs PPFW)

Probable Development Outcomes

Current R-Codes

Current zoning restrictions prevent side by side green title subdivision (due to the requirement of a minimum lot frontage of 10 meters). Typical subdivision would either be a green title battle axe block (requiring a minimum lot size of 410 m²) or two survey strata lots (with average lot sizes of 308 m² after allowing for a common driveway).

R30 zoning allows for 55% site coverage, providing two building envelopes of 188m² each.

Proposed Planning Framework

The proposed planning framework allows for subdivision into two survey strata lots (within this typology group) with an average size of 308 m². The proposed planning framework does not provide a sufficient building envelope to develop single storey 188 m² dwellings, thus a second storey is required

Build Costs

Current R-Codes

Estimated construction costs are $263,200 for a single storey dwelling of 188 m².

Proposed Planning Framework

Estimated construction costs are $376,000 for a double storey dwelling of 188 m².

Landscape Costs

Increased landscaping requirements are anticipated to add circa $2,895 per dwelling.

Potential Density Reduction

In is not anticipated that any material reduction in density would result in R-30 coded lots.

Increased Lot Size

In is not anticipated that the framework would lead to an increased lot size.

Improved Design

Due to improved design outcomes it is anticipated that there will be a small increase in lot value related to the improved built form outcome.

Summary

Yolk Property Group feel the appreciative purchaser would pay a small premium for a good built form outcome. There will be a ceiling on this increased value beyond which it is anticipated that purchasers would look to alternate dwelling types (such as apartments) or move to a comparable location. The anticipated cost increase associated with delivering a like for like dwelling under this typology is primarily due to increased underlying construction costs.

5.1.3 R40 Comparison (Current R-Codes vs PPFW)

Probable Development Outcomes

Current R-Codes

Current zoning restrictions prevent side by side green title subdivision (due to the requirement of a minimum lot frontage of 10 meters). Typical subdivision would be three survey strata lots with average lot sizes of 200 m² each. R40 zoning allows for 55% site coverage and survey strata lots allow for the inclusion of common areas in calculations. Each dwelling would therefore have an average building envelope of 125 m².

Proposed Planning Framework

The proposed planning framework allows for subdivision into two survey strata lots with average size of 308 m². Sufficient building envelope is achievable to construct two single storey dwellings of 125 m² each.

Build Costs

We do not project an effect on the construction cost due to the framework.

Landscape Costs

Increased landscaping requirements are anticipated to add circa $2,895 per dwelling.

Potential Density Reduction

It is anticipated that it is likely a reduction in density would occur under this typology group within R40 coded lots, resulting in a higher underlying land component for post subdivided dwellings and thus increased overall dwelling prices. Underlying land values are estimated as follows:

Current R-Codes

Estimated land value is $270,000 per 200 m² lot ($1,350 per m²).

Proposed Planning Framework

Estimated land value is $338,800 per 308 m² lot ($1,100 per m²).

Increased Lot Size

Due to the anticipated density reduction it is anticipated that there will be a small increase in lot value.

Improved Design

Due to improved design outcomes it is anticipated that there will be a small increase in lot value related to the improved built form outcome.

Summary

Yolk Property Group feel the appreciative purchaser would pay a small premium for a good built form outcome and a larger lot. There will be a ceiling on this increased value beyond which it is anticipated that purchasers would look to alternate dwelling types (such as apartments) or move to a comparable location. The anticipated cost increase associated with delivering a like for like dwelling under this typology is primarily due to increased underlying land and construction costs.

5.1.4 R60 Comparison

R60 is not applicable to this typology group.

5.2 Group Two (Typology 4 | Laneways)

5.2.1 Tested Pre-Subdivided Lot Size

The tested pre-subdivided lot size under this typology is an 18 meter by 47-meter lot, totalling 705 m²

5.2.2 R30 Comparison (Current R-Codes vs PPFW)

Probable Development Outcomes

Current R-Codes

Current zoning restrictions prevent side by side green title subdivision (due to the requirement of a minimum lot frontage of 10 meters). Typical subdivision would be subdividing the lot into two green title lots, with one fronting the primary road and the second fronting the laneway.

R30 zoning allows for 55% site coverage, providing two building envelopes of 194 m² each and lot sizes of 352 m².

Proposed Planning Framework

Proposed regulations allow for subdivision into two green title lots of circa 352 m² each.

The proposed planning regulation framework does not provide a sufficient building envelope to develop single storey 194 m² dwellings, thus a second storey is required.

Build Costs

Current R-Codes

Estimated construction costs are $271,600 for a single storey dwelling of 194 m².

Proposed Planning Framework

Estimated construction costs are $388,000 for a double storey dwelling of 194 m².

The detached nature of the garage to each dwelling reduces the cost of constructing the garage (as it remains single storey), therefore a credit of $24,000 has been applied to construction costs, resulting in a net construction cost of $364,000.

Landscape Costs

Increased landscaping requirements are anticipated to add circa $5,090 per dwelling.

Potential Density Reduction

In is not anticipated that any material reduction in density would result in R-30 coded lots.

Increased Lot Size

In is not anticipated that the framework would lead to an increased lot size.

Improved Design

Due to improved design outcomes it is anticipated that there will be a small increase in lot value related to the improved built form outcome. The ability to separate the construction of the garage from the main dwelling is also considered advantages.

Summary

Yolk Property Group feel the appreciative purchaser would pay a small premium for a good built form outcome. There will be a ceiling on this increased value beyond which it is anticipated that purchasers would

look to alternate dwelling types (such as apartments) or move to a comparable location. The anticipated cost increase associated with delivering a like for like dwelling under this typology is primarily due to increased construction costs.

5.2.3 R40 Comparison (Current R-Codes vs PPFW)

Probable Development Outcomes

Current R-Codes

Current planning regulations allow for subdivision of the lot into three survey strata lots of circa 215 m² each with a common driveway of 60 m². R40 zoning allows for 55% site coverage and survey strata lots allow for the inclusion of common areas in calculations. Each dwelling would therefore have a building envelope of 129 m².

Proposed Planning Framework

Proposed planning framework regulations have no material difference between R30 zoning and R40 zoning.

Build Costs

We do not project an effect on the construction cost due to the framework.

Landscape Costs

Increased landscaping requirements are anticipated to add circa $5,090 per dwelling.

Potential Density Reduction

It is anticipated that it is likely a reduction in density would occur under this typology group within R40 coded lots, resulting in a higher underlying land component for post subdivided dwellings and thus increased overall dwelling prices. Underlying land values are estimated as follows:

Current R-Codes

Estimated land value is $290,250 per 215 m² lot ($1,350 per m²).

Proposed Planning Framework

Estimated land value is $352,000 per 352 m² lot ($1,000 per m²).

Increased Lot Size

Due to the anticipated density reduction it is anticipated that there will be a small increase in lot value.

Improved Design

Due to improved design outcomes it is anticipated that there will be a small increase in lot value related to the improved built form outcome.

Summary

Yolk Property Group feel the appreciative purchaser would pay a small premium for a good built form outcome and a larger lot. There will be a ceiling on this increased value beyond this it is anticipated that purchasers would look to alternate dwelling types (such as apartments) or move to a comparable location. The anticipated cost increase associated with delivering a like for like dwelling under this typology is primarily due to increased underlying land costs.

5.2.4 R60 Comparison (Current R-Codes vs PPFW)

Probable Development Outcomes

Current R-Codes

Current planning regulations allow for the lot to be subdivided into four survey strata lots of circa 150 m² each (with a common driveway of 105 m²). R60 zoning allows for 60% site coverage and survey strata lots allow for the inclusion of common areas in calculations. Each dwelling would therefore have a building envelope of 105 m² each (for a single storey residence). Such a small building envelope, relative to land values would warrant the construction of a second storey. Construction of a two storey 175 m² dwelling has been analysed, in line with typical development in the area.

Proposed Planning Framework

Proposed planning framework regulations have no material difference between R40 zoning and R60 zoning.

Build Costs

Current R-Codes

Estimated construction costs are $350,000 for a double storey dwelling of 175 m².

Proposed Planning Framework

Estimated construction costs are $350,000 for a double storey dwelling of 175 m².

The detached nature of the garage to each dwelling reduces the cost of constructing the garage (as it remains single storey), therefore a credit of $24,000 has been applied to construction costs, resulting in a net construction cost of $326,000.

Landscape Costs

Increased landscaping requirements are anticipated to add circa $5,090 per dwelling.

Potential Density Reduction

It is anticipated that it is likely a reduction in density would occur under this typology group within R60 coded lots, resulting in a higher underlying land component for post subdivided dwellings and thus increased overall dwelling prices. Underlying land values are estimated as follows:

Current R-Codes

Estimated land value is $225,000 per 150 m² lot ($1,500 per m²).

Proposed Planning Framework

Estimated land value is $352,000 per 352 m² lot ($1,000 per m²).

Increased Lot Size

Due to the anticipated density reduction it is anticipated that there will be a small increase in lot value.

Improved Design

Due to improved design outcomes it is anticipated that there will be a small increase in lot value related to the improved built form outcome. The ability to separate the construction of the garage from the main dwelling is also considered advantages.

Summary

Yolk Property Group feel the appreciative purchaser would pay a small premium for a good built form outcome and a larger lot. There will be a ceiling on this increased value beyond this it is anticipated that purchasers would look to alternate dwelling types (such as apartments) or move to a comparable location.

The anticipated cost increase associated with delivering a like for like dwelling under this typology is primarily due to increased underlying land costs.

5.3 Group Three (Typology 5)

5.3.1 Tested Pre-Subdivided Lot Size

The tested pre-subdivided lot size under this typology is a truncated 23 meter by 23.5-meter lot, totalling 786 m²

5.3.2 R30 Comparison (Current R-Codes vs PPFW)

R30 development requires minimum lot sizes of 300 m² per lot, this typology is therefore not attainable on the tested lot size.

5.3.3 R40 Comparison (Current R-Codes vs PPFW)

Probable Development Outcomes

Current R-Codes

The dual frontage nature of these lots permits subdivision into three green title lots of circa 262 m² per lot.

R40 zoning allows for 55% site coverage, providing a building envelope of 144 m² per dwelling.

Proposed Planning Framework

Proposed regulations allow for subdivision into three green title lots of circa 262 m² each.

The proposed planning regulation framework does not provide a sufficient building envelope to develop single storey 144 m² dwellings, a second storey is therefore required.

Build Costs

Current R-Codes

Estimated construction costs are $201,600 for a single storey dwelling of 144 m².

Proposed Planning Framework

Estimated construction costs are $288,000 for a double storey dwelling of 144 m².

Landscape Costs

Increased landscaping requirements are anticipated to add circa $2,348 per dwelling.

Potential Density Reduction

In is not anticipated that any material reduction in density would result in R-40 coded lots.

Increased Lot Size

In is not anticipated that the framework would lead to an increased lot size.

Improved Design

Due to improved design outcomes it is anticipated that there will be a small increase in lot value related to the improved built form outcome.

Summary

Yolk Property Group feel the appreciative purchaser would pay a small premium for a good built form outcome. There will be a ceiling on this increased value beyond this it is anticipated that purchasers would look to alternate dwelling types (such as apartments) or move to a comparable location. The anticipated cost increase associated with delivering a like for like dwelling under this typology is primarily due to increased construction costs.

5.3.4 R60 Comparison (Current R-Codes vs PPFW)

Probable Development Outcomes

Current R-Codes

Current planning regulations allow for subdivision of the lot into five green title lots of circa 157 m² each (all lots would have minimum 10 metre frontage requirements). R60 zoning allows for 60% site coverage, each dwelling would therefore have a building envelope of 94 m² each (for a single storey residence). Such a small building envelope, relative to land values would warrant the construction of a second storey. Construction of a two-storey 175 m² dwelling has been analysed, in line with current development within the area.

Proposed Planning Framework

Proposed planning framework regulations have no material difference between R40 zoning and R60 zoning.

Build Costs

We do not project an effect on the construction cost due to the framework

Landscape Costs

Increased landscaping requirements are anticipated to add circa $2,348 per dwelling.

Potential Density Reduction

It is anticipated that it is likely a reduction in density would occur under this typology group within R60 coded lots, resulting in a higher underlying land component for post subdivided dwellings and thus increased overall dwelling prices. Underlying land values are estimated as follows:

Current R-Codes

Estimated land value is $235,500 per 157 m² lot ($1,500 per m²).

Proposed Planning Framework

Estimated land value is $314,400 per 262 m² lot ($1,200 per m²).

Increased Lot Size

Due to the anticipated density reduction it is anticipated that there will be a small increase in lot value.

Improved Design

Due to improved design outcomes it is anticipated that there will be a small increase in lot value related to the improved built form outcome.

Summary

Yolk Property Group feel the appreciative purchaser would pay a small premium for a good built form outcome and a larger lot. There will be a ceiling on this increased value beyond this it is anticipated that purchasers would look to alternate dwelling types (such as apartments) or move to a comparable location. The anticipated cost increase associated with delivering a like for like dwelling under this typology is primarily due to increased underlying land and increased construction costs.

5.4 Group Four (Typology 6)

5.4.1 Tested Pre-Subdivided Lot Size

The tested pre-subdivided lot size under this typology is a 19 meter by 38-meter lot, totalling 722 m²

5.4.2 R30 Comparison (Current R-Codes vs PPFW)

R30 development requires minimum lot sizes of 300 m² per lot, this typology is therefore not attainable on the tested lot size.

5.4.3 R40 Comparison (Current R-Codes vs PPFW)

Probable Development Outcomes

Current R-Codes

Current zoning restrictions prevent side by side green title subdivision (due to the requirement of a minimum lot frontage of 10 meters). Typical subdivision would be three survey strata lots with average lot sizes of 210 m² each. R40 zoning allows for 55% site coverage and survey strata lots allow for the inclusion of common areas in calculations. Each dwelling would therefore have a building envelope of 132 m².

Proposed Planning Framework

Proposed regulations allow for subdivision into three survey strata lots with average size of 210 m² each.

The building envelope is insufficient to construct a single storey dwelling of 132 m², requiring the addition of a second storey.

Build Costs

Current R-Codes

Estimated construction costs are $184,800 for a single storey dwelling of 132 m².

Proposed Planning Framework

Estimated construction costs are $264,000 for a double storey dwelling of 132 m².

Landscape Costs

Increased landscaping requirements are anticipated to add circa $2,063 per dwelling.

Potential Density Reduction

In is not anticipated that any material reduction in density would result in R-40 coded lots.

Increased Lot Size

In is not anticipated that the framework would lead to an increased lot size.

Improved Design

Due to improved design outcomes it is anticipated that there will be a small increase in lot value related to the improved built form outcome.

Summary

Yolk Property Group feel the appreciative purchaser would pay a small premium for a good built form outcome. There will be a ceiling on this increased value beyond which it is anticipated that purchasers would look to alternate dwelling types (such as apartments) or move to a comparable location. The anticipated cost increase associated with delivering a like for like dwelling under this typology is primarily due to increased

underlying construction costs.

5.4.4 R60 Comparison (Current R-Codes vs PPFW)

Probable Development Outcomes

Current R-Codes

Current zoning restrictions prevent side by side green title subdivision (due to the requirement of a minimum lot frontage of 10 meters). Typical subdivision would be four survey strata lots with average lot sizes of 155 m² each and a 102 m² common driveway. R60 zoning allows for 60% site coverage, each dwelling would therefore have a building envelope of 108 m² each (for a single storey residence). Such a small building envelope, relative to land values would warrant the construction of a second storey. Given the limitations of the proposed building envelope construction of a 3*2*2 dwelling of 155 m² per lot has been analysed.

Proposed Planning Framework

Proposed planning framework regulations have no material difference between R40 zoning and R60 zoning.

Build Costs

We do not project an effect on the construction cost due to the framework.

Landscape Costs

Increased landscaping requirements are anticipated to add circa $2,063 per dwelling.

Potential Density Reduction

It is anticipated that it is likely a reduction in density would occur under this typology group within R60 coded lots, resulting in a higher underlying land component for post subdivided dwellings and thus increased overall dwelling prices. Underlying land values are estimated as follows:

Current R-Codes

Estimated land value is $232,500 per 155 m² lot ($1,500 per m²).

Proposed Planning Framework

Estimated land value is $283,500 per 210 m² lot ($1,350 per m²).

Increased Lot Size

Due to the anticipated density reduction it is anticipated that there will be a small increase in lot value.

Improved Design

Due to improved design outcomes it is anticipated that there will be a small increase in lot value related to the improved built form outcome.

Summary

Yolk Property Group feel the appreciative purchaser would pay a small premium for a good built form outcome and a larger lot. There will be a ceiling on this increased value beyond this it is anticipated that purchasers would look to alternate dwelling types (such as apartments) or move to a comparable location. The anticipated cost increase associated with delivering a like for like dwelling under this typology is primarily due to increased underlying land costs.

5.5 Group Five (Typology 7)

5.5.1 Tested Pre-Subdivided Lot Size

The tested pre-subdivided lot size under this typology is an 18 meter by 38-meter lot, totalling 684 m²

5.5.2 R30 Comparison (Current R-Codes vs PPFW)

R30 development requires minimum lot sizes of 300 m² per lot, this typology is therefore not attainable on the tested lot size.

5.5.3 R40 Comparison (Current R-Codes vs PPFW)

Probable Development Outcomes

Current R-Codes

Current zoning restrictions prevent side by side green title subdivision (due to the requirement of a minimum lot frontage of 10 meters). Typical subdivision would be three survey strata lots with average lot sizes of 200 m² each. R40 zoning allows for 55% site coverage and survey strata lots allow for the inclusion of common areas in calculations. Each dwelling would therefore have an average building envelope of 125 m².

Proposed Planning Framework

The proposed planning framework allow for subdivision into three green title lots of circa 228 m² each.

The proposed planning regulation framework does not provide a sufficient building envelope to develop single storey 125 m² dwellings, thus a second storey is required.

Build Costs

Current R-Codes

Estimated construction costs are $175,000 for a single storey dwelling of 125 m².

Proposed Planning Framework

Estimated construction costs are $250,000 for a double storey dwelling of 125 m².

Landscape Costs

Increased landscaping requirements are anticipated to add circa $2,063 per dwelling.

Potential Density Reduction

In is not anticipated that any material reduction in density would result in R-60 coded lots

Increased Lot Size

In is not anticipated that the framework would lead to an increased lot size.

Improved Design

Due to improved design outcomes it is anticipated that there will be a small increase in lot value related to the improved built form outcome.

Summary

Yolk Property Group feel the appreciative purchaser would pay a small premium for a good built form outcome. There will be a ceiling on this increased value beyond this it is anticipated that purchasers would look to alternate dwelling types (such as apartments) or move to a comparable location. The anticipated cost increase associated with delivering a like for like dwelling under this typology is primarily due to increased

construction costs.

5.5.4 R60 Comparison (Current R-Codes vs PPFW)

Probable Development Outcomes

Current R-Codes

Current zoning restrictions prevent side by side green title subdivision (due to the requirement of a minimum lot frontage of 10 meters). Typical subdivision would be four survey strata lots with average lot sizes of 150 m² each and an 84 m² common driveway. R60 zoning allows for 60% site coverage, each dwelling would therefore have a building envelope of 102 m² each (for a single storey residence). Such a small building envelope, relative to land values would warrant the construction of a second storey. Given the limitations of the proposed building envelope construction of a 155 m² dwelling per lot has been analysed.

Proposed Planning Framework

Proposed planning framework regulations have no material difference between R40 zoning and R60 zoning.

Build Costs

We do not project an effect on the construction cost due to the framework.

Landscape Costs

Increased landscaping requirements are anticipated to add circa $2,063 per dwelling.

Potential Density Reduction

It is anticipated that it is likely a reduction in density would occur under this typology group within R60 coded lots, resulting in a higher underlying land component for post subdivided dwellings and thus increased overall dwelling prices. Underlying land values are estimated as follows:

Current R-Codes

Estimated land value is $225,000 per 150 m² lot ($1,500 per m²).

Proposed Planning Framework

Estimated land value is $273,600 per 228 m² lot ($1,200 per m²).

Increased Lot Size

Due to the anticipated density reduction it is anticipated that there will be a small increase in lot value.

Improved Design

Due to improved design outcomes it is anticipated that there will be a small increase in lot value related to the improved built form outcome.

Summary

Yolk Property Group feel the appreciative purchaser would pay a small premium for a good built form outcome and a larger lot. There will be a ceiling on this increased value beyond this it is anticipated that purchasers would look to alternate dwelling types (such as apartments) or move to a comparable location. The anticipated cost increase associated with delivering a like for like dwelling under this typology is primarily due to increased underlying land costs.

5.6 Group Six (Typology 8, 9 & 10)

5.6.1 Tested Pre-Subdivided Lot Size

The tested pre-subdivided lot size under this typology is a 22.5 meter by 33-meter lot, totalling 742 m².

Analysis has been completed for the Neighbourhood Activity Centre, applying the General Controls as appropriate.

5.6.2 R30 Comparison.

R30 Coding is only applicable to Typology 8. Under current regulations the anticipated built form outcome would be for two single storey residential dwellings. Comparing an apartment outcome to single residential dwellings is not practical. The Proposed Planning Framework provides for up to 4 multi-residential dwellings on the one lot, if this outcome was to be implemented it would likely lead to an increase in density. The likely outcome would be for dwellings delivered at similar price-points to current market pricing, with a higher built form cost component and lower underlying land cost component when compared to single residential dwellings.

5.6.3 R40 Comparison (Current R-Codes vs PPFW)

Probable Development Outcomes

Current R-Codes

Current R-Codes provide for a maximum two-storey development, a plot ratio of 0.6 and minimum open space of 45%. Site coverage is therefore 55%, providing for a building envelope of 408 m² and the maximum permitted floorplate is 445 m², which would be delivered across two storeys. The typical number of dwellings deliverable from 445 m² is 6 dwellings, which would require a minimum of 8 car bays (depending on exact dwelling configuration).

Proposed Planning Framework

The proposed planning framework, by way of increased setbacks and landscaping areas reduces the building envelope to 156 m² and allows for a maximum two storey development, with the second storey having an increased floorplate (195 m²). The total deliverable floorplate is therefore 351 m², allowing for 5 dwellings, again across two storeys. Car parking requirements are a minimum of 7 car bays (depending on exact dwelling configuration).

Build Costs

The build rate will be similar between the current and proposed framework.

Landscape Costs

Increased landscaping requirements are anticipated to add circa $12,020 to the overall development.

Potential Density Reduction

Individual dwelling make-up depends on numerous factors, it is therefore more prudent to analyse density reduction in deliverable floor areas. It is anticipated that the Proposed Planning Framework would result in a reduction in density by 27%. See following summary:

- Current Codes: 445m2 of internal built-form (6 dwellings);
- Planning Framework: 351m2 of internal built-form (5 dwellings).

Increased Lot Size

This is not applicable to the multiple residential developments.

Improved Design

Due to improved design outcomes it is anticipated that there will be a small increase in lot value related to the improved built form outcome.

Summary

Yolk Property Group feel the appreciative purchaser would pay a premium for a good built form outcome. However, the loss of density in this comparison is significant.

5.6.4 R60 Comparison (Current R-Codes vs PPFW)

Probable Development Outcomes

Current R-Codes

Current R-Codes provide for a maximum three-storey development, a plot ratio of 0.7 and minimum open space of 45%. Site coverage is therefore 55%, providing for a building envelope of 408 m² and the maximum permitted floorplate is 519 m², which would be delivered across two storeys. The typical number of dwellings deliverable from 519 m² is 7 dwellings, which would require a minimum of 9 car bays (depending on exact dwelling configuration).

Proposed Planning Framework

The proposed planning framework, by way of increased setbacks and landscaping areas reduces the building envelope to 156 m² and allows for a maximum three storey, with the second storey having an increased floorplate (195 m²) and the third storey having a reduced floorplate (136 m²). The total deliverable floorplate is therefore 487 m², allowing for 6 dwellings across the three storeys. Car parking requirements are a minimum of 8 car bays (depending on exact dwelling configuration).

Build Costs

Current R-Codes

Two-storey development is estimated at $3,000 per m², total construction costs are therefore $1,557,000 for the 519 m².

Proposed Planning Framework

As the development is forced into a third storey the construction rate will increase overall. Three-storey development is estimated at $3,300 per m², total construction costs are therefore $1,607,100 for the 487 m².

Landscape Costs

Increased landscaping requirements are anticipated to add circa $12,020 to the overall development.

Potential Density Reduction

Individual dwelling make-up depends on numerous factors, it is therefore more prudent to analyse density reduction in deliverable floor areas. It is anticipated that the Proposed Planning Framework would result in a reduction in density by 6%, increasing the underlying land costs of each dwelling by this factor.

See following summary:

- Current Codes: 519m2 of internal built-form (7 dwellings);
- Planning Framework: 487m2 of internal built-form (6 dwellings).

However, site dependent we would anticipate the framework would be used as a guideline only and the same density outcomes may be achieved over three storeys.

Increased Lot Size

This is not applicable to the multiple residential developments.

Improved Design

Due to improved design outcomes it is anticipated that there will be a small increase in lot value related to the improved built form outcome.

Summary

Yolk Property Group feel the appreciative purchaser would pay a premium for a good built form outcome. However, the loss of density in this comparison is a factor but may be able to be designed to meet a comparable plot ratio site dependent. The increase to a larger third storey does lead to an increased construction rate.

6 SUMMARY

Overall the Proposed Framework will have a major effect on the development outcome of properties located in the Housing Opportunity Areas.

In some instances, the Proposed Planning Framework will lead to a decrease in of density which will have a negative impact on value, however the impact could be slightly offset by the increase in lot size.

The decreased site cover will also lead to more of the dwelling being located on the upper storeys and therefore an increased construction cost.

Yolk Property Group believe that an improved design outcome is achieved under the Proposed Planning Framework compared to current regulations, which should lead to a market willingness to pay a premium when compared to current stock. It is difficult to determine the exact value increase that the market would be willing to absorb as there is a price ceiling in each area before purchasers move to a more aspirational area.