

City of Charles Sturt

Residential Growth + Character Study

Summary Report
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1 Overview

This is a summary report of the six individual reports prepared for the City of Charles Sturt Residential Growth and Character Study. This Study has been undertaken over by Jensen Planning + Design in collaboration with SGS Economics and Planning and Tonkin and Associates for the City of Charles Sturt. The study examines future residential growth and character issues across the City of Charles Sturt.

The first report prepared for this project - the *Strategic Context Report*, analyses population trends, policy approaches and legislation within the State Government and the City of Charles Sturt relating to residential growth and character.

The second report - *Opportunities and Constraints* summarises future population and housing projections specific to Charles Sturt based on a range of population scenarios. It also summarises major environmental, infrastructure and other opportunities and constraints to achieving future housing growth.

The third report - *Future Social Infrastructure Requirements*, provides a broad overview of the context and supply requirements of future social infrastructure needs across Charles Sturt.

The fourth report - *Character and Form of Potential Growth Opportunities*, provides recommendations about the future character, form and extent of primarily residential growth in areas that have been identified as having potential for increased residential density in the City of Charles Sturt.

The fifth report - *Development Plan Policy Analysis for Growth Areas* assesses current Development Policy relating to the identified residential growth areas. It proposes new residential design policy and zoning changes for the identified residential growth areas that will inform a forthcoming Residential DPA.

The sixth report - *Review of Certain Historic Conservation Areas*, reviews the zone boundaries and policies for a number of existing Residential Character Zone (Historic Conservation Areas) Policy Areas. It identifies opportunities for the refinement of the zone boundaries.

Summary of Key Residential Growth Challenges relating to the 30 Year Plan

- An additional (approximately) **20,960 dwellings** should be provided in the City of Charles Sturt by 2039 to meet the 30 Year Plan population growth targets
- In order to meet the 30 Year Plan policy directions, most of these dwellings (75% or nearly **14,000 dwellings**) will be located within an **800 metre radius along corridors around Centres**. These corridors and centres include Bowden Transit Oriented Development (TOD), Cheltenham/ Woodville TOD, West Lakes TOD, Seaton Centre, Albert Park Centre, Kilkenny Centre, Fulham Centre, Henley Beach Centre, QEH Centre, Hindmarsh Centre, Arndale Centre, Grange Road Corridor, Henley Beach Road Corridor, Woodville Road Corridor, Port Road Corridor, and Torrens Road Corridor.

- Given the priority given to residential intensification around corridors and centres, only 3,670 dwellings need to be located outside these areas. If past development trends across the City of Charles Sturt of approx 120 dwellings per annum continue, **there will be no need to significantly increase residential development in neighbourhoods outside the nominated growth areas.**

2 Strategic Context

The Greater Adelaide 30 Year Plan details the State Government's aim to achieve significant population growth targets by developing new residential areas in greenfield locations (30% of new growth), and by increasing infill and population densities in existing urban centres (70% of new growth).

The City of Charles Sturt will accommodate a substantial part of the increased population growth, predominantly through infill and achieving higher densities in Transport Oriented Developments and along key transport corridors. For the Western Region (including Charles Sturt, West Torrens and Port Adelaide Enfield), the growth target is an additional 83,000 people by 2030.

Other key strategic documents are:

- South Australian Strategic Plan (2007)
- 30 Year Plan for Greater Adelaide (2010)
- Directions for Creating a new Plan for Greater Adelaide (2008)
- Draft Technical Report to 30 Year Plan for Greater Adelaide (2009)
- Housing Plan for SA (2005)
- Strategic Infrastructure Plan (April 2005)
- South Australia Works in the Regions 2006-2009 Strategic Plan (2006)
- Industrial Land Strategy for Metropolitan Adelaide (2007)

Infill opportunities (such as developing one current house site into two or three new dwellings) are scattered throughout the Council area. However they are not likely to contribute significantly to the growth target, and also brings little benefit to the community as a whole because they do not provide the economies of scale to be able to provide additional services or infrastructure, and also often detrimentally impact on the character of the neighbourhood.

It is likely that the majority of residential growth opportunities will be located around TOD's, activity centres and transport corridors (roads and rail).

Council has a major role to play in influencing the design, sustainability and location of new dwellings through a range of measures including planning policy, financial incentives, and legal requirements.

3 Constraints and Opportunities

In order to ensure that new residential growth is developed in the areas most suitable to accommodate new populations (culturally, economically, environmentally), an understanding of the key constraints and opportunities is required. This is described in detail in the Second Report *Constraints and Opportunities*.

3.1 Roads and Traffic

Locations of potential concern include:

Port Road

- Intersection of Port Road / Cheltenham Parade / West Lakes Boulevard. This intersection is known to have limited capacity and we understand that DTEI have identified the need to potentially upgrade the intersection at some time in the future. The Cheltenham, Albert Park and West Lakes development areas will have the greatest impact on this intersection.

West Lakes

- West Lakes Boulevard between Clark Terrace and Port Road. This section of road is only one lane in either direction and connects West Lakes Boulevard to Port Road. It has significant capacity limitations. The Albert Park and West Lakes development areas will have the greatest impact on this road section.

Woodville Road, Woodville

- The capacity of Woodville Road is limited due to its functionality in providing access to the adjacent business and shopping precinct. Further consideration should be given to the size of the Woodville development area and possible increased traffic demands on Woodville Road.

Kilkenny Road/David Terrace, Kilkenny

- The capacity of Kilkenny Road is limited due to its functionality in providing access to the adjacent business and industrial land. Further consideration should be given to the size of the Kilkenny development area and possible increased traffic demands on Kilkenny Road.

3.2 Cycling and Walking

There is opportunity to develop specific dedicated cycling and walking routes through the Greenways policy initiative announced in the 30 Year Plan. This is anticipated to be a series of connected linear routes (called Greenways) primarily alongside rail networks which meets open space, accessibility, active living and biodiversity objectives.

3.3 Rail

The extension of the existing light rail network to West Lakes is anticipated to be positioned along West Lakes Boulevard.

The extension of light rail and train networks will improve access and provide an opportunity to rezone land alongside the lines to higher density.

A key issue for many of the areas is how the interface between the tram line and dwellings will be treated. Many areas in the City of Charles Sturt along train lines have important historic character. The 30 Year Plan promotes Greenways along the lines which will be designated open spaces for cycling and walking. However in many areas houses may back on to the tram lines and there will be crime and safety challenges.

3.4 Stormwater Management

An extensive stormwater drainage network extends across the City of Charles Sturt to drain the existing developed areas to a range of destinations including:

- River Torrens
- Coast
- West Lakes; and
- Gillman basins

The Council has previously identified that the network can be divided into 32 stormwater catchments, each with its own unique characteristics and outfall.

In general, investment in the development of these stormwater networks occurred at around the time of the development of the surrounding suburbs. In some locations, significant further investment was made, particularly during the period between 1960-1980 to provide an improved performance standard to serve the future development of these areas, as was expected at that time. The Council is currently in the early stage of completing a series of strategic reviews (catchment-based Stormwater Management Plans) to assess current performance standards and to identify strategies that address not only issues of flood protection and likely future development, but also to consider opportunities for water quality improvement (through Water Sensitive Urban Design) and stormwater harvesting and reuse.

3.5 Water Supply

Charles Sturt Council area is located within the EL51 water supply pressure zone except for the Clipsal site which is contained within the EL103 zone. All future development sites (indicated in Report 2 *Opportunities and Constraints*) are located near large mains with some capacity to supply increase demands. Minor augmentation works (ie mains duplication and/or relay of older mains) may be needed to service proposed development. The scope of these works will be determined when more detailed information is available on each development site.

3.6 Waste water

Charles Sturt Council area falls into the Bolivar Waste Water Treatment Plant (WWTP) catchment area. All future development sites (indicated in Report 2 *Opportunities and Constraints*) have the potential to discharge into the current wastewater system without any further augmentation except for the Kilkenny railway station TOD site.

3.7 Electricity

ETSA has stated generally there should not be many issues with network capacity and augmentation in these areas. Augmentation rates for these sites are expected to be standard but will be subject to the density of each residential development. There may also be changes as the system develops. In terms of capacity, there is currently insufficient information provided for ETSA to undertake meaningful assessment in each case and so each site is to be investigated on an individual basis at project commencement.

3.8 Gas

APA has undertaken an assessment of gas opportunities and constraints across the Charles Sturt Council Area. APA Group is Australia's largest natural gas infrastructure business, owning and/or operating more than \$8 billion of gas transmission and distribution assets including across Adelaide. Their advice is that the Charles Sturt gas infrastructure assets are 'very mixed' with respect to the age and remaining capacity of the assets, and it is not possible to give a more detailed picture about residential growth implications on gas assets at this stage.

3.9 Climate Change

Arguably, the most significant environmental issues to confront Charles Sturt Council in the next 100 years are inundation from seawater and stormwater, and the related matters of land subsidence and sea-level rise as a consequence of both sea level rise as well as wetland reclamation and groundwater extraction.

With respect to South Australia, the two councils that are potentially most at risk are Charles Sturt and Port Adelaide Enfield. The Australian Government's *Climate Change Risks to Australia's Coast* states that "between 8,850 and 14,100 residential buildings in the Charles Sturt Council Area may be affected by sea-level rise by 2100, with the upper range representing over 30 per cent of all current residential buildings within the Local Government Area".

The areas most at risk include Semaphore Park, West Lakes Shore, Tennyson, Queenstown, Royal Park and West Lakes.

3.10 Stormwater and Harvesting

Another significant environmental issue to confront Charles Sturt Council is increased stormwater runoff due to an increase in housing densities and impervious surfaces. Recent mapping of the 1in100 ARI flooding event shows that numerous properties within the Growth Corridors, particularly along Port Road adjacent Woodville, will be vulnerable to up to 100% flooding of the site. Increased densification of dwellings has the potential to increase the area of land covered by impervious structures and surfaces leading to increased run-off and localised flooding.

3.11 Open Space

There are some gaps in provision, and also issues such as the quality of a large number of reserves, including facility/asset and landscape quality. Some areas such as Fulham Gardens, Kidman Park and West Lakes Shore have a high level of open space provision. In general, an increase in residential densities around Seaton, Albert Park and Cheltenham are likely to further exacerbate the current gap in open space provision in those areas. Any new development must be considered in the terms of opportunities for open space and greenways provision. The City of Charles Sturt is currently investigating approaches to the provision of open space in new development areas.

3.12 Heritage + Character

There are a number of areas which have a strong and highly valued character or heritage assets. Many of these are around the railway stations along the Outer Harbor rail line.

In general, it is anticipated that the broader community would not wish to see these areas significantly change to accommodate higher density dwellings. Indeed, the State Government has recognised that character and heritage in these areas are significant constraints to achieving greater residential densities and have lowered their residential growth targets accordingly.

There may be some opportunities to sensitively design dwellings around these areas on a case by case basis. However at this stage the heritage and character areas presented in Pennington, Cheltenham, Woodville, Kilkenny environs, Henley Beach and Grange are seen as areas where it is not appropriate to change the character of the built form in order to achieve higher residential densities.

It is suggested that there are significant opportunities elsewhere across the City of Charles Sturt to achieving higher residential densities, and the costs of losing built form that is highly valued by the community does not outweigh the benefits that would be gained from relatively minor increases in dwelling numbers if these areas were developed.

3.13 Affordable Housing

The SA Government has introduced a target for all new significant developments to include 15% "Affordable Housing", including 5% special needs. The Department for Planning and Local Government has established a generic set of planning modules related to affordable housing which are used to inform and guide Development Plan Amendments.

4 Location of Growth

The 30 Year Plan has provided growth targets for the Western Region; and has broken the growth residential growth locations up into "Centres and Corridors", and "Areas Outside Centres and Corridors". Centres and Corridors are the main activity centres where significant employment, shopping, retailing, commercial and civic uses are located. Corridors are nominated main roads and train/tram lines.

Locations of growth in Centres and Corridors are shown in the map on the following page. They will include:

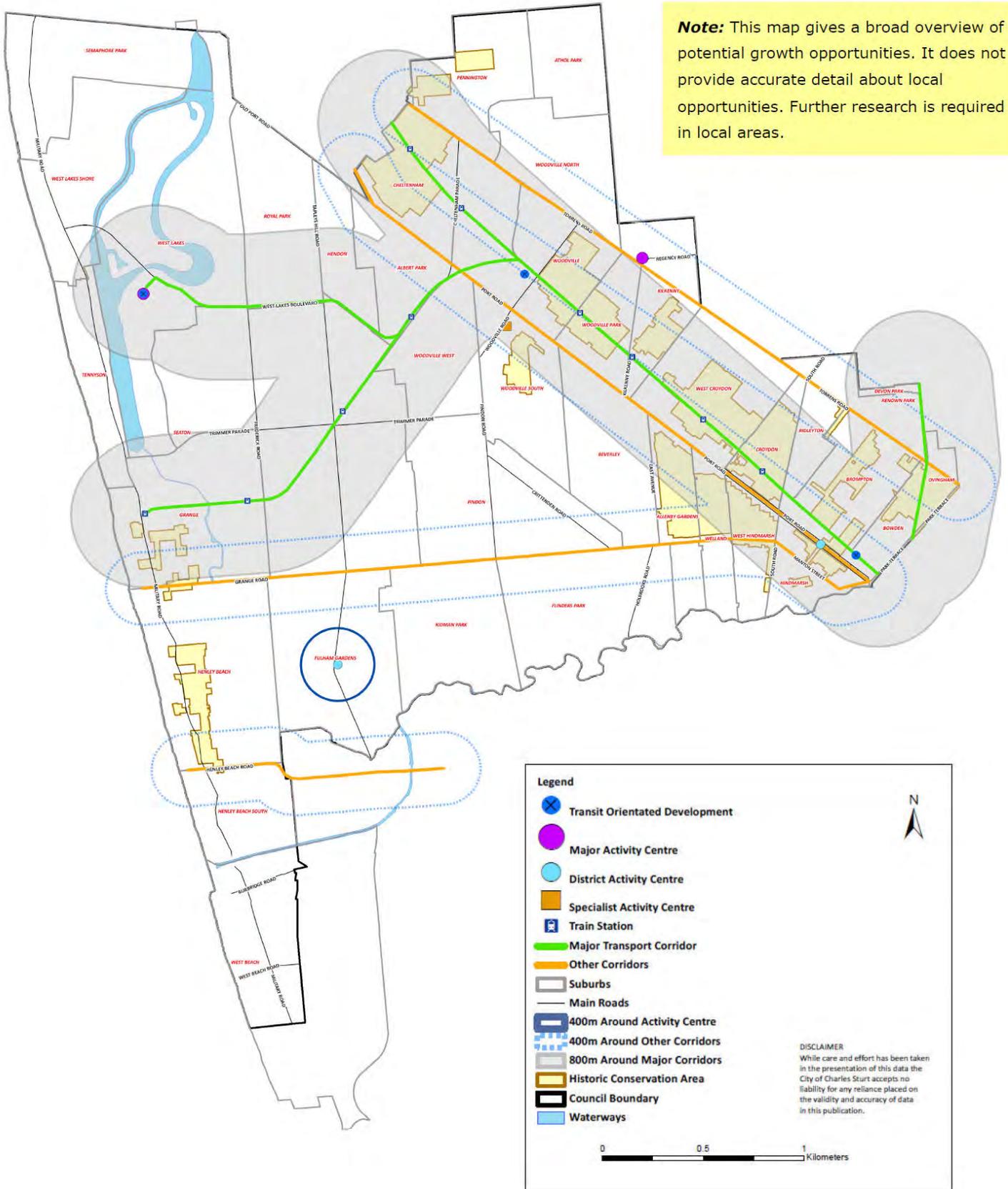
- Bowden (High Order TOD)
- Cheltenham/ Woodville (High Order TOD)
- West Lakes (High Order TOD)
- Seaton (Nodal Centre)
- Albert Park (Nodal Centre)
- Kilkenny (Nodal Centre)
- Fulham Gardens (Centre)
- QEH (Specialist Centre)
- Hindmarsh (Centre)
- Arndale (Centre)
- Grange Road (Corridor)
- Henley Beach Road (Corridor)
- Woodville Road (Corridor)
- Port Road (Corridor)
- Torrens Road (Corridor)

Within Centres and Corridors, some areas are more easily to develop than others - these are the Core Areas which are the areas that are already underutilised or vacant or ready for redevelopment. However many of the land parcels in these areas identified for future residential growth are generally in individual private ownership and to achieve quality planned development on a larger scale that can build in WSUD and stormwater management, appropriate levels of open space, sustainable building approaches and other key planning goals, amalgamation of allotments would be desirable.

Some other areas outside these core growth areas will also experience future growth - these will include Housing SA Areas, Seaton, Findon, Kidman Park, and Ridleyton.

Charles Sturt Indicative Residential Growth Opportunities

Note: This map gives a broad overview of potential growth opportunities. It does not provide accurate detail about local opportunities. Further research is required in local areas.



Legend

- Transit Orientated Development
- Major Activity Centre
- District Activity Centre
- Specialist Activity Centre
- Train Station
- Major Transport Corridor
- Other Corridors
- Suburbs
- Main Roads
- 400m Around Activity Centre
- 400m Around Other Corridors
- 800m Around Major Corridors
- Historic Conservation Area
- Council Boundary
- Waterways

DISCLAIMER
While care and effort has been taken in the presentation of this data the City of Charles Sturt accepts no liability for any reliance placed on the validity and accuracy of data in this publication.

0 0.5 1 Kilometers

5 Summary of Growth Targets for Charles Sturt based on The 30 Year Plan for Greater Adelaide

In total

An additional (approximately) 20,960 dwellings should be provided in Charles Sturt by 2039 to meet the 30 Year Plan population growth targets.

Residential Growth Within Centres and Corridors

Approximately 82% of this growth (17,290 dwellings) will be located in "Centres" and "Corridors".

25% of the "Centres and Corridor" growth (4,035 dwellings) will be within the "core areas" of these TOD's/Centres (the core areas are the areas immediately adjacent to Centres and Corridors which are currently vacated, non residential or underutilised. This portion of the growth does not necessarily extend to the 800 metre radius around the centres and corridors as currently proposed by the State Government). These areas should be relatively easily converted to housing.

75% of the "Centres and Corridor" growth (13,978 dwellings) will need to be located along corridors and in the wider (800m) radius around the Centres. This is likely to be a challenge.

Residential Growth Outside Centres and Corridors - in the Remaining Residential Areas

Only 3,670 dwellings need to be located in the "areas not in Centres and Corridors". This means that the ongoing development of approximately 120 dwellings per annum distributed generally across the suburbs but not located in the centres or along train/tram lines or corridors). Based on previous development trends this should be achievable.

Anticipated Dwelling and Population requirements for Charles Sturt based on The 30 Year Plan for Greater Adelaide Objectives

CENTRES + CORRIDORS	WESTERN REGION GOAL	CHARLES STURT GOAL	CORE AREAS (KNOWN TO BE CURRENTLY VACANT OR UNDERUTILISED)	WIDER AREAS AROUND CORE AREAS (800 m RADIUS)
High order TODs (Clipsal, Cheltenham/Woodville, West Lakes)	19,820 persons	14,860 persons (75%)	6,390 persons	8,470 persons (4,035 dwellings)
Centres (Seaton, Albert Park, Kilkenny,) + Corridors	38,820 persons	19,410 persons (50%)	2,400 persons	17,010 persons (8,100 dwellings)
Other	5,080 persons	2,030 persons (40%)		
SUB TOTAL	63,720 persons	36,300 Persons (17,290 dwellings)	8,790 persons (4,185 dwellings)	25,480 persons (12,135 dwellings)
AREAS NOT IN CORRIDORS AND CENTRES				
Key Regeneration Areas (Housing SA Areas, Findon, Kidman Park, Ridleyton)	5,080 persons	2,030 persons (40%)		
Minor Redevelopment	14,200 persons	5,680 persons (40%)		
SUB TOTAL	19,280 persons	7,710 persons (40%) (3,670 dwellings)		
TOTAL	83,000 persons	44,010 persons (20,960 dwellings)		

6 Future Social Infrastructure Requirements

Key local infrastructure facilities that have been assessed for Charles Sturt are Community Cultural Infrastructures (Child Care Centre, Community Centre / Multipurpose Hall, Youth Centre, District Facility Branch Library) and Education Infrastructure (Primary School + Secondary School – public). Two population scenarios were considered to assess future need - a medium population scenario and a high population scenario (2 million by 2050). These population scenarios are described further in Report 2 *Opportunities and Constraints*. The maximum expected need for land to sustain the anticipated services by 2031 is 25,000 sqm (2.5 ha) for the medium scenario (Figure 2).

Figure 1. Social Infrastructure Needs in Charles Sturt, Medium Population Scenario (2006 - 2031)

		Medium scenario - additional requirements		
Level	Facility	Facilities by 2021	Facilities by 2031	Land area sqm max estimate
Local	Childcare Centre (long day care) & Kindergarten	1	1	5,000
	Community Centre/Multipurpose Hall	1	2	10,000
	Primary and Secondary School - Public	0	0	-
	Youth Centre	0	0	-
District	Aged Care Service/ Respite	36 beds	93 beds, 1 nursing home	5,000
	Branch Library	0	1	5,000

Figure 2. Social Infrastructure Needs in Charles Sturt, 2 million by 2050 Population Scenario (2006 - 2031)

		High scenario - additional requirements		
Level	Facility	Facilities by 2021	Facilities by 2031	Land area sqm (max estimate)
Local	Childcare Centre (long day care) & Kindergarten	1	2	10,000
	Community Centre/Multipurpose Hall	2	4	20,000
	Primary and Secondary School - Public	0	1	70,000
	Youth Centre	0	1	10,000
District	Aged Care Service/ Respite	66 beds, 1 small nursing home	251 beds, 2 nursing homes	10,000
	Branch Library	1	2	10,000

7 Building Heights and Densities in Growth Areas

Increased growth may relate to both increases in density as well as increases in height. Typically, people perceive increased density to equate to "high rise". There are clearly many built form alternatives that are not necessarily high rise buildings. A major public education and consultation programme will be required over a long period of time before the South Australian communities begin to better understand, and start to more fully embrace, increased residential densities.

The following are summaries of the recommended levels of densities and height throughout areas within the Council area. Since this report, DPLG has released *Planning Policy Reforms - Proposed zone modules and related general provisions, February 2011, Draft for Consultation* that addresses the issue of building heights in these areas. We note that DPLG's proposed building heights vary from the recommendations in this report. Below is a summary of both DPLG and this report's recommended building heights for the consideration of the City of Charles Sturt. This report's recommended building heights are shown in orange textboxes and DPLG's proposed building heights for the equivalent zones are shown underneath in green text boxes. There are many similarities.

7.1 TOD's

Major TODs - Jensen Planning + Design Recommendation

<200m from rail station/centre:	medium rise 5-10 storeys, high density
200-400m from rail station/centre:	low-medium rise 2-4 storeys, medium density
400-800m from rail station/centre:	low rise up to 2 storeys, low-medium density

Urban Core Zone - DPLG's Recommendation

<400m from rail station/centre:	4-10 storeys (Core Area)
400-800m from rail station/centre:	2-4 storeys (Transition Area)

7.2 Transit Corridor

Major Transit Corridor - Jensen Planning + Design Recommendation

<100m of rail stations/transit shops:	medium rise 4-5 storeys, high density
100-200m from rail stations/transit shops:	low-medium rise 2-3 storeys, medium density
200-800m from rail stations/transit shops:	low rise 2 storeys, low-medium density

Suburban Activity Node Zone

<400m from rail station/centre:	3-6 storeys (Core Area)
400-800m from rail station/centre:	2-3 storeys (Transition Area)

7.3 Road Corridor

Road Corridor - Jensen Planning + Design Recommendation

<60m from road:	medium rise 4-5 storeys, high density
<60-200m from road:	low-medium rise 2-3 storeys, medium density
<200-400m from road:	low rise 2 storey, low-medium density

Urban Corridor Zone - DPLG Recommendation

Abutting road corridor:	minimum 3-4 storeys
<400m:	maximum 4 storeys

7.4 Activity Centres

Activity Centres - Jensen Planning + Design Recommendation

Within and <200m from Centre:	medium rise 3-5 storeys, medium-high density
200-400m from Centre:	low-medium rise 2-3 storeys, medium density

Urban Core Zone

<400m from rail station/centre:	4-10 storeys (Core Area)
400-800m from rail station/centre:	2-4 storeys (Transition Area)

8 Recommended Policy Approaches

8.1 Nominated Residential Growth Areas

As already stated, in order to achieve the residential targets outlined in the *30 Year Plan for Greater Adelaide*, a significant proportion of the expected future residential growth within the Council area will occur in targeted growth areas (e.g. corridors, TODs and other infill sites).

This will necessitate rezoning of much of the lower density Residential Zones in the Council area that are located in these targeted growth areas (other than the Character Area Zones which are proposed to remain intact). Specific zoning boundaries will be explored during forthcoming DPA's.

Department of Planning and Local Government have recommended a suite of policy approaches for these recommended growth areas in their current BDP modules. Other recommendations in the *Residential Growth + Character Study* include suggested design guidelines for:

- Open Space
- Aircraft Impacts
- Interface Areas
- Sustainability
- Dwelling Sites
- Fencing
- Hammerhead Development
- Multi Storey Apartments
- Affordable Housing
- Walking and Cycling
- Water Sensitive Urban Design (WSUD)
- Coastal Development
- Flooding
- Parking

A summary of other issues relating specifically to areas that will experience increases in residential density include:

Mixture of Land Uses

A mixture of land uses is important in revitalising centres and road corridors (being Port, Torrens, Henley Beach and Grange Roads). Mixed use developments have the benefits of increasing the vibrancy of centres by bringing together a range of activities throughout a larger spread of hours throughout the day and week. Successful mixed use developments can increase housing, employment, business and investment choice and represent a more efficient use of land and infrastructure. When integrated with public transport services mixed use development can reduce car dependency through providing for multi-purpose trips (ACC, 2008).

Setbacks

It is important that buildings have no or minimal setbacks to public roads and public spaces so that they frame these spaces as a continuous and cohesive built form edge. Retaining a degree of human scale is important in maintaining pedestrian comfort and building form should define lower and higher land use elements through the introduction of a base podium for non-residential land uses. Residential land uses on the higher levels should be transitioned by stepping the building back slightly, as well as utilising different materials and finishes. There should be sufficient setbacks between buildings to provide usable semi-private space as an outlook for occupants.

Built Form Design Techniques

There is scope for a range of contemporary and bold building designs, particularly within landmark locations, which can facilitate the achievement of an identity to TODs, activity centres and particular corridors.

It will also be necessary to utilising a range of design techniques to break down building massing and bulk.

Ease of Movement

Access to affordable and accessible public transport is a critical factor for many people, particularly the elderly as it can assist in maintaining independence and gain easy access to key services. Making movements through our urban environment easier and more efficient also has substantial economic benefits with improvements in the movement of people and goods reducing running costs generally.

Transit oriented development has a principal focus on alternative modes of transport to private vehicles. This requires a move away from the car dominated models of inward focussed, single use, low rise centres surrounded with large areas of at grade car parking.

Parking

Accommodating vehicles is still important in the success of a vibrant mixed use TOD or activity centre, particularly with regard to convenient shopper parking and drop-off zones adjacent public transport stops/stations.

The provision of bicycle parking facilities is important in encouraging this form of transport within and around the growth areas.

High Quality Public Realm

The public realm, be it in the form of an open space, plaza, footpath or shared use area, plays a critical role in ensuring an active and vibrant activity centre. Ideally, the public realm should facilitate a range of functions and activities, catering for a wide variety of users and times of the day.

Safety

Increasing safety, particularly outside of retail and office hours is another aim and challenge of revitalising activity centres and road corridors. Safety is increased with activity and the presence of people, highlighting the importance of activation of building frontages adjacent public spaces, pedestrian routes, train stations and bus stops. Land uses that have high interactivity with

pedestrians should be located in key positions, particularly where they extend the nature of activity beyond normal business hours.

Comfort and Sociability

Use of public areas will also require the provision of comfortable areas for pedestrians to walk, shop, socialise and relax. The form of buildings and street furniture play an important part in providing this comfort, particularly for all year weather protection.

Landscaping

Landscaping across the entire activity centre is important in providing an attractive and unified identity to the centre as well as softening the hard edges created by built form. As the desire is for a compact urban form, with reduced setbacks, opportunities for additional landscaping can be limited. This places greater importance on creating boulevards, laneways and malls with high quality landscaping finishes, particularly street trees, linked with water sensitive urban design techniques for irrigation.

Sunlight and Ventilation

Both access to natural sunlight and natural ventilation assist with maintaining a reasonable degree of thermal comfort without reliance on mechanical systems.

Views

The increased height of buildings within growth areas provides opportunities to take advantage of views.

Outdoor Living Areas

The improvements in vitality and activity within the public realm provide an alternative recreation and entertainment forum for occupants of dwellings within the core areas of the growth corridors..

Interface

Given the number and mixture of uses desired within TODs, activity centres and road corridors, the management of the interface between these uses is important, not only to provide a suitable level of amenity for sensitive uses, such as residential development, but also to secure the more intensive activities that are likely to have noise, odour or traffic impacts.

8.2 Policy Approaches in Existing Neighbourhoods Outside the Nominated Growth Areas

It is noted that the State Government, through the *30 Year Plan for Greater Adelaide*, proposes that 80% of the existing metropolitan area will remain largely unchanged as a result of the Plan (page 72). However the Plan has not yet been made clear whether keeping the character of those areas "largely unchanged" is intended to mean that existing densities will be retained or the existing zoning regime will be retained.

There are therefore two main policy approaches that could be applied to those areas within the Council area that are not part of the targeted growth areas:

1. Retain the Existing Policy Intent of these Areas

The main existing Policy Areas within the Residential Zone that will not be affected by the targeted growth areas are the Mid Suburban, Western Edge and West Lakes General Policy Areas. These Policy Areas provide for limited growth, which is currently generally taking place in the form of demolitions and replacement with one house for two or sometimes one house for three (semi-detached and group dwellings). This is generally seeing replacement of a medium size house on a large block with two large houses on two smaller blocks.

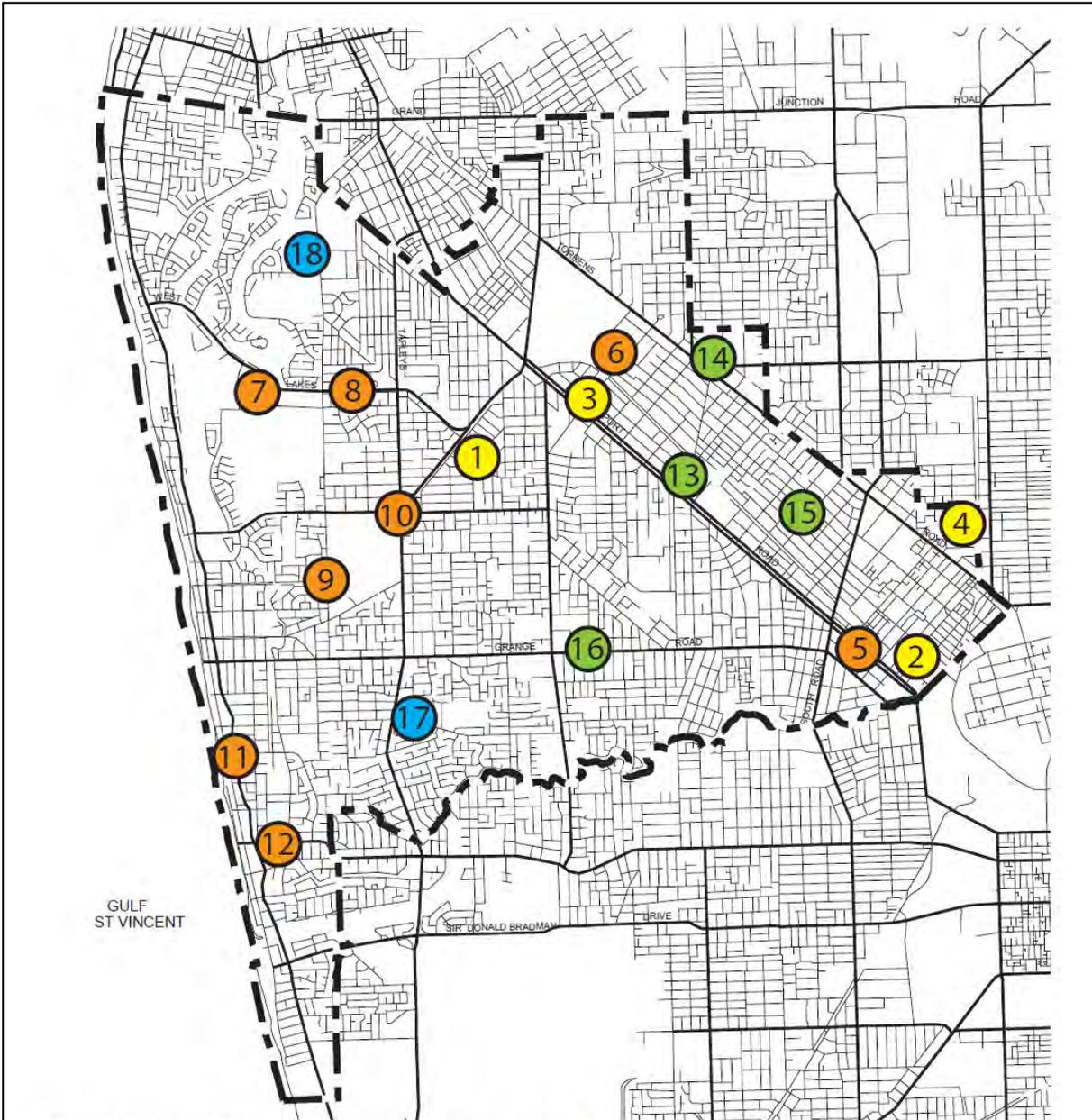
The policy implication of this is that, over the long term, the vast majority of the Council area, apart from the Residential Character Zone, will be replaced by new homes on generally small (or smaller) allotments. The Residential Character Zone will provide for generally slightly larger allotments (family housing), while high densities will be located in all of the growth areas.

2. Restrict Increasing Densities in Areas Outside the Growth Areas

An alternative policy approach would see a further restriction of urban infill in the areas outside of the growth areas (or part thereof), largely affecting parts of the Mid Suburban and West Lakes General Policy Areas. It is suggested that the Western Edge Policy Area provisions could be retained given that this Policy Area is promoting new housing in areas close to the coast.

In order to protect family housing, apart from family homes in the Residential Character Zone, new policies could be developed that, for example, require infill housing sites to be of a larger size in order that more comprehensive and better designed new housing can result. This would largely require site amalgamation (other than for existing larger sites), and would therefore dampen redevelopment activity in these areas. However, it would result in both the protection of family housing and limited higher quality infill development on larger sites.

In the context that so much of the Council area lies within the growth areas (due to the number of corridors, TOD sites and other infill development sites within the Council area), such a policy approach could be justified and would be more consistent with the 30 Year Plan for Greater Adelaide policy that the neighbourhood character of 80% of the metropolitan area will remain unchanged.



List of Residential DPAs, Structure and Precinct Plans for Residential Growth Strategy (2011)

DPAs Current

- 1. Woodville West Neighbourhood Renewal (Ministerial) DPA
- 2. Bowden Urban Village (Ministerial) DPA
- 3. Woodville Village and Environs DPA
- 4. Devon Park Residential DPA

Short term priority DPAs, Structure & Precinct Plans (1 to 3 years)

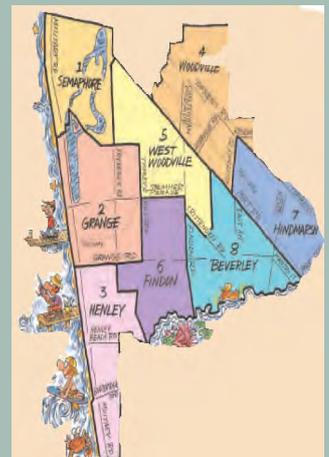
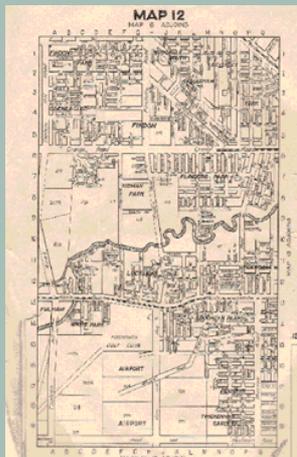
- 5. Inner West Structure and Precinct Plan and DPA
- 6. LMC site, Woodville (Ministerial) DPA
- West Lakes and Grange Railway Line Precinct*
- 7. AAMI Stadium and SANFL Land (Ministerial) DPA
- 8. West Lakes Precinct Structure and Precinct Plan & DPA
- 9. Grange Railway Line Corridor Structure and Precinct Plan & DPA
- 10. Seaton TOD Structure and Precinct Plan & DPA
- Henley Precinct*
- 11. Henley Precinct Master Plan, Structure and Precinct Plan & DPA
- 12. Henley Beach Road Corridor Structure and Precinct Plan & DPA

Medium term priority DPAs, Structure and Precinct Plans

- (4 to 10 years)**
- Outer Harbor Line Precinct*
- 13. Killkenny TOD Structure and Precinct Plan & DPA
 - 14. Arndale Activity Centre Structure and Precinct Plan and DPA
 - 15. Port Road and Torrens Road Corridors Structure and Precinct Plan and DPA
 - 16. Grange Road Corridor Master Plan and DPA

Long term priority DPAs, Structure and Precinct Plans

- (11+ years)**
- 17. Fulham Gardens Activity Structure and Precinct Plan & DPA
 - 18. SA Water Site West Lakes DPA



City of Charles Sturt Residential Growth + Character Study

Report 1
Strategic Context
May 2009

This report has been prepared by:
Jensen Planning + Design

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1 Executive Summary

This report is the first report prepared for the Residential Growth and Character Study. This Study has been undertaken by Jensen Planning + Design in collaboration with SGS Economics and Planning and Tonkin and Associates for the City of Charles Sturt. The study is examining future residential growth and character issues across the City of Charles Sturt.

This first report, prepared in March 2009, is a summary of the background policy and population context that will influence opportunities and challenges facing Council's growth options into the future. Against this context, a series of draft recommendations regarding broad growth and built form character have been identified and are described in the *Residential Growth + Character Study, Report 2 - Opportunities and Constraints*.

The key population context has been recently released by the Government of South Australia. The 30 Year Plan for Greater Adelaide details government's aim to achieve significant population growth targets by developing new residential areas in greenfield locations (30% of new growth), and by increasing infill and population densities in existing urban centres (70% of new growth).

The City of Charles Sturt will accommodate a substantial part of the increased population growth, predominantly through infill and achieving higher densities in Transport Oriented Developments and along key transport corridors. As part of its strategy, the Government has announced to invest \$2 billion in upgrading and expanding public transport in Greater Adelaide, much of which (tram line extension, train line electrification) will directly benefit business and residents in the City of Charles Sturt.

The population growth target for South Australia was 2 million people by 2050 (South Australia's Strategic Plan 2004). Recently this has been revised and this is now projected to be reached 23 years ahead of target, in 2027. This means that Greater Adelaide is forecast to grow by about 560,000 people over the next 30 years. For the Western Region (including Charles Sturt, West Torrens and part of Port Adelaide Enfield), the growth target is an additional 83,000 people. This is projected to occur largely as a result of:

- Natural population growth (we are seeing an average of an additional 7600 people a year)
- Large increases in overseas migration (an additional 14,000 people in 2007 - 2008)
- Growing proportion of elderly people, and
- Changing living arrangement and consequently decreasing household sizes

An estimate for what this means for the City of Charles Sturt is that an additional approximate 22,700 dwellings will need to be provided over the next 30 years. The majority of these will need to be provided in the form of buildings that have up to 5 storeys along Corridors (in key locations along Port Road, Torrens Road, Grange Road and West Lakes Boulevard). Sites at Railway Stations (Woodville, Cheltenham, Seaton, Kilkenny) and densification around Centres (such as Arndale and West Lakes) will also contribute to the required dwelling yield but to a much lesser extent. These development opportunities potentially can bring significant benefits to the community including provision of new facilities and infrastructure and vibrant and energetic living areas. They may also significantly change the character of the existing areas.



Infill opportunities (such as developing one current house site into two or three new dwellings) are scattered throughout the Council area. However they are not likely to contribute significantly to the growth target, and also brings little benefit to the community as a whole because they do not provide the economies of scale to be able to provide additional services or infrastructure, and also could detrimentally impact on the character of the neighbourhood.

Council has a role to play in influencing the design, sustainability and location of new dwellings through a range of measures including planning policy, financial incentives, and legal requirements. These measures that address new housing location and form should consider the characteristics of the community that will be living in the areas. A demographic analysis of the Council area shows that there are significant differences across the council area relating to income levels, levels of ageing, cultural backgrounds, household type, and housing affordability.

Council's internal policy documents provide some direction about future growth in Charles Sturt. Whilst they have been written prior to the release of the 30 Year Plan, generally they are consistent with state government aims that promote a suite of areas that are suitable for increasing densities and renewal.

The background context described in this document has been informed by:

- a range of State Government and Local Government policies and reviews
- 2009 ABS demographic analysis and previous Planning SA demographic analysis, and
- consultation with council staff, key government and industry stakeholders.

2 State Government Policy Context

There are a range of key State Policy Documents that will influence the future growth and character of the City of Charles Sturt.

Specifically these are:

- South Australian Strategic Plan (2007)
- 30 Year Plan for Greater Adelaide (2010)
- Planning Strategy for Metropolitan Adelaide (2007)
- Directions for Creating a new Plan for Greater Adelaide (2008)
- Draft Technical Report to 30 Year Plan for Greater Adelaide (2009)
- Housing Plan for SA (2005)
- Strategic Infrastructure Plan (April 2005)
- South Australia Works in the Regions 2006-2009 Strategic Plan (2006)
- Industrial Land Strategy for Metropolitan Adelaide (2007)

Appendix 1 provides detail about each of these plans. Of all of these documents, the key implications are in the South Australian 30 Year Greater Adelaide Plan as below.

2.1 30 Year Plan for Greater Adelaide

This plan provides targets for jobs needed to sustain population targets, provide strategies to respond to climate change, identify transit corridors, growth precincts and land use priorities and identify areas for conservation and protection.

It is the principal document to set policy and principles for local government strategic plans, Section 30 reviews and Development Plans.

The Plan is in line with and will contribute to South Australia's Strategic Plan and is a volume of the Planning Strategy.

It indicates the population of Greater Adelaide is expanding and expected to grow substantially over the next 30 years. The population is ageing at a rapid pace and the number of single-person households is increasing.

2.1.1 Location of Growth

To allow for sustainable urban growth, much of this growth should be concentrated in transit corridors, Transit oriented Developments (TODs) and growth investigation areas. Key aspects of the proposed location of growth are:

- Approximately 80 per cent of the existing urban character will remain largely unchanged as a result of the Plan.

-
- Over the life of the Plan, about 70 per cent of all new housing will be built either within the existing urban areas (including townships) or proposed transit corridors, to create an efficient urban form.
 - The bulk of growth within existing metropolitan Adelaide will take place within transit oriented developments.
 - Plan for about 60 per cent of metropolitan Adelaide's growth to be within 800 metres of current or extended transit corridors.
 - Set clear targets for the planning for transit corridors, transit-oriented developments and activity centres, so that only 20 per cent of metropolitan Adelaide needs to change significantly to accommodate these targets

For City of Charles Sturt

- Increased densities along Main Road Corridors (Port Road, Torrens Road, Henley Beach Road and Grange Road)
- Outer Harbor and Grange rail corridor
- West Lakes proposed light rail
- Regeneration areas/ infill or lower order TOD's adjacent to main railway stations
- High Order TOD sites at Bowden, West Lakes and Woodville
- Activity Centres at Arndale, Fulham Gardens and Queen Elizabeth Hospital

Figure 1. Proposed Locations for the TOD's, Activity Centres and Corridors as identified in the 30 Year Plan for Greater Adelaide. Locations in Charles Sturt are highlighted.

Urban / Centre / Suburban	Main period of development activity		
	Priority 1 2009–2018	Priority 2 2019–2028	Priority 3 2029–2038
Urban			
CBD	✓		
Bowden/Clipsal + environs	✓		
Centre			
Port Adelaide	✓		
Glenelg	✓		
Cheltenham / Woodville	✓		
Goodwood		✓	
Tonsley/Bedford Park		✓	
West Lakes		✓	
Oaklands Park / Marion		✓	
Salisbury			✓
Elizabeth			✓
Modbury			✓
Noarlunga			✓
Suburban			
Munno Para	✓		
Mawson Lakes	✓		
Glanville	✓		
Hove	✓		
Plympton	✓		
Peachey		✓	
Mitcham		✓	

Urban / Centre / Suburban	Main period of development activity		
	Priority 1 2009–2018	Priority 2 2019–2028	Priority 3 2029–2038
Kilkenny		✓	
Ridleyton		✓	
Mitsubishi (Tonsley Park)		✓	
Tambelin		✓	
Concordia/Wheatsheaf		✓	
Roseworthy South		✓	
Aldinga		✓	
Cheetham		✓	
Gawler Central			✓
Seaford			✓
Concordia East			✓
Roseworthy East			✓
Roseworthy West			✓

2.2 Population Targets

- The population growth target for Greater Adelaide is 560,000 persons over the next 30 years.
- Population growth target of 560,000 residents over the next 30 years, and a new housing development target of 258,000 dwellings
- Of which 137,000 dwellings should be accommodated transit corridors
- New housing will move over time from a 50:50 split between existing areas and new land divisions, to a 70:30 split
- Well located and functioning transit oriented developments
- Six major transit corridors (of which two are situated in Charles Sturt)
- Provide 10% affordable and 5% high need housing in all significant new housing developments
- Increase use of public transport to 10% of metropolitan weekday passenger vehicles kilometres travelled by 2018
- Provide for 282,000 new jobs by 2036 through an additional 5,115 hectares and 1.5 million square meters of employment lands, and
- For the Western Region (including Charles Sturt, West Torrens and Port Adelaide Enfield), 83,000 additional people

The table below outlines the population targets for the Western Region as expressed in the 30 Year Plan.

Figure 2. * Population Targets for the Western Region in relation to TOD's, Activity Centres and Corridors – Draft 30 Year Plan for Greater Adelaide 2009

	Population growth targets								TOTAL
	North	South	East		West	Barossa	Fleurieu	Hills (incl. Murray Bridge)	
			City	Other					
METROPOLITAN INFILL									
Corridor									
- higher order TODS ^a	17,900	24,100	13,200	-	21,500	-	-	-	76,700
- other upzoned areas ^b	23,600	8,300	3,100	13,100	42,100	-	-	-	90,200
- other ^c	4800	4000	-	5500	5500	-	-	-	19,800
Corridors sub-total	46,300	36,400	16,300	18,600	69,100	-	-	-	186,700
Non-corridor									
- key regeneration areas & other upzonings	4800	16,000	-	7700	5500	-	-	-	34,000
- other (i.e. minor redev & resub)	9600	8000	-	15,400	15,400	-	-	-	48,400
Non-corridor sub-total	14,400	24,000	-	23,100	20,900	-	-	-	82,400
TOTAL METRO INFILL	60,700	60,400	16,300	41,700	90,000	-	-	-	269,100

* **Note:** the final release of the 30 Year Plan for Greater Adelaide has identified that the population growth target for Western Region is 83,000 people. The draft 30 Year Plan had originally identified the population growth target as 90,000 people. The figures in Figure 2 above come from the draft plan so they slightly over represent the final targets for the Western region.

2.3 State Government Requirements Relating to Affordable Housing

2.3.1 Legislative Context

The SA Government has introduced a target for all new, significant developments to include a component of 15% "Affordable Housing", including 5% special need. The delivery of this "affordable housing" component will take place via two paths.

Path 1 will be negotiated by the South Australian Affordable Housing Trust and secured through legal agreements. This path will involve all significant, new, residential developments involving:

- Government owned land
- Major developments
- Major rezoning of land for residential development

Path 2 will occur by insertion of planning policy in Development Plans. Policies have been written for the BDP library for adoption by councils (See Section 2.3.2). These policies promote and encourage affordable housing in:

- new developments
- land that is *re-zoned* from non-residential use to residential use
- land that is *up-zoned* to provide increased residential densities

These policies will also support specific sites with an existing agreement between the government and the land owner / developer (See Path 1).

The statutory and policy framework for “Affordable Housing” is provided by the following sections of the *Development Act 1993*. This framework is set out in the figures on the next page, together with a diagram of the application assessment process. The key parts of the Act are shown below:

3—Objects

The object of this Act is to provide for proper, orderly and efficient planning and development in the State and, for that purpose—

(ea) to promote or support initiatives to improve housing choice and access to **affordable housing** within the community;

23—Development Plans

(3) A Development Plan should seek to promote the provisions of the Planning Strategy and may set out or include—

(a) planning or development objectives or principles relating to—
(vii) the provision of **affordable housing** within the community;

30—Strategic Directions Reports

(1) A council must, from time to time, in accordance with the requirements of this section, prepare a report under this section (a *Strategic Directions Report*) that—

(c) sets out the council's priorities for—
(iiia) implementing **affordable housing** policies set out in the Planning Strategy within its area;

101A—Councils to establish strategic planning and development policy committees

(2) The functions of the committee are:

(b) to assist the council in undertaking strategic planning and monitoring directed at achieving—
(iiia) the implementation of **affordable housing** policies set out in the Planning Strategy within the area of the council;

57A—Land management agreements—development applications

Generally, the means by which the “affordable housing” outcomes are ensured is via a Land Management Agreement (set out in Section 57A of the *Development Act 1993*). Housing SA has developed template agreements to assist the application process.

Figure 3: Affordable Housing Regulatory Framework

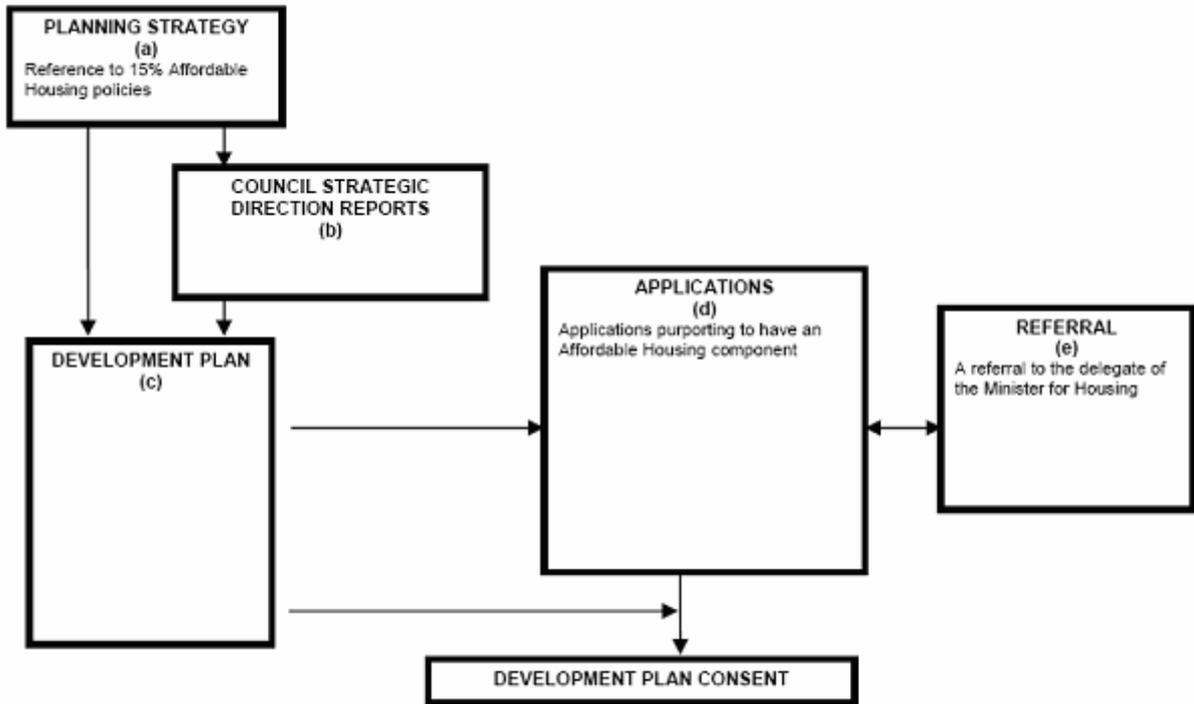
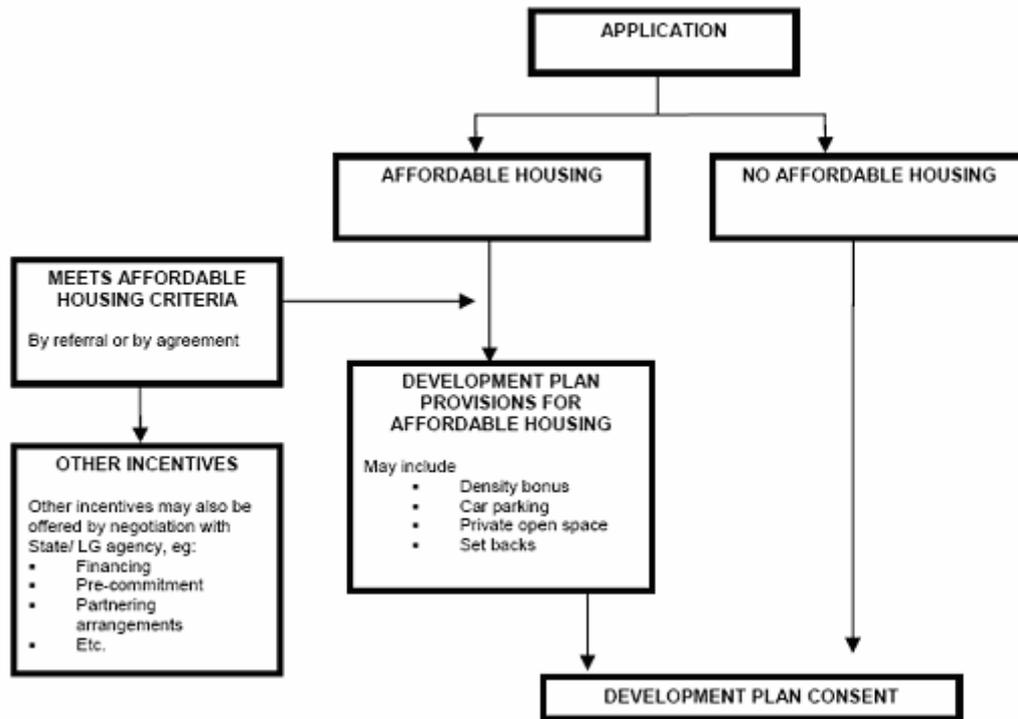


Figure 4: Assessment for Applications Including Affordable Housing



2.3.2 Affordable Housing Better Development Plan Module

The Department for Planning and Local Government has established a generic set of planning modules which are used to inform and guide Development Plan Amendments. These "Better Development Plan" or BDP Modules include provisions relating to affordable housing. Within the Residential Zone BDP module, the following policies apply:

- 11 *Development should include a minimum 15 per cent of residential dwellings for affordable housing.*
- 12 *Affordable housing should be distributed throughout the zone / X policy area to avoid over-concentration of similar types of housing in a particular area.*
- 13 *Dwellings constituting affordable housing should be designed within the following parameters and have a minimum site area (and in the case of residential flat buildings, an average site area per dwelling) not less than that shown in the following table:*

Parameter	Dwelling type				
	Detached	Semi-detached	Group	Residential flat building	Row
Site area (square metres)	X minimum	X minimum	X minimum	X average	X minimum
Minimum area of private open space for ground level dwellings (square metres)	X	X	X	X	X
Minimum area of private open space in the form of a balcony for dwellings above ground level (square metres)	X	X	X	X	X
Minimum number of on site car parking spaces (one of which should be covered)	X	X	X	X	X

Note: X refers to a specific value which is to be inputted by Councils when BDP module adopted for a specific zone or policy area.

Affordable housing criteria are specified by gazettal notice. This gazettal is updated annually – generally in September/October. The current gazettal contains three criteria that must be met for a residence in a development to meet the concept of affordable housing:

- The residence must be offered for sale at or below the appropriate price (see below);
- The residence must be offered for sale to eligible buyers; and

- The development must be subject to a legally binding agreement to ensure these requirements are met.

Figure 6: Affordable Housing Price Points

Affordability Indicators (June 2010)	Greater Adelaide and Regional Cities*	Rest of State*
Moderate Income (120% of median annual income)	\$69,550	\$59,000
House and land purchase price (inclusive of GST)	\$288,000	\$244,000

Adelaide' means Metropolitan Adelaide as defined in the Development Act 1993 (SA). Regional Centres are Roxby Downs, Mount Gambier, Murray Bridge, Port Augusta, Port Pirie, Whyalla and Port Lincoln.

'Rest of State' means all areas in the State of South Australia excluding Greater Adelaide and the Regional Cities described below.

There are also additional requirements in relation to the type, mix, and quality of housing. The maximum price can vary by up to 15% based upon specified circumstances such as energy efficiency, proximity to public transport, and specialised financing.

3 Local Government Policy Context

Key Documents assessed to provide a context for this review of Residential Character and Growth in Charles Sturt are:

- City of Charles Sturt Community Plan (2008)
- City of Charles Sturt Section 30 Development Plan Review Recommendations (2008)
- City of Charles Sturt Industrial Land Study (2008)
- City of Charles Sturt Flood Mapping and Stormwater Management Plans
- Community Health Report (2009)
- City of Charles Sturt Residential Character Studies (1998)
- City of Charles Sturt Open Space Strategy (2006)
- Towards One Planet Living - Greening the Western Suburbs 2008 – 2013 (2008)
- City of Charles Sturt Traffic Management Strategy (2005)
- City of Charles Sturt Transport Strategy 2005-2025 (2005)
- City of Charles Sturt Development Plan, 13 August 09

Appendix 2 provides detail about each of these plans. The key policy implications are summarised below.

3.1 City of Charles Sturt Community Plan (2008)

During 2007 the City of Charles Sturt had been involved in the preparation of a Community Plan under Section 122 of the Local Government Act. Preparation of the Community Plan has involved a face to face household survey with 500 residents within the Council area; and a telephone survey of 200 businesses within the Council area between the 5th and 15th October, 2007.

In summary findings of the survey that are relevant to this consideration of growth and character opportunities are:

3.1.1 Medium and High Density Housing

New redevelopments of major industrial areas and vacant areas were clearly regarded as the best way in which the Council should accommodate a 20% increase in the number of dwellings in the Council area. This is not particularly consistent with the directions of the 30 Year Plan which focuses new developments into areas along transit routes.

A combination of the following was also considered by many residents and businesses with varying levels of support:

- Higher density housing which would include apartments around major centres and railway stations
- Continued infill development around the City

3.1.2 Housing Diversity and Affordability

The overwhelming majority of residents and businesses surveyed indicated that it is important that the Council maintains the area's wide range of housing types and affordability.

Further, very high proportions of both residents and businesses stated that the Council should pursue policies that encourage housing affordability and diversity.

3.1.3 Ageing Population, Heritage and Character and the Economy

The following issues were considered to be of very high to extremely high importance to both residents and businesses:

- That suitable or adaptable housing for older people is provided in the Council's planning;
- That the Council retains areas for industry and business, as a source of employment for the wider region; and
- That in future residential developments, older buildings and character of the suburbs within the City are maintained.

3.2 City of Charles Sturt Section 30 Development Plan Review Recommendations (2008)

In 2008 Council undertook a Section 30 Review. This review involved a thorough review of Council's Development Plan in relation to current and emerging social, environmental and economic issues affecting the communities in Charles Sturt Council area. This review was a legal requirement of Section 30 of the Development Act. The review raised a number of issues relevant to this study. Particularly noteworthy are the issues raised about residential areas as identified below:

3.2.1 Residential Areas Character Study

- Improve descriptions of areas through desired future character statements
- Rationalise and where appropriate to better delineate the character of residential areas, potentially increase the number of residential policy areas
- Review boundaries of the Residential Historic (Conservation) Zone
- Review the impact of regeneration on the character of suburbs
- Review development along the coast
- Review areas adjacent Port Road and the Outer Harbor rail corridor (including the Clipsal site at Bowden) to support population growth through increased mixed tenure housing at higher densities, incorporating sustainable design features.

3.3 City of Charles Sturt Industrial Land Study (2008)

This study involved a comprehensive review of industrial land across the Council area, addressing the continuing strategic relevance of the current industrial zones and recommending change where appropriate.

Sites identified that have potential to be re-zoned for an alternative use:

- West Lakes (Corner West Lakes Boulevard and Frederick Road)
- Seaton (Corner of Trimmer Parade and adjacent the railway line)
- Devon Park (Adjacent to the railway line, north of Torrens Road)

Other sites with possible re-zoning potential include:

- Kilkenny (adjacent the railway line and Kilkenny Road)
- Royal Park (corner Tapleys Hill Road and Port Road)
- Kidman Park South (along Findon Road)
- Bowden/Brompton (Clipsal Site)

A number of these sites have been identified as locations of increased residential growth as part of this Growth and Character Study.

3.4 City of Charles Sturt Flood Mapping and Stormwater Management Plans

The Council is currently in the early stage of completing a series of strategic reviews (catchment-based floodplain mapping investigations and Stormwater Management Plans) to assess current performance standards and to identify strategies that address not only issues of flood protection and likely future development, but also to consider opportunities for water quality improvement (through Water Sensitive Urban Design) and stormwater harvesting and reuse.

The Council has completed the preparation of floodplain mapping data for many of the larger catchment areas, however this work is ongoing.

The mapping completed *to date* highlights the many areas across the Council area which are at risk of flooding in the 100 year ARI event. This floodplain mapping data is available to the public on Council's website (<http://gis.charlessturt.sa.gov.au/evview-html/index.html>).

Also available is the 'Development Information Guide No 27' which documents a procedure by which new development can be designed to take into account the identified flood risk for any property across the Council area.

(http://www.charlessturt.sa.gov.au/webdata/resources/files/Development_Information_Guide_27_-_Flood_Mitigation.pdf)



Information from these maps has been incorporated into the analysis of stormwater infrastructure constraints identified in the Report No 2 Character and Strategic Growth Options which identifies specific locations for further residential growth.

Future development of Stormwater Management Plans are expected to seek opportunities to reduce existing flood risk.

In addition, Council has also recently developed a concept for the broad-scale capture and reuse of stormwater for non-potable purposes such as irrigation of Council parks, school reserves and golf courses. Details of this concept, which integrates harvesting opportunities at Old Port Road and the Cheltenham development site, have been approved by the Commonwealth Government for grant funding under the 'Water Proofing the West'. There are opportunities for new developments to incorporate the use of this non-potable water source.

3.5 Community Health Report (2009)

This report details health of communities at an Statistical Local Area (SLA) level in relation to a wide range of health indicators. Of particular relevance to future growth issues is the acknowledgement that the City of Charles Sturt has substantial transport networks within its boundaries (Section 10.3).

Whilst there is increased accessibility, there are also health implications. The North East and Inner East SLA's have the highest density of industrial and commercial land use and also the highest rates of disease incidence, hospitalisation and death.

This should be considered and further reviewed in the context of growth objectives of increasing densities along major transport routes (in the North East and Inner East particularly).

3.6 City of Charles Sturt Residential Character Studies (1998)

A series of comprehensive residential character studies was undertaken in 1998 for the following areas:

- Royal Park
- Hindmarsh
- Henley and Grange
- Findon/Flinders Park
- Findon/Woodville
- Fulham Gardens
- Welland
- Woodville/Kilkenny

The studies reviewed the following:

- Urban design and character
- Demographics

- Allotment patterns
- Activities/economic development
- Land use conflicts and existing uses
- Housing needs, choice and supply
- Infrastructure and development constraints
- Transport and accessibility
- Community Facilities and Open Space
- Heritage
- Environment

Although the information is over ten years old, much of the description and assessment is still relevant and has informed the Residential Growth and Character Assessment.

3.7 City of Charles Sturt Open Space Strategy (2006)

The City of Charles Sturt Open Space Strategy comprises three main reports which collectively provide the direction and basis for open space related decisions and actions. These are the Directions and Strategic Actions Report which provides the directions and actions, guidelines for implementation, and is the main focus of the Strategy. The second report is an Open Space Matrix which outlines issues and suggested works relating to specific reserves visited in the Open Space study (110 reserves). The Findings and Opportunities Paper provides background information and a basis for directions and actions in the Directions and Strategic Actions Report.

Key findings related to opportunities in water management, in connections with adjacent and regional land uses and in open space supply. A number of key locations where opportunities for better use or increased supply of open space are identified in Appendix 2.

The Charles Sturt Open Space Strategy (2006) is currently being reviewed. The review will update the plan in the context of the 30 Year Plan for Greater Adelaide, Council's Community Plan and One Planet Living and the Local Government Association research project into open space provision for infill and medium to high density development.

3.8 Towards One Planet Living - Greening the Western Suburbs 2008 – 2013 (2008)

Greening the Western Suburbs' is a five year draft plan that proposes a range of strategies and actions under four key themes: climate change, water, biodiversity and waste. Many strategies relate to Council showing sustainable leadership in management and policy. Key strategies that relate specifically to new growth and infrastructure include:

- Manage the impacts of climate change on Council and on the community
- Reduce transport related greenhouse gas emissions
- Move progressively to more sustainable sources of water
- Incorporate Water Sensitive Urban Design (WSUD) in existing and new development
- Revegetate with local native vegetation species

3.9 City of Charles Sturt Traffic Management Study (2005)

A study was undertaken to determine the definition of the road network, local areas and precincts, as well as the methodology for prioritising the precincts for further study. The Strategy has:

- identified the need to review Council's bicycle plan and prepare a pedestrian plan; and
- established a road hierarchy which is used to determine the types of abutting land uses.

3.10 City of Charles Sturt Transport Strategy 2005 - 2025 (2005)

A study was undertaken to better understand transport issues across the Council area, and how they relate to the use of land and the provisions in the Development Plan. The study recommends:

- Defining precincts based on commercial, residential, and industrial land uses for the future development of traffic management and land use strategies.
- Reviewing the Development Plan to allow for the gradual removal of inappropriate or conflicting land uses from each precinct.
- Encouraging medium and high density urban development around existing transport nodes and along transport corridors. Build on the significant analysis by the Department of Planning and Local Government of the opportunities to introduce Transport Orientated Developments.

4 Demographic Profile and Trends - Overview

The current demographic profile and trends sit within a context of the State Government pursuing:

- Increased population growth
- Increased medium and high density housing in key activity areas in the Western suburbs

The profile and trends, reflected also in consumer demand for housing types and housing locations, show that they are currently in part inconsistent with government goals relating to housing growth and density. Therefore there needs to be a series of strong and effective actions (incentives, education, marketing, legal requirements, policy) that will facilitate changes to consumer demand in the housing market.

The community profile and population projections for Charles Sturt (1%) and its SLAs have shown that in the past (2001-06) **population growth has been below that of Adelaide SD (4%)** as a whole.

However, in a number of suburbs in the North-East of Charles Sturt, population growth was strong from 2001-2006, in particular in Bowden, Brompton, Cheltenham, Ridleyton and Kilkenny. In broad terms these suburbs have a relatively young population, high shares of persons born overseas, the cheapest rents and a lot of public housing.

Population in Coastal SLA is generally somewhat older and there is a high share of households without children, high full home ownership and a decreasing population number.

During the 1996-2006 period Charles Sturt witnessed a clear shift in the household structure towards **smaller households**, i.e. more one parent families, lone person households and couples with no children, away from the typical couple household with children.

Although the share of small household types grew, increasingly households choose to occupy separate houses, especially among **single parent and lone person households** most rapidly. The majority of the dwellings (72% or 30,782 dwellings) continue to be separate houses.

However the propensity to occupy **semi-detached and townhouses decreased** among all household types, while **flats and units gained** somewhat in popularity. One storey semi-detached, row and town houses represent only 12% of the occupied stock.

The population of Charles Sturt is projected to **age at a rapid pace**. Across Adelaide, overall population is projected to grow by 11% from 2001 to 2021, but the number of persons aged 65 years and over is projected to jump by 68% (medium scenario) refer to section 4.12 Population Projections for discussion.

The illustrated shifts in population will have significant impacts on the demand and requirements for housing, dwelling adjustments, design of public open space, health and social services, and other services.

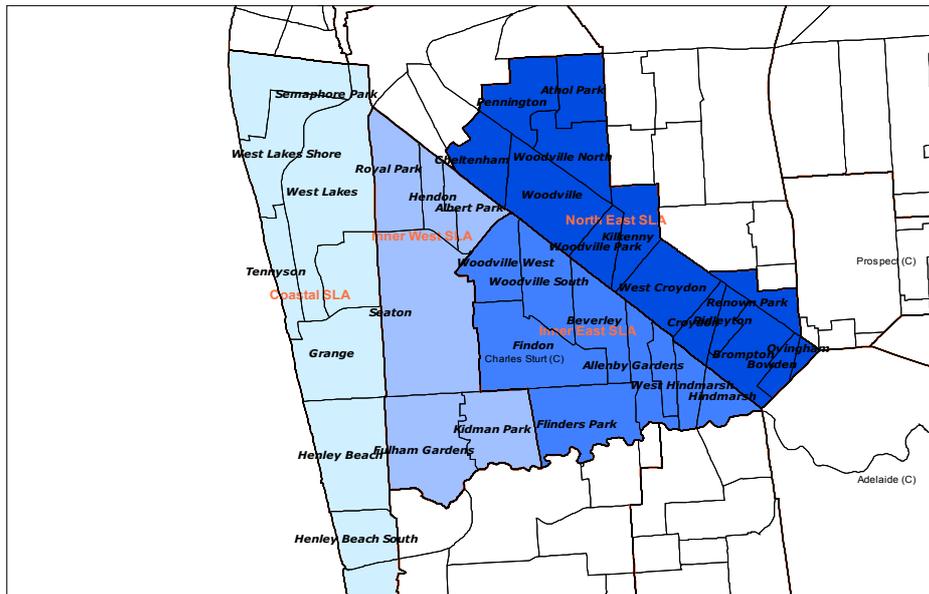
NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

The City of Charles Sturt consists of the following four Statistical Local Areas (SLAs) and suburbs as detailed in Figure 3 and 4 below:

Figure 3. Statistical Local Area by Suburbs

Charles Sturt - Coastal	West Lakes West Lakes Shore Semaphore Park Grange Tennyson Henley Beach Henley Beach Sth West Beach	Charles Sturt-Inner West	Albert Park Hendon Royal Park Kidman Park Seaton Fulham Gardens
Charles Sturt - Inner East	Findon Woodville South Woodville West West Hindmarsh Allenby Gardens Flinders Park Hindmarsh Welland Beverley	Charles Sturt - North-East	Athol Park Cheltenham Pennington Woodville North Bowden Renown Park Brompton Croydon Ovingham Ridleyton Woodville Kilkenny West Croydon Woodville Park

Figure 4. Study Area in the City of Charles Sturt, its SLAs and Suburbs



Source: ABS CData (2006), SGS (2009)

4.1 Community Profile

As of 30 June 2006, the Estimated Residential Population (ERP) of the City of Charles Sturt was **104,069 residents**. ERP provides the best estimate of the population of an area. This ABS estimate is based on Census data and has undergone some corrections to the Census counts, including the addition of the estimated number of residents not in Australia at the time of the Census.

Most detailed community profile data by ABS are not provided in ERP, but based on 'place of usual residence' at time of the Census. Population estimates of Charles Sturt based on this premise are approximately 4% below the ERP estimates and for instance do not include persons not present in Australia at the night of the Census (often persons in the age groups 15 to 24 and 25 to 34 years of age). The following analysis is predominantly based on population estimates based on place of usual residence, and the above mentioned should be kept in mind.

Population growth in Charles Sturt has stayed behind that of Adelaide as a whole.

The population of Charles Sturt in 2006 based on place of usual residence was 100,528 residents excluding overseas visitors and 102,510 including international visitors. Compared to 2001, population grew by 1% from 99,605. During that same time the entire population of Adelaide SD expanded by 4% from 1,066,103 in 2001 to 1,105,841 residents in 2006.

The table below illustrates population growth in Charles Sturt and its four SLAs between 2001 and 2006.

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

Figure 5. Population and Population Change (in %), 2001 - 2006

Area	2001	2006	Change 2001-06
Coastal (SLA)	30,135	29,959	-1%
Inner East (SLA)	20,973	21,323	2%
Inner West (SLA)	24,324	23,629	-3%
North-East (SLA)	24,777	25,622	3%
Charles Sturt (LGA)	99,605	100,538	1%
Adelaide (SD)	1,066,103	1,105,839	4%

Source: ABS Census 2001 and 2006, Place of usual residence, excluding overseas visitors

Between the SLAs of Charles Sturt there are marked differences in the pace of population growth. Both Inner East and North-East experienced a growth of population of 2% and 3% respectively, while Coastal and Inner West experienced a negative growth of -1% and -3%.

Between the suburbs within the SLAs of Charles Sturt, population change varied markedly as well.

Figure 6. Population and Population Change by Suburbs of Charles Sturt (Count and %), 2001 - 2006

SLA	Suburb	2006 population	2001 population	pop change	%pop change
Coastal	Grange	5236	5105	131	3%
	Henley Beach	5406	5452	-46	-1%
	Henley Beach				
	South	2289	2233	56	3%
	Semaphore Park	4260	4493	-233	-5%
	Tennyson	1053	1020	33	3%
	West Beach	4333	4420	-87	-2%
	West Lakes	5807	5940	-133	-2%
	West Lakes Shore	2964	3030	-66	-2%
SLA total		313481	31693	-345	-1%
Inner East	Allenby Gardens	1846	1894	-48	-3%
	Beverley	1360	1310	50	4%
	Findon	5452	5271	181	3%
	Flinders Park	4366	4199	167	4%
	Hindmarsh	128	142	-14	-10%
	Welland	914	916	-2	0%
	West Hindmarsh	1580	1577	3	0%
	Woodville South	2764	2930	-166	-6%
	Woodville West	2913	2798	115	4%
SLA total		21323	21037	286	1%
Inner	Albert Park	1634	1668	-34	-2%

¹ Note the small difference with the previous table. All data sources were checked and it appears the inconsistency is caused by the inclusion of visitors in the suburb data.

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

SLA	Suburb	2006 population	2001 population	pop change	%pop change
West					
	Fulham Gardens	5942	5918	24	0%
	Hendon	1121	1138	-17	-1%
	Kidman Park	2954	2975	-21	-1%
	Royal Park	2653	2826	-173	-6%
	Seaton	9706	9641	65	1%
SLA total		24010	24166	-156	-1%
North-East					
	Athol Park	1307	1342	-35	-3%
	Bowden	643	602	41	7%
	Brompton	2490	2296	194	8%
	Cheltenham	2177	2053	124	6%
	Croydon	1347	1360	-13	-1%
	Kilkenny	1552	1392	160	11%
	Ovingham	657	675	-18	-3%
	Pennington	3604	3456	148	4%
	Renown Park	1577	1684	-107	-6%
	Ridleyton	943	763	180	24%
	West Croydon	3879	3808	71	2%
	Woodville	1972	1994	-22	-1%
	Woodville North	2041	2067	-26	-1%
	Woodville Park	1640	1610	30	2%
SLA total		25829	25102	727	3%
LGA total		102510	101998	512	1%

Source: ABS Census 2001 & 2006, CData

Although Coastal SLA experienced a decline in population; population in the suburbs of Grange, Henley Beach South and Tennyson expanded. In Inner West, population in all suburbs dropped, most markedly in Royal Park.

In Inner East, growth was strong in Beverly, Findon, Flinders Park and Woodville West while population dropped significantly in Hindmarsh and Woodville South. The most significant growth occurred in some of the North-East suburbs: Bowden (8%), Brompton (7%), Cheltenham (6%), Kilkenny (11%) and Ridleyton (24%). Significant decline of population appeared in Renown Park.

There is no obvious correlation between age structure and positive/negative population growth. So, no consistent relation was found between for instance 'older' suburbs and population decline or 'young family' suburbs and population growth.

The implications of the trends in population growth are that the growth in suburbs such as Bowden and Brompton matches the State Government's strategic growth directions which is to increase densities in parts of these areas (such as the Clipsal site). Other areas that are also identified as having growth opportunities as described further in this report (such as around Woodville Train Station, Cheltenham, and West Lakes) are not necessarily matched by current growth trends.

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

Highly active marketing will be necessary to shift natural growth trends to areas where growth is desired.

4.2 Population by age

The table below provides an overview of the population by age. In Charles Sturt there are relatively less persons aged up to 35 years (40%) than in Adelaide SD (45%). In the Coastal part of Charles Sturt there are many residents aged between 45 and 55 years. The North-East population is the youngest population in Charles Sturt. In both Inner East and Inner West the proportion of total population aged 65 and over is higher than the City's average.

Figure 7. Population by Age (in %)2006

	Adelaide	Charles Sturt	Coastal	Inner East	Inner West	North-East
0-14	18%	16%	15%	16%	17%	18%
15-24	14%	12%	13%	12%	12%	12%
25-34	13%	12%	12%	16%	13%	17%
35-44	14%	15%	14%	15%	14%	16%
45-54	14%	14%	17%	11%	12%	12%
55-64	11%	12%	12%	9%	11%	8%
65-74	7%	9%	9%	10%	10%	8%
75-84	6%	8%	7%	8%	7%	6%
85 years+	2%	3%	2%	2%	4%	2%
Total	100%	100%	100%	100%	100%	100%

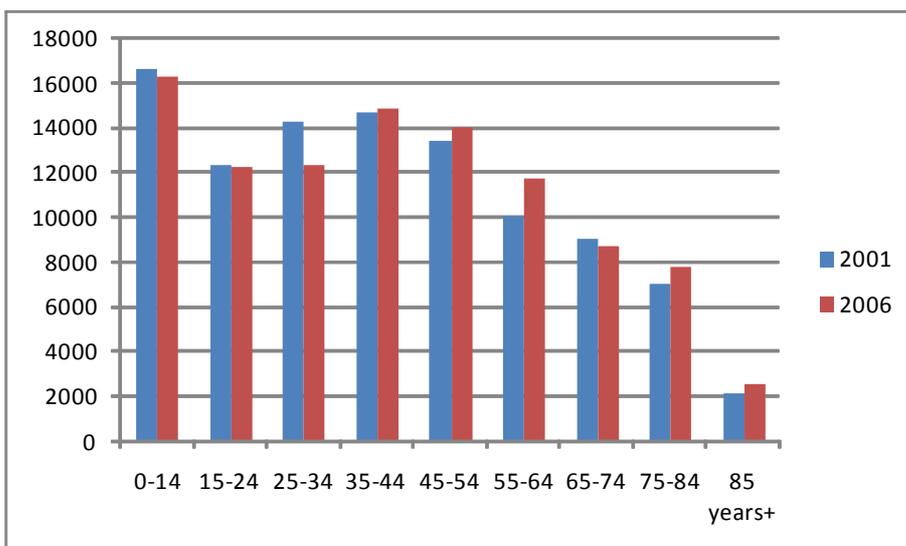
Source: ABS Census 2006

Ageing of population is signified by a decrease in the number of persons aged up to 35 years of age and an increase of persons aged 65 and over. In Charles Sturt, the number of persons up to 35 years of aged dropped by 5%, while the number aged 65 and over increased by 5%.

The figure below shows population change in Charles Sturt by age group. It shows there was a 17% increase in persons aged 55 to 64 years and a -14% decrease in the number of persons aged 25 to 34 years.

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

Figure 8. Population Change by Age Group in Charles Sturt (count); 2001 - 07



Source: ABS Census 2001 and 2006

Similar patterns can be observed in the four SLAs of Charles Sturt (see table below). **Ageing of population is particular strong in Coastal SLA**, where between 2001 and 2006 the number of persons aged up to 35 years dropped by 8% and those aged 65 and over increased by 8%.

Figure 9. Ageing of Population, Change in number of persons aged <35 and 65 and over (in %), 2001 - 2006

Area	Change persons aged up to 35 years	Change persons 65 years and over
Coastal (SLA)	-8%	8%
Inner East (SLA)	-1%	-3%
Inner West (SLA)	-9%	-2%
North-East (SLA)	-3%	3%
Charles Sturt (LGA)	-5%	5%

Source: ABS Census 2001 and 2006

There is some variation in the age profiles by suburb. The suburbs with the highest share of persons aged 65 and over is Hendon (30%) followed by West Lakes (24%). The average share aged 65 and over is 19%. Typically 'young suburbs' with a high share of persons aged up to 35 years is found in Ridleyton (50%), Hindmarsh (49%), Beverley (48%), Ovingham (47%), West Hindmarsh (46%) and Woodville Park (46%).

Suburbs with a higher share of people aged over 65, and that are ageing significantly, will need to have levels of support and facilities. Policies should also be pro active in encouraging a greater level of population mix in these suburbs.

4.3 Country of Birth

In the City of Charles Sturt 68% of residents stated they were born in Australia compared with 71% across the Adelaide SD as a whole.

26% were born elsewhere and nearly all of those residents (25%) speak another language (other than English) at home. In Adelaide SD this percentage is lower at 15%.

In Charles Sturt, the **United Kingdom** is the dominant as a country of birth (5% of all residents were born in the UK which is less compared to Adelaide SD at 9%) closely followed by **Italy** (4%). This pattern has not changed since 2001, when the UK and Italy were already the dominant countries of birth. Some suburbs show higher numbers of other nationalities (in particular **Vietnam** and **Greece**) compared with other suburbs (see tables below).

The table below shows the top five by country of birth for Charles Sturt and by SLA.

Figure 10. Population by Country of Birth (top 5), 2006

	City of Charles Sturt	Coastal SLA	Inner East SLA	Inner West SLA	North East SLA
1	Australia (68,733)	Australia (22,271)	Australia (14,451)	Australia (15,786)	Australia (16,226)
2	United Kingdom (4,964)	United Kingdom (2,287)	Italy (1,212)	Italy (1,710)	United Kingdom (1,053)
3	Italy (4,169)	Italy (496)	United Kingdom (759)	United Kingdom (865)	Italy (748)
4	Greece (2,124)	Germany (292)	Greece (469)	Greece (658)	Greece (706)
5	Vietnam (1,814)	Greece (292)	Vietnam (219)	Croatia (285)	China (197)

Source: ABS Census 2006

Suburbs with specifically high numbers of persons born overseas are:

- Athol Park (52% born overseas; North-East)
- Woodville North (46%, North-East)
- Hindmarsh (45%, Inner East)
- Kilkenny (43%, North-East)
- Renown Park (43%, North-East)
- Ridleyton (41%, North-East)

Suburbs with the lowest shares of persons born overseas are:

- Grange (23%, Coastal)
- Cheltenham (23%, North-East)
- Henley Beach South (24%, Coastal)
- Tennyson, West Lakes Shore and West Lakes (all three 25%, Coastal)

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

4.4 Migration

As indicated earlier, migration is an important driver of population growth in South Australia. In Adelaide SD, in 2006 there were approximately **16,000 settlers from overseas** which is equal to 1.5% of total population.

Nationally, in 2006 there were 3,724,535 people born overseas, 7 out of 10 Australian residents (70%) were born in Australia, a slight decrease from 2001. Of people born overseas, the most common countries of birth were England, New Zealand, China, Italy, and Vietnam.

Within Charles Sturt, the **SLAs of Inner East and North-East attract the highest ratios of settlers** from overseas (see table below).

Figure 11. Place of Usual Residence 1 Year and 5 Years Ago *in % of Total Population, 2006

Area	Lived overseas 1 year ago	Lived overseas 5 years ago
City of Charles Sturt	1,276 (1.3%)	3,459 (3.6%)
Coastal SLA	446 (1.5%)	990 (3.5%)
Inner East SLA	321 (1.5%)	884 (4.4%)
Inner West SLA	161 (0.7%)	561 (2.5%)
North East SLA	348 (1.4%)	1025 (4.2%)

Source: ABS Census 2006

Cultural backgrounds have a significant influence on the desired form and location of housing. Suburbs that are experiencing significant increases in people from other countries will over time display differing neighbourhood characters. Growth opportunities, and the way in which policy addresses or facilitates growth, should take into account cultural issues related to the incoming residents.

4.5 Income, Housing Rent and Repayments

The table below is an overview of key socio-economic details for Charles Sturt and SLAs within the City.

Income levels in Charles Sturt are **below the Adelaide medians**, with median household incomes 12% and median family incomes 4% below Adelaide.

Rents are generally lower too in Charles Sturt; the median rent is 6% lower than in Adelaide. The housing loan repayments are somewhat above the regional average which is due the high housing loan repayments in the Coastal SLA.

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

Figure 12. Key Income and Housing Cost Indicators (in \$), 2006

	Median individual income (\$/weekly)	Median family income (\$/weekly)	Median household income (\$/weekly)	Median housing loan repayment (\$/monthly)	Median rent (\$/weekly)
Adelaide SD	\$447	\$1,137	\$924	\$1,083	\$165
Charles Sturt	\$406	\$1,093	\$816	\$1,100	\$155
Coastal	\$486	\$1,247	\$986	\$1,200	\$170
Inner East	\$388	\$1,048	\$784	\$1,083	\$160
Inner West	\$376	\$1,025	\$738	\$1,083	\$150
North-East	\$377	\$1,047	\$750	\$1,083	\$146

Source: ABS Census, 2006

Income levels in Inner East, Inner West and North-East are below incomes in Adelaide SD, while the income levels in Coastal SLA are well above the wider region. The design and form of new housing will be significantly influenced by market demand and the ability of people to afford it. There is significant difference in levels of affordability across differing suburbs in the Council area, and therefore significantly differing housing styles and densities is likely.

4.6 Employment and labour force

In Charles Sturt, 55% of all the persons aged 15 years and over are in the labour force.

Labour force participation is lower than in Adelaide SD (59%).

In Charles Sturt 39% of residents aged 15 and over stated not to be in the labour force and 6% did not state their status. In 2006 5% of the labour force was unemployed, which is similar to Adelaide SD.

Within the City of Charles Sturt, unemployment is the lowest in Coastal SLA while the labour force participation rate is the highest (59%). Unemployment is highest in North-East (7%) and Inner East (6%). Labour force participation is lowest in Inner West (52%).

Figure 13. Unemployment Rate and Labour Force Participation, 2006

Area	Unemployment	Labour force participation
City of Charles Sturt	2,490 (5%)	46,652 (55%)
Coastal SLA	608 (2%)	15,074 (59%)
Inner East SLA	565 (6%)	9,753 (55%)
Inner West SLA	491 (5%)	10,422 (52%)
North East SLA	826 (7%)	11,404 (54%)

Source: ABS Census 2006

4.7 Disabilities

The number of persons with a disability of some level is increasing with age. As population ages, it is expected more people will have a disability. In Charles Sturt, 5,784 persons (6% of population) stated to have a core activity need for assistance, while 5,151 did not state their need. The **highest level of stated need for assistance was counted in North-East** where 7% of population has a core activity need for assistance. This will need to be considered in the North Eastern areas that are identified as having significant residential growth opportunity. In many ways, higher population levels provide greater levels of support and opportunities for increased provision of infrastructure (due to increased demand).

4.8 Family composition

The population of Charles Sturt counts (in 2006) 27,125 family households consisting of 76,304 persons.

The remainder of the population of 24,224 persons is living in non-family households (estimated just over 15,664 households).

Of the family households, most consist of couples with children (41%), most of who are dependent on their parents (see table below). Of the 11,141 couples with children, 6,964 have children under the age of 15 years and 4,177 only have children over 15 years of age still living at home.

Approximately 17% or 4,729 households are one parent households.

A significant share (39% or 10,682 households) of family households consists of couples with no children (living at home).

Figure 14. Family Composition of Family Households in Charles Sturt (count and % of families), 2006

Family composition	Families	Share (%)
Couple family with no children	10,682	39%
Couple family with:		
children under 15 and:		
dependent students and non- dependent children	168	1%
dependent students and no non-dependent children	1,001	4%
no dependent students and non-dependent children	312	1%
no dependent students and no non-dependent children	5,483	20%
Total	6,964	26%
no children under 15 and:		
dependent students and non-dependent children	634	2%
dependent students and no non-dependent children	939	3%
no dependent students and non-dependent children	2,604	10%
Total	4,177	15%
Total	11,141	41%

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

Family composition	Families	Share (%)
One parent family with:		
children under 15 and:		
dependent students and non-dependent children	52	0%
dependent students and no non-dependent children	288	1%
no dependent students and non-dependent children	171	1%
no dependent students and no non-dependent children	1,752	6%
Total	2,263	8%
no children under 15 and:		
dependent students and non-dependent children	154	1%
dependent students and no non-dependent children	457	2%
no dependent students and non-dependent children	1,855	7%
Total	2,466	9%
Total	4,729	17%
Other family		
	573	2%
Total	27,125	100%

Source: ABS Census 2006

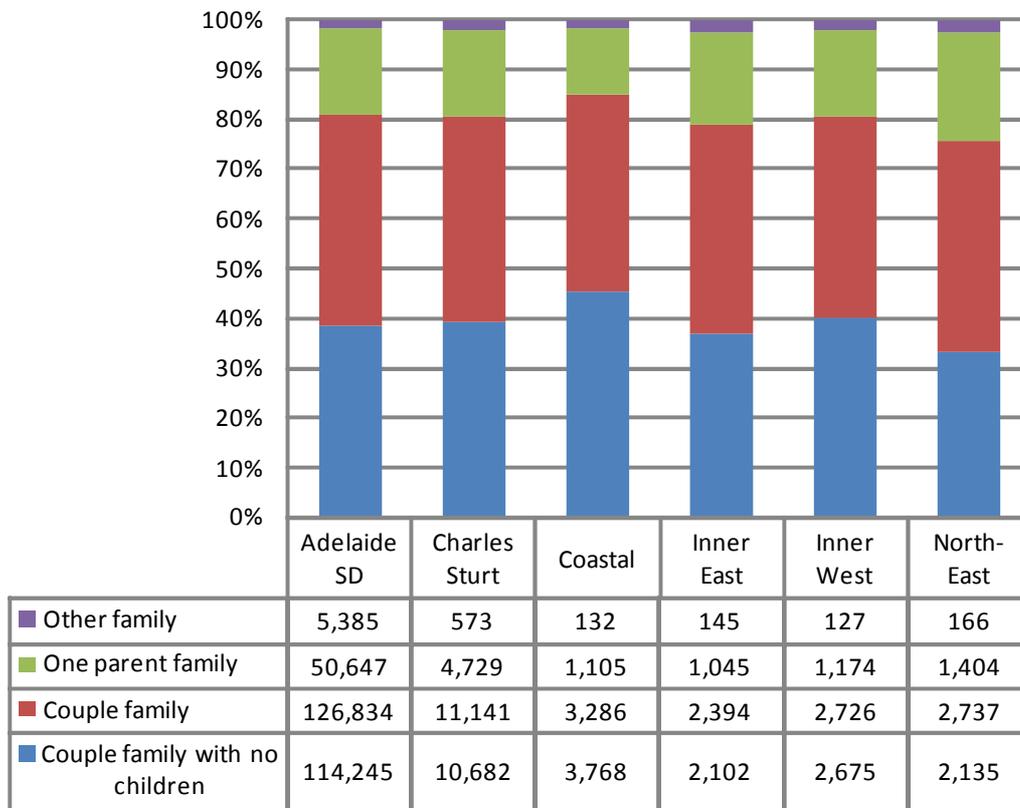
Of the 27,125 family households in Charles Sturt, 8,291 are in Coastal SLA, 5,686 in Inner East, 6,702 in Inner West and 6,442 in North-East.

Household compositions vary somewhat across the LGA, as is illustrated in the figure below.

Family composition in Charles Sturt is similar to Adelaide SD as a whole. In the Coastal part of Charles Sturt there are more couples without children; 45% of families as opposed to 38% in Charles Sturt. In North-East there are more one parent families (22% compared to 17% in Charles Sturt).

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

Figure 15. Family Household Composition in Charles Sturt and SLA's (in % of Family Households), 2006



Source: ABS Census, 2006

4.9 Households in Private Occupied Dwellings

Most of the family households occupy private dwellings: in Charles Sturt families occupy 26,810 dwellings, implying 315 families live in non-private dwellings or multi-family households. In addition, there are 15,664 non-family households occupying private dwellings.

The table below gives an overview of the existing occupied private dwellings in Charles Sturt and the households occupying these dwellings.

The table below illustrates there is a ***trend away from households with children***.

At the same time there is a marked increase in lone parent households, lone person households and couples without children.

The following underlying social/demographic trends drive these changes:

- The growth of the number of divorces and (young) persons choosing a singular lifestyle, and;
- Ageing of population, this results in more aged couples whose children have grown up and no longer live in a household together with their parents.

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

The table below shows in 2006, in Charles Sturt nearly two thirds (63%) of occupied private dwellings were occupied by single family households, 30% were lone person households and 3% were group households.

Compared to 1996 there has been a **marked increase in one parent families** (occupying private dwellings) of 10% and of lone person households with an increase of 8%.

Figure 16. Households in Occupied Private Dwellings (count or % Dwellings), 2006

Household composition-occupied private dwelling	Charles Sturt (2006)	% of total occupied private dwellings in LGA	% change compared to 1996
Family household	26,810	63%	0%
Of which:			
- Couple, no children	10,509	25%	2%
- Couple, with children	11,095	26%	-5%
- One parent family	4,631	11%	10%
- Other family	573	1%	2%
Lone person household	12,631	30%	8%
Group household	1,426	3%	-6%
Other household ²	1,607	4%	42%
Total dwellings	42,476	100 %	4%

Source: ABS Census 2006

The number of 'other' households (in terms of percentage, but not in quantity) increased significantly, which may be due to changes in ABS definitions.

As a result of this trend the average household size and the average occupancy rates of dwellings are falling. The **average household size in Charles Sturt in 2006 was 2.3 persons** compared to an average household size of 2.4 persons in 2001.

4.10 Households by Dwellings Structure Type

In 2006, Census counts returned 42,476 occupied private dwellings in the City of Charles Sturt (see table below).

- The majority of the dwellings (72% or 30,782 dwellings) are separate houses
- One storey semi-detached, row and town houses represent 12% of the occupied stock
- This is followed by flats, units and apartments in one or two storey blocks.

² Comprises 'visitors only' and 'other not classifiable' households

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

Since 1996 there has been an **increase in separate houses** (+10%) **and units in one or two storey blocks** (+12%) while there has been a **drop in the number of occupied semi-detached, row, terrace and townhouses** (-13%).

Figure 17. Dwellings by Structure Type (Count, %) – Charles Sturt

	2006	In %	2001	1996	96-06 change (%)
Separate house	30,782	72%	29,373	28,100	10%
Semi-detached, row, terrace house, townhouse with:					
One storey	5,137	12%	6,122	6,110	-16%
Two or more storeys	1,369	3%	1,220	1,328	3%
Total	6,506	15%	7,342	7,438	-13%
Flat, unit or apartment:					
In a one or two storey block	4,394	10%	4,204	3,917	12%
In a three storey block	326	1%	361	362	-10%
In a four or more storey block	215	1%	174	182	18%
Attached to a house	37	0%	76	122	-70%
Total	4,972	12%	4,815	4,583	8%
Other dwelling (caravan, cabin, houseboat, improvised, house attached to shop)	216	1%	265	231	-6%
Dwelling structure not stated	0	0%	158	443	-100%
Total	42,476	100%	41,953	40,795	4%

Source: ABS Census, time series 1996-2006

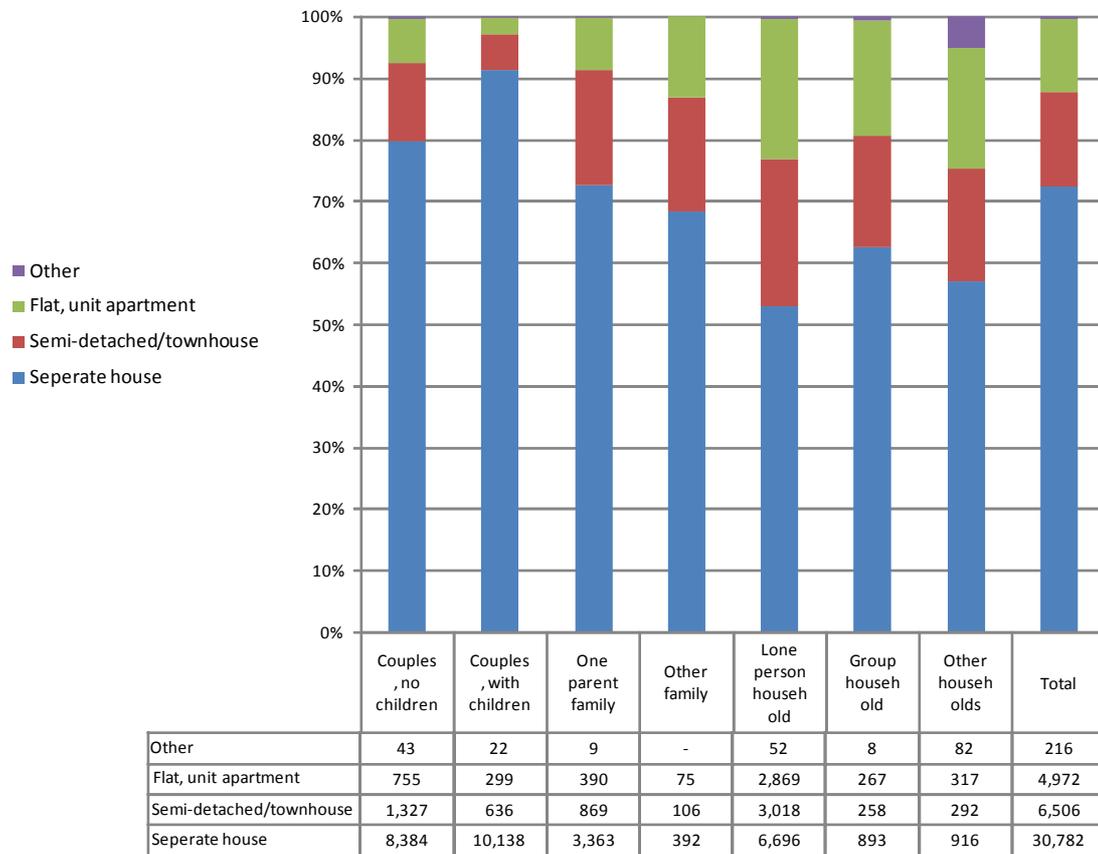
The figure below reflects the dwelling structure types occupied by households categories.

- Separate houses are the dominant dwelling structure among most household types, particularly among couples with children (91%), couples without children (80%) and lone parent households (73%).
- Lone person households are least likely to occupy separate houses although still 53% do occupy separate houses.
- Lone person households are more likely than other households to occupy semi-detached dwellings and townhouses (24% of lone person households) and flats, units and apartments (23%).

The high occupancy of separate houses is an indication of low population and dwellings densities in Charles Sturt.

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

Figure 18. Dwellings structure type by household category in Charles Sturt (in % of all dwellings), 2006



Source: ABS Census, 2006

In Charles Sturt, the stock of occupied separate houses has increased by 10% between 1996 and 2006. During that same period, the overall stock of private occupied dwellings increased by 4% from 40,795 in 1996 to 42,476 (ABS, 1996-2006 time series³). This represents an increase of 1681 dwellings, averaged out over the period to an increase of 168 dwellings each year. This is significantly lower than what will need to be achieved if growth targets established by the 30 Year Plan for Greater Adelaide are to be achieved.

The popularity of separate houses has increased among all household types, but most markedly among one parent families and lone person households.

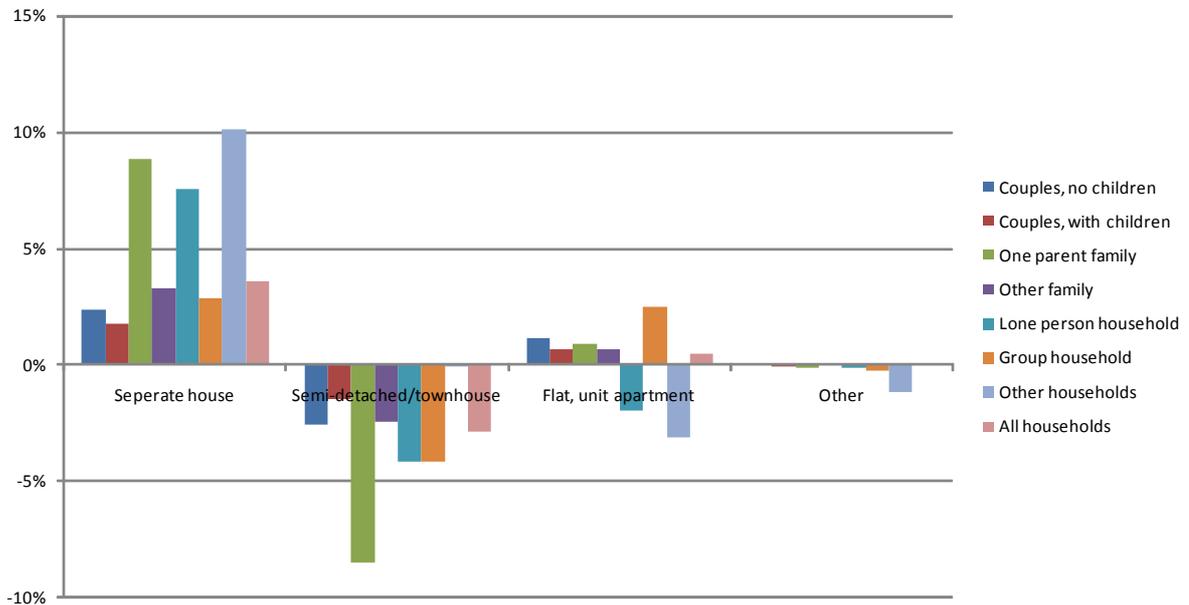
- In 1996, 64% of lone parent households occupied separate houses, by 2006 this share had increased to 73%, a 9% point increase.

The graph below illustrates the change in propensity to occupy dwelling structure types.

³ Time series for occupied private dwellings take any geographical boundary changes of CCDs into account. In Charles Sturt there have been some significant boundary changes.

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

Figure 19. Change in household propensity to occupy dwellings structure types in Charles Sturt (% point), 1996 - 2006



Source: ABS, 1996-2006 time series

4.11 Tenure

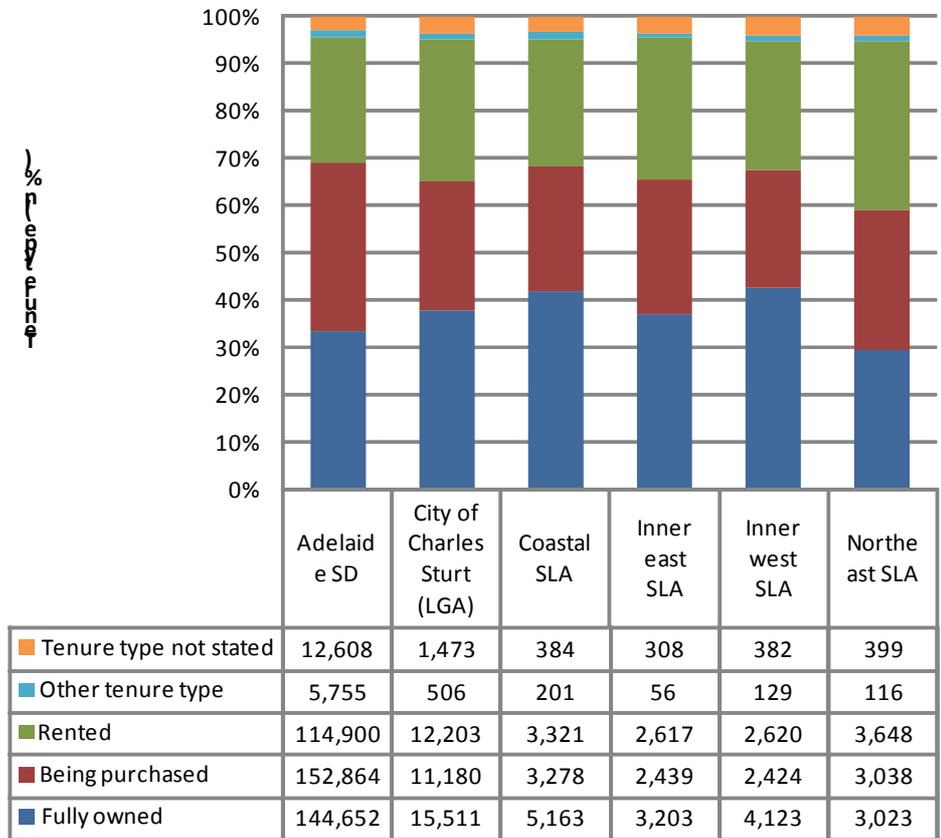
The figure below shows in 2006, in Charles Sturt

- 37% of occupied private dwellings were fully owned
- 26% were being purchased and
- 29% were rented.

Compared to Adelaide SD as a whole, home ownership is somewhat above the Adelaide SD average. Home ownership is particularly high in Coastal SLA and in Inner West SLA, with 42% and 43% of dwellings being fully owned.

In Charles Sturt there are relatively few households purchasing their dwelling and many households renting. **North-East has the highest share of renting households** with 36% renting, compared to 29% in Charles Sturt and 27% in Adelaide SD.

Figure 20. Tenure types of occupied private dwellings in Charles Sturt and Adelaide (count, %), 2006



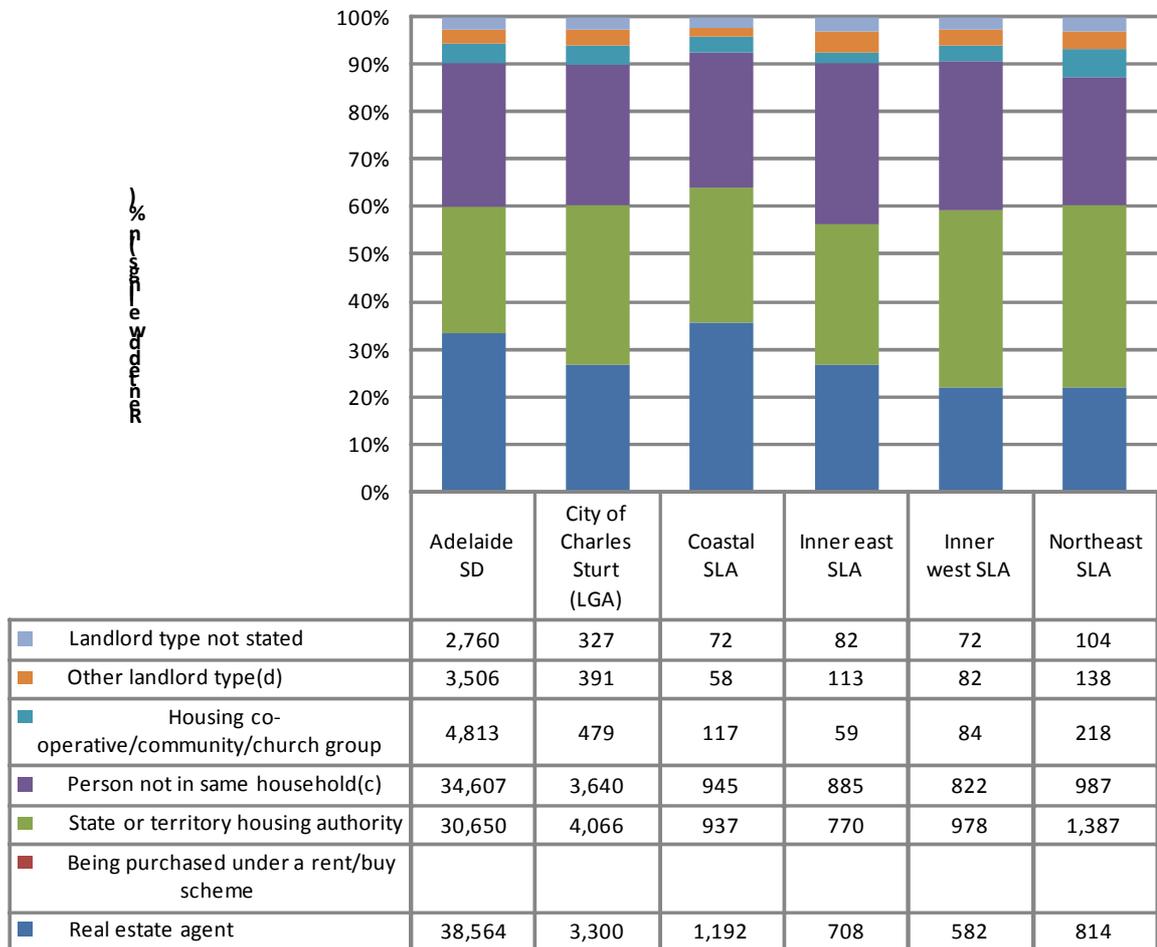
Source: ABS Census 2006

The table below breaks the rental properties down by type of operator/owner. The biggest share of households renting in Charles Sturt are renting from the SA housing authority: 33% of rented dwellings, or 10% of all occupied private dwellings are public housing. In Adelaide SD only 7% of the properties are public housing. State housing is most prominent in Inner West and North-East with 37% and 38% of rental properties being operated by the housing authority.

Renting via real estate agents is the most common rent formation in the Coastal SLA (36%).

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

Figure 21. Rented private occupied dwellings by operator (in % of all rented dwellings), 2006



Source: ABS Census 2006

Public housing is highly concentrated in certain suburbs of Charles Sturt, including:

- Bowden (29% of all dwellings)
- Renown Park (24%)
- Ridleyton (19%)
- Brompton (19%)

4.12 Population Projections

Note that these projections were reported on prior to the release of the 30 Year Growth Plan, hence they do not describe projections related to the 30 Year Growth Plan. They focus on ABS Population Projections, and previous Planning SA Projections. They also consider the State Strategic Plan.

Population growth is the result of natural increase (births minus deaths) and net migration (both domestic and international).

The population targets in the Strategic Plan are as follows:

- Increase in South Australia's population to 2 million by 2050, with an interim target of 1.64 million by 2014 (Between 1996 and 2001, population growth in South Australia has been low, largely due to low natural increase and high outmigration of young persons and families to other states.)
- Fertility to be maintained at a rate of at least 1.7 births per woman
- Reduce net interstate migration losses to zero by 2010, with a net inflow thereafter to be sustained through to 2014, and
- Increase net overseas migration gain to 8,500 persons per annum by 2014 (In 2008 net international migration topped with just over 14,000 migrants settling in South Australia. In recent times South Australia has been able to attract increasing numbers of new international migrants, with City of Charles Sturt attracting a significant share of new migrants).

Adelaide is expected to accommodate a significant share of future population growth. According to the projections Adelaide SD is projected to take up 71% of total population growth (net) in South Australia.

The South Australian Government, Planning SA (now the Department for Planning and Local Government), has prepared population projections. The projections take detailed ABS data into account regarding population, mortality, fertility and migration. The projections cover a 30-year period from 2001 to 2031.

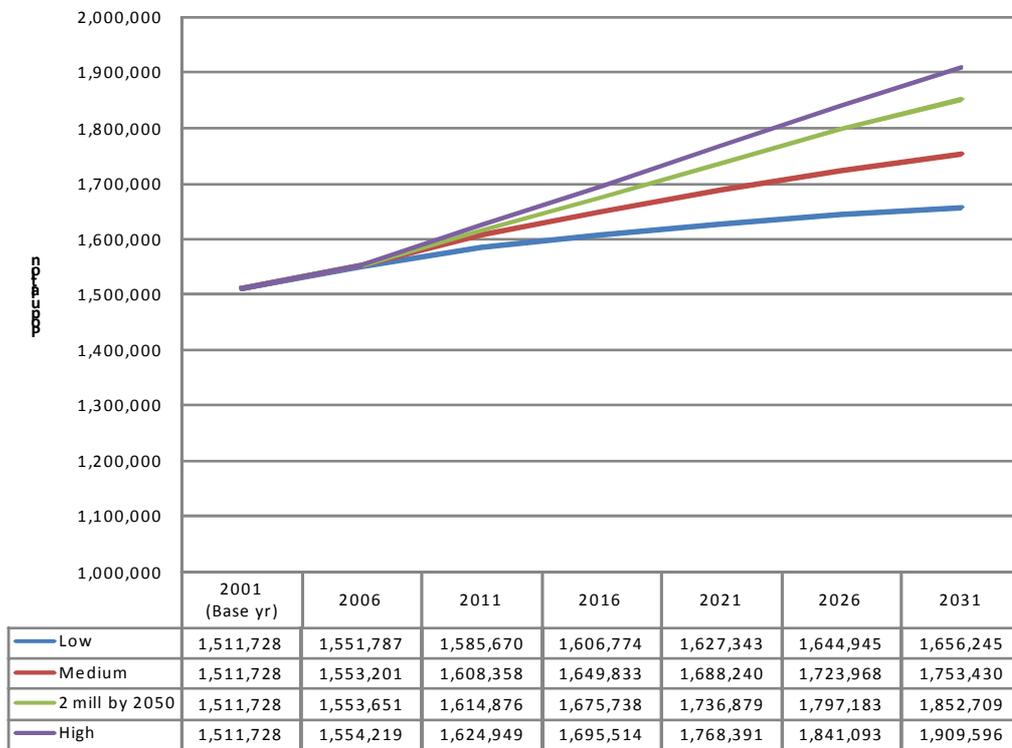
Low, Medium and High Population Scenarios

There are three main scenario's, low, medium and high, plus a new scenario reflecting the population targets of South Australia's Strategic Plan of late January 2007, referred to as '2 million by 2050 scenario'.

Figures 22 and 23 show the projected population trends for SA and for Adelaide for the different scenarios.

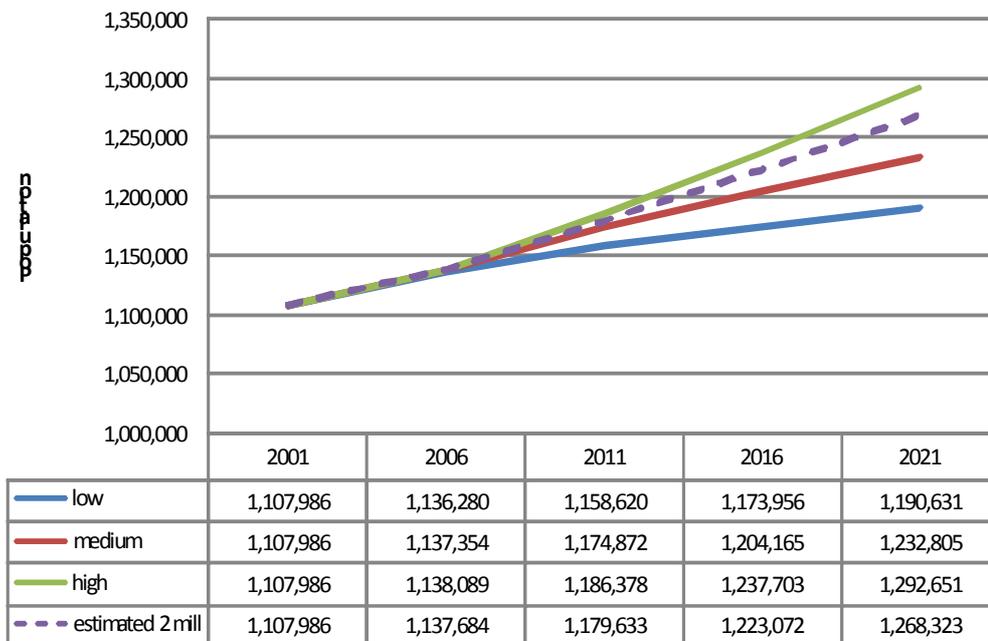
NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

Figure 22. Population projections South Australia (number of residents), 2001 - 2031



Source: Planning SA, 2007

Figure 23. Population projections Adelaide SD, 2001 - 2021



Source: Planning SA (2007), SGS (2009)

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

The key difference between the medium and the '2 million by 2050 scenario' is the migration gain. The Government of South Australia attributes a critical role to migration in influencing future population growth (Planning SA (2007), SA Population Projections).

Note that Planning SA has only provided data at the LGA level for the medium scenario only. Furthermore, projections are made until 2021, as longer term projections at the local level are deemed unreliable.

High Scenario

- A total estimated population of 1.91 million residents.
- It is important to note that ABS Estimated Residential Population (ERP) data show Adelaide's population reached 1,146,116 in 2006, which is tracking well above the high scenario projection.

Medium Scenario

The 'medium' scenario is the autonomous trends or changes in population according business as usual without the application of any policies that would steer or guide population changes in any directions.

- Population in Adelaide SD is projected to grow from 1.07 million persons in 2001 to 1.232 million persons in 2021
- In Charles Sturt, population is projected to grow by 9,136 persons between 2001 and 2021, resulting in a total population of 112,641 by 2021.

Low Scenario

In 2031, population in the Adelaide SD is projected to consist of 1.66 million residents.

According to the low scenario there would even be a drop in the number of persons younger than 65 years, and a duplication of persons aged 65+.

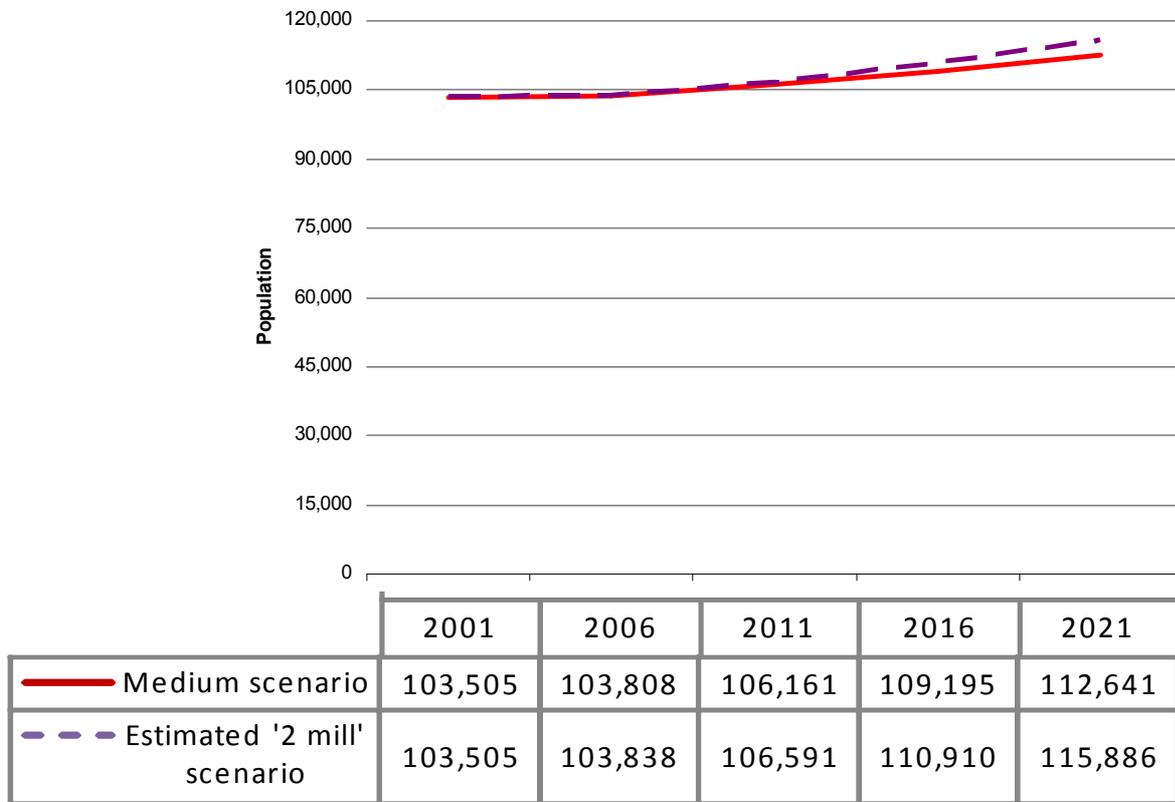
2 million by 2050 Scenario

The '2 million by 2050' scenario is between the medium and high scenario, and would reach a total population of 1.85 million by 2031.

Charles Sturt would see a total population of ~116,000 in 2021.

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

Figure 24. Projected population change in Charles Sturt (persons), 2001 - 2021



Source: Planning SA (2007)

Most of the projected growth is expected to occur in Inner West (+3,226 persons by 2021). The least is expected to occur in Coastal SLA (857 persons by 2021).

5 Housing Trends - Drivers of Housing Demand

There are a number of key issues that influence the projected housing trends and drivers of demand in City of Charles Sturt including housing affordability, ageing of the population, decreasing housing size and migration increases.

5.1 Housing affordability

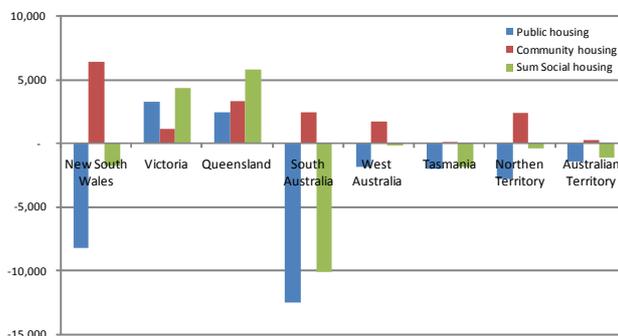
Housing affordability crisis

In 2005-06 there were 186,900 households on public housing waiting lists (FaCSIA, 2006). In January 2009, the Australian Institute of Health and Welfare (AIHW) announced the waiting lists had gone up to just over 200,000 households. Housing affordability is an issue nationwide for low and moderate income households. Increasingly more households are experiencing housing stress, i.e. households spending 30% of their income or more on housing.

The social housing sector, consisting of public and community housing, has historically been an important provider of affordable housing to low income and special needs households. Over the last ten years there has been a reduction in Australia's social housing stock of 2% to 357,860 dwellings in 2006 (ABS Census time series).

In no state or territory has the drop in the social housing stock been as strong as in South Australia. There has been significant disinvestment in the public housing sector, with some of the loss in public housing taken up by community housing providers. Overall, the drop in the social housing stock in South Australia (from 1996-2006) was -10,000 dwellings. The public housing stock contracted by approximately 12,500 while community housing providers expanded by 2,500 dwellings.

Figure 25. Changes in public, community and total social housing stock by State/Territory (number of dwellings), 1996-2006



Source: ABS Census time series 1996, 2001 and 2006

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

Recent trends in social housing

In a speech to the Sydney Institute on March 19, 2009, the Commonwealth Minister of Housing, the Hon Tanya Plibersek, outlined the beginnings of a comprehensive national policy on social housing.

The Minister made similar observations to those set out above regarding the dramatic recasting of the role social housing as a welfare safety net.

The role of public housing, at its inception during Australia's post war reconstruction, was to create an affordable and secure base from which tenants could build or rebuild their lives. Public housing was a spring board allowing people to land softly and then jump out of disadvantage.....But today public housing caters for a very different group of tenants. Reduced Government investment has necessitated tighter targeting and this in turn has resulted in the profile of public housing tenants becoming more disadvantaged over the years. ..Whereas public housing was once an enabler, part of a housing career which allowed working class people opportunities including home ownership, today it is too often just a safety net that fails to provide the range of assistance required by tenants.

The Minister particularly highlighted the run down in investment as the key reason for the residualisation of social housing.

The Social Housing Initiative is part of the Nation Building - Economic Stimulus Plan providing \$6.4 billion to state and territory governments to substantially boost over the next three years the supply of social housing currently available for disadvantaged Australians. This investment will see the construction of 20,000 new dwellings and the refurbishment of 45,000 existing dwellings.

South Australia's public housing authority (Housing SA) as well as not for profit providers will be involved in constructing new dwellings to meet these objectives. A key goal is to increase the private sector's and not for profit sector's role in affordable housing. Some of the areas targeted for increased public housing provision are in the City of Charles Sturt.

The SA Government has introduced a target for all new significant developments to include 15% "Affordable Housing", including 5% high need. The way in which this must be provided across the City of Charles Sturt will vary, and is described further in Section 2.3.1 which discusses legislative requirements and BDP module approaches. It is also discussed further in *Report 5 - Development Plan Policy Analysis for Growth Areas*.

Definition

The State's Housing Strategy defines affordable housing development as:

"housing that is affordable for low and moderate income households. A household is said to be experiencing "housing stress" where the household is low income (that is, the lower 40% of income distributions) and spends more than 25% of gross income on rent or 30% on mortgage repayments".

It is important to understand that affordable housing development refers to much more than the cost of rent or the purchase price of a dwelling. Other issues need to be considered in relation to the design and provision of affordable housing development. Providing affordable housing that meets the definition

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

cited above is relatively meaningless, unless associated issues such as proximity to services and transport, energy efficient design and a range of housing types and targeting affordability to different groups (eg first home buyers, workforce housing, migrants) are addressed.

Rationale

To better appreciate potential solutions relating to the housing affordability issue, the following four key factors have a significant impact on establishing affordable housing:

- availability of inexpensive land;
- ability to obtain a high dwelling yield per allotment (eg medium/high density residential allotments);
- ability to limit dwelling sizes (eg promotion of 1 bedroom dwellings / apartments); and
- ability to control resale value of dwellings originally constructed for the affordable housing market.

Previous studies, including those from Radford and Sarris (2003) and Wendy Sarkissian (2004), have indicated that affordable housing policies must be based on an understanding of the expectations held by occupants, neighbours, providers and society.

The expectations of occupants are that affordable housing should:

- be close to facilities and services (eg shops and public transport);
- have safe and secure (focus on Crime Prevention Through Environmental Design Principles);
- have private indoor areas;
- be comfortable with enough space, including space nearby for children's play;
- include small dwellings (ie small kitchen, laundry, combined with bathroom or cupboard, 1-2 small bedrooms, and one bathroom per dwelling (no ensuite);
- have low running costs;
- have an appearance that is not distinguishable from other housing; and
- have reduced car parking spaces (eg 0-1 per dwelling).

The expectations of neighbours are:

- low or positive impact on neighbouring residents and property;
- low or positive impact on traffic and parking; and
- they are designed in contextual with the character of the neighbourhood.

The expectations of housing providers/owners are:

- low cost;
- low maintenance;

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

- adaptable (to allow a wide range of future occupiers);
- sustained asset value;
- ability to quickly liquidate asset.

The expectations of society are:

- environmentally sustainable (energy efficient, minimal negative effects on local and global environments, quality urban design);
- socially sustainable (a mix of income groups living in the City and inner suburbs);
- economically sustainable (strategies that are viable in the long term).

Several Australian Housing and Urban Research Institute (AHURI) reports have articulated a range of barriers to private sector involvement in the affordable housing market. Despite a range of approaches covered, a general conclusion of these studies is that current conditions in Australia have not, to date, facilitated private sector investment in the affordable housing sector. A number of significant barriers exist preventing more interest, especially by the financial institutions (eg superannuation trusts), in the provision of rental housing at the affordable end.

These barriers relate to:

- Low returns;
- High risks – revenue, credit, financial and profit risks;
- High management costs;
- Liquidity (how quickly assets can be disposed of);
- Poor and incomplete market information on the performance of housing as an asset;
- No established track record for this asset class.
- Dealing with the issue of inadequate returns, given the perceived risks, is central to encouraging greater private sector investment in the private sector.

5.2 Ageing of Population

Ageing of population will accelerate over the next 20 years. Most of the expected growth will occur in the older age groups.

In the Adelaide (SD) the number of persons aged 65 and over is expected to grow by 83,893 to 86,526 persons. This shift in the population's age profile will have profound consequences for the future demand for housing, (health) facilities and services. In particular it will influence a significant proportion of the type and location of housing that should be developed into the future.

In January 2009 AHURI published a positioning paper on the housing needs of older home owners, called "Dwelling, land and neighbourhood use by older Home Owners". Home ownership is particularly high among older households. The 2002-03 Survey of Income and Housing indicates

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

that in Australia 80% of older person households lived in their own home, without a mortgage (Cat No. 4130.0.55.001 Housing Occupancy and Costs, Australia, 2002-03).

Increasingly, older people prefer to remain living independently in their own home for as long as possible. Due to ageing of population the costs related to aged and health care are expanding rapidly. Providing care at people's own homes meets people's preferences and is cheaper.

Therefore, the Australian Government has since the 80s introduced a number of policies and programmes to support people to live in their own homes for as long as possible. Recently, some initiatives were launched to:

- Improve housing design, enabling people to maintain accommodation or move to more suitable accommodation⁴
- Improving awareness amongst consumers and the building industry¹
- Encouraging innovation in housing design¹
- Multidisciplinary strategy to build more age friendly environments⁵ including improvements in land use planning, transport investment, building regulations, design of public spaces and community crime prevention

Some key statistics and findings:

- Health and disability issues increase markedly with age and many older persons are primary carers for partners or others.
- Only 7% of persons aged 65 and over live in residential aged care.
- The dominant dwelling types among persons aged 65 and over, are separate houses, with more medium and higher density housing as age increases.
- Most older resident households own their home outright (80%). Of older person households renting, 50% is in public housing. For households younger than 65 years of age this is only 16%.
- Within cities, older people are more concentrated in certain suburbs, often in coastal locations, high amenity inner-middle or outer suburbs, or in areas with high amounts of public housing.
- Older resident households (mostly one and two person households) predominantly occupy three bedroom dwellings, implying most households would have some spare capacity.
- Public transport becomes more important with age, particularly for women.
- Difficulties that may arise when staying in their own home include property maintenance, health care needs, transport, housework and mobility difficulties.

⁴ National Strategy for an Ageing Australia (Australian Government, 2002)

⁵ Prime Minister's Science, Engineering and Innovation Council (2003)

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

Medium Scenario

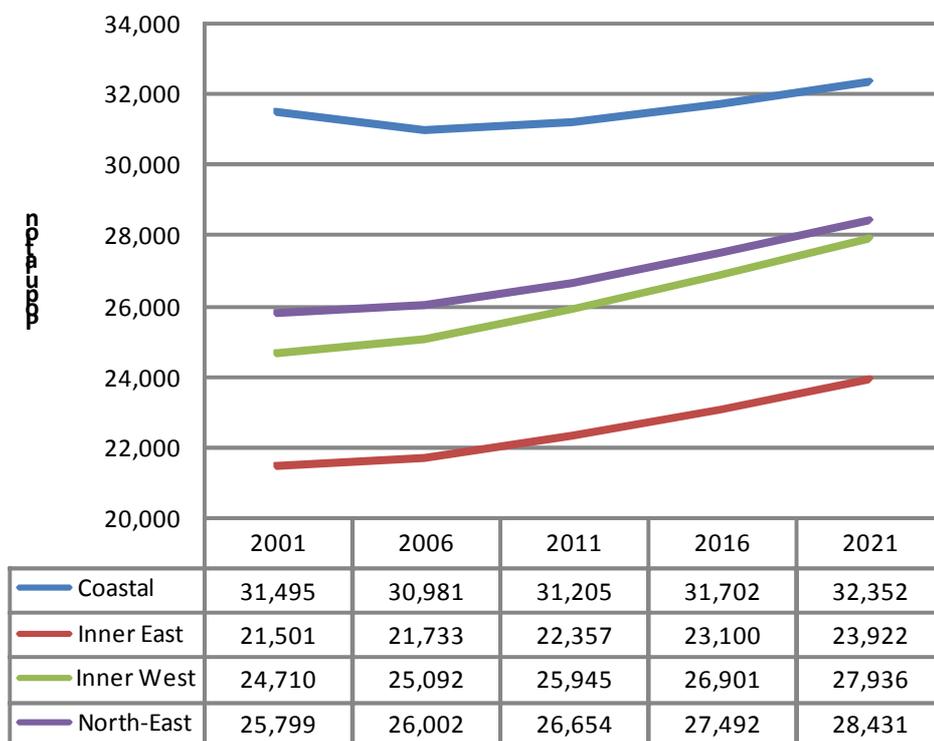
Between 2001 and 2021 the number of persons aged 65 and over will grow by 68% or by approximately 85,000 people, while total population is projected to grow by 11% and the number of persons younger than 65 by 4% only (see table below).

Figure 26. Projected ageing of population in Adelaide SD (count and % of population change), 2001 - 2021 (medium scenario)

	Population growth (count)	Change (in %)
Total population growth	124,819	+11%
Persons aged 65+	85,091	+68%
Persons <65 years	39,728	+ 4%

Source: Planning SA (2007); computations SGS (2009)

Figure 27. Projected population change in SLAs of Charles Sturt (persons, medium scenario), 2001 - 2021



Source: Planning SA, 2007

Ageing of population will change the age profile of the population as 60% of projected growth will consist of persons aged 65 and over. The number of persons aged 65 and over is projected to increase by 29% (See Figure 22). The population of Coastal SLA – which already is the oldest population - is expected to ‘age’ more profoundly than the other SLAs. In 2021 there will be 67% more persons aged 65 and over compared to 2001. Inner East will be the single SLA experiencing an absolute drop in the number of persons aged 65 and over. The current relatively young population is expected to grow markedly.

5.3 Decreasing Household Sizes

Average household sizes and occupancy rates of privately owned dwellings have been decreasing in Australia for many years. Smaller families, increase in single person households and ageing of population are important drivers of this trend.

The first State of Supply Report by the National Housing Supply Council (NHSC), released in March 2009, indicates a significant and growing housing shortfall. Unless there are significant responses by the industry and by the government, the shortfall will increase over the next 20 years and the affordability of housing will further deteriorate. It is noted that the population projections by the NHSC are lower than the estimates and growth target by the South Australian Government. The NHSC estimates are based on ABS population projections.

At a national level demand for housing will come from:

- Single person households (+63.7% increase from 2008 to 2028)
- Couple households without children (+36.7%)
- Single-parent families (+23.7%)
- Two-parent families (+20%)

5.4 Migration

Another key characteristic of population growth and hence housing demand in Adelaide (SD) and Charles Sturt is the arrival of overseas migrants. Research shows that their ability to (quickly) find appropriate housing can enhance their settlement process and reduces their long term needs for assistance and social services.

In June 2002 Australian Housing and Urban Research Institute (AHURI) published a research report "*The housing and other service needs of recently arrived immigrants*". The report indicates tenure types vary by category of immigrant, with the visa category, educational qualifications, country of birth and age being the key variables. Immigrants arriving under the Independent, Business Skills, Employer Nomination and Concessional Family streams tend to enter home purchase within 3.5 years after arrival, with many commencing in the private rental market.

In general, most immigrants commence in the private rental market. Those arriving under the Humanitarian program, Preferential Family program and those requiring high levels of education and language training tend to rent in private (often receiving Rent Assistance) and public sector and tend to remain in the rental sector for a longer period of time.

Support from community members is a significant contributor for successful settlement in Australia.

The study found there is no consolidated approach, to recent immigrants that combines housing assistance, labour market access, mobilising social capital and other services.

NOTE: Demographic Information in Sections 4 & 5 to be updated by Adelaide University Demographic Analysis Study 2011.

While there has been a cut by 14 per cent to the national 2008–09 permanent skilled migration program intake from 133,500 to 115,000, this is a relatively small reduction from what was historically an exceptionally high national immigration target.

Such a reduction will have the effect of removing building and manufacturing trades from the Critical Skills List – such as bricklayers, plumbers, welders, carpenters and metal fitters – with the list now comprising mainly health and medical, engineering and IT professionals.

It is likely that immigration to South Australia will continue at historically high levels for several decades, even if temporary cuts occur in response to unfavourable economic conditions and rising unemployment.

6 Appendix 1: State Government Policy Directions and Implications For Future Growth

• Policy	• Relevant Policies	• Implications / Key initiatives / Targets of policies
<ul style="list-style-type: none"> • South Australian Strategic Plan • (Statewide Plan specifying desired future for South Australia.) 	<ul style="list-style-type: none"> • Objective 1: Growing Prosperity • T 1.21 Adequate strategic infrastructure • T 1.22- T 1.25 Increase South Australia's Population • Objective 2: Improving Wellbeing • T 2.1-T 2.6 • Increase Healthy Life Expectancy, Increase Exercise, Reduce Chronic Diseases • T 2.7 Improve psychological wellbeing 	<ul style="list-style-type: none"> • Ensure key economic and social infrastructure is provided to the community • Additional dwellings and population in Council • Encourage walking and exercise within neighbourhoods • Ensure adequate open space for recreation • Create attractive areas in which to live to encourage positivity about environment

• Policy	• Relevant Policies	• Implications / Key initiatives / Targets of policies
	<ul style="list-style-type: none"> • Objective 3: Attaining sustainability • T 3.5, T 3.6 Reduce Greenhouse gas emissions; increase use of public transport • T 3.12 - T 3.14 Reduce reliance on non-renewable energies • T 6.7 Increase affordable housing 	<ul style="list-style-type: none"> • Ensure transport corridors are developed in a safe sustainable and controlled manner • Provide efficient public or Council provided transport routes and options • Reduce daily vehicle trips per household • Proximity and accessibility to services • Dwellings and buildings designed to reduce non-renewable energy reliance • Seek ways of increasing affordable housing and implementing same
<ul style="list-style-type: none"> • Regional Spatial Framework for Metropolitan Adelaide 		<ul style="list-style-type: none"> ▪ Local employment opportunities enhanced – near nodes & transport corridors. ▪ Further development of centres as public and community spaces as well as retail hubs. ▪ Maintenance of viability of established smaller walkable facilities and centres. ▪ Recognition of true role and function of West Lakes and Arndale. ▪ Accommodation of mixed use and apartment development. ▪ Reviewing the roles and future of industrial areas and employment. ▪ Addressing demands for bulky goods retailing.
<ul style="list-style-type: none"> • Planning Strategy for Metropolitan Adelaide 	<ul style="list-style-type: none"> • METRO WIDE POLICIES • 3.1 Water Resources • (Policies 1,2) 	<ul style="list-style-type: none"> • Design development that incorporates efficient and integrated disposal of water • Ensure Water Sensitive Urban Design is considered

• Policy	• Relevant Policies	• Implications / Key initiatives / Targets of policies
	<ul style="list-style-type: none"> 3.3 Open Space, Recreation and Sport (Policies 1 - 4) 	<ul style="list-style-type: none"> Improvement in access and availability to open space Plan and provide for a network of accessible sport and informal recreation facilities. Develop and maintain waterway linear parks
	<ul style="list-style-type: none"> 3.4 Land Use and Transport Integration (Policies 1, 2, 3, 4, 9) 	<ul style="list-style-type: none"> Integrate transport and land use planning decisions to facilitate a safe, sustainable and effective transport network Facilitate transit-oriented development around selected high-service public transport routes Promote transit-focused neighbourhoods along public transport routes identified on the Adelaide Metropolitan Spatial Framework (Figure 1) Locate higher intensity uses within walking distance of transit stops Incorporate provision of public transport in new development Increase dwelling densities near major public transport routes, stations and interchange points Provide safe, attractive and convenient walking and cycling environments to encourage walking and cycling to destinations Ensure integrated transport and land use supports quality of life outcomes. Allow for and encourage buildings designed with low energy consumption Encourage higher density development where there is spare infrastructure

• Policy	• Relevant Policies	• Implications / Key initiatives / Targets of policies
	<ul style="list-style-type: none"> • 3.11 Health and Community Services • (Policies 1, 2) 	<ul style="list-style-type: none"> • Locate schools, community and adult learning facilities in or near neighbourhood and district activity centres to allow convenient access by all methods • Support the physical, mental and social health of individuals and communities by ensuring good access to a range of facilities • Encourage a range of housing options in easy access locations to activity centres making it possible for aged and those with disabilities to live more independently
	<ul style="list-style-type: none"> • 3.12 Hazard Avoidance, Minimisation and Management • (Policies 1, 3, 4, 5, 6) 	<ul style="list-style-type: none"> • Reduce flooding risk to population
	<ul style="list-style-type: none"> • RESIDENTIAL AND URBAN DEVELOPMENT 	<ul style="list-style-type: none"> • Place greater emphasis on role of activity centres particularly neighbourhood and local activity centres in revitalising and strengthening local communities
	<ul style="list-style-type: none"> • 3.14 Activity Centres • (Policies 1-7) 	<ul style="list-style-type: none"> • Develop activity centres in accordance with Activity Centres Hierarchy • Increase diversity and density of housing in and around activity centres, including alternative forms of housing and mixed-use developments • Ensure layout and design of activity centres facilitate ease of access and are well connected to the surrounding areas. • Ensure pedestrian environments within activity centres are walkable, direct, convenient, safe, well-signposted, sheltered and shaded and accommodate disabled access. • Redevelop existing, and design new activity centres to

• Policy	• Relevant Policies	• Implications / Key initiatives / Targets of policies
	<ul style="list-style-type: none"> 3.15 Residential Neighbourhood 	<p>incorporate direct and highly accessible connections to public and community transport facilities.</p> <ul style="list-style-type: none"> Locate high-activity and employment-generating uses in close proximity to public transport interchanges and stops within activity centres. Encourage development of new transit focused activity centres in selected locations which complement the existing Activity Centres Hierarchy. Encourage shared access and car-parking arrangements between different uses in activity centres. Ensure appropriate urban design and planning of activity centres to achieve high quality, attractive and functional outcomes particularly in public spaces. Improve strip-style activity centres to embrace principles of main street design, including consolidation of car-parking and access and the introduction of housing above and behind commercial uses. Retain and protect heritage assets. Provide supply of residential land that is well serviced, appropriately zoned and capable of accommodating projected housing demand. Ensure release and development of land and infrastructure that reflects the preferred sequencing as per the Residential Metropolitan Development Program. Prepare structure plans for future residential development. Promote higher population densities in appropriate locations however protecting desired character and heritage.

• Policy	• Relevant Policies	• Implications / Key initiatives / Targets of policies
	<ul style="list-style-type: none"> ds and Housing Policies 1-14 	<ul style="list-style-type: none"> Consider suitability of underutilised state, commonwealth and local government land for housing development. Develop innovative, affordable and sustainable housing. Accommodate a range of facilities in neighbourhoods to increase the diversity of activities within walking distance of housing. Allow establishment of compatible home businesses in the local area. Target locations for more compact forms of housing including conversion of existing dwellings and non-residential buildings to maximise the use of existing infrastructure capacity, services and facilities. Provide infrastructure in a timely, cost efficient manner. Ensure development does not exceed environmental capability and infrastructure capacity of neighbourhoods. Target increased housing densities (as per the Adelaide Metropolitan Spatial Framework): within and around activity centres; in transit-focused neighbourhoods within walking distance of selected high frequency public transport routes and transit nodes; In selected areas adjacent coast; in renewal and regeneration sites with convenient access to public transport and services; and around public open spaces in locations with convenient access to public transport and services. Locate, orientate and design housing to maximise compatibility between living environments and strategic transport routes. Ensure sensitively designed housing to avoid adverse impacts on neighbours.

• Policy	• Relevant Policies	• Implications / Key initiatives / Targets of policies
		<ul style="list-style-type: none"> • Encourage higher housing densities in transit-focused neighbourhoods while preserving local qualities such as neighbourhood character and heritage and safety. • Promote more compact neighbourhoods, particularly around activity centres, to reduce travel. • Encourage potential 'coastal growth areas'. • Change focus from minimum car-parking requirements for housing to maximum car-parking requirements, particularly in transit-oriented development. • Provide a range of housing types to accommodate a variety of residents and their needs. • Facilitate and support a variety of affordable housing options (including a target of 15% affordable housing including a 5% component for high need housing). • Ensure areas identified in the Residential Metropolitan Development Program for redevelopment address potential impact on supply of affordable and high need housing. • Explore financial models to raise funds for affordable housing. • Encourage a broad distribution of social housing. • Reinforce the importance of active street frontages. • Prioritise urban regeneration projects based on social, economic and environmental benefits to be gained. • Use underutilised government land to maximise urban regeneration opportunities. • Maximise the potential for infrastructure projects to

• Policy	• Relevant Policies	• Implications / Key initiatives / Targets of policies
		<p>stimulate urban regeneration and economic development.</p> <ul style="list-style-type: none"> • Ensure policies relating to areas likely to be subject to urban regeneration promote innovation, housing diversity and housing affordability. • Stimulate private investment in urban regeneration projects to revitalise public housing areas. • Charles Sturt is part of the Inner West. Sites identified in City of Charles Sturt as development sites are: <ul style="list-style-type: none"> • the former Sheridan site; • St Clair Recreation facility; and • Brompton regeneration site. • Infrastructure upgrades mentioned are stormwater, sewer augmentation for some areas and some roads are approaching capacity. More work required to determine the human services of the area required.
<ul style="list-style-type: none"> • 30 Year Plan for Greater Adelaide Technical Reports for Western Adelaide Region 		<ul style="list-style-type: none"> • Increased densities along Main Corridors (Woodville Road, Port Road, Torrens Road) • Port Road/.Torrens Road rail corridor • Grange Road proposed light rail • Regeneration areas/ infill adjacent to main railway stations • TOD sites at Clipsal, West Lakes and Woodville • An additional 90,000 people in Western Region to 2038 • Greenways along transit corridors • 15% affordable housing in new development
<ul style="list-style-type: none"> • Housing Plan for SA • (Plan to make affordable housing available to more 	<ul style="list-style-type: none"> • Objective 1: Affordable housing and strong communities 	<ul style="list-style-type: none"> • Undertake new developments in partnership with local government and industry to provide a mix of affordable and high need housing opportunities • Expand supply of affordable housing by implementing a target of 10% affordable and 5% high need housing in all significant new housing developments. Industry, local

• Policy	• Relevant Policies	• Implications / Key initiatives / Targets of policies
<p>people; Provide quality housing for those in greatest need; and Renew and reinvigorate neighbourhoods)</p>		<p>government and community to work together on this.</p> <ul style="list-style-type: none"> • Ensure development policies support a mix of housing densities, sizes and styles within each neighbourhood and target the development of higher density housing in strategic locations linked to activity centres and transport nodes. • Identify and maximise under used and surplus government land holdings. • Ensure housing development is sequenced and consistent with related infrastructure development. • Increase capacity of community based housing • Increase community housing stock for people with low incomes and high need households. • Investigate expansion of residential support services. • Renew and reinvigorate neighbourhoods. • Continue investment in areas of high concentrated social housing (inc Royal Park) • Continue to redevelop social housing stock to more appropriate standards of amenity, location and design through urban regeneration and through smaller scale redevelopment programs. • Promote private and public development of accessible and adaptable housing and urban designs with a particular focus on agencies with responsibilities in housing, ageing, disabilities, planning and building regulation.
<ul style="list-style-type: none"> • Strategic Infrastructure Plan (Department 	<ul style="list-style-type: none"> • Transport 	<ul style="list-style-type: none"> • Coordinate public transport networks and facilities to maximise access to social services. • Transform Adelaide’s urban passenger transport system

• Policy	• Relevant Policies	• Implications / Key initiatives / Targets of policies
<ul style="list-style-type: none"> • South Australia Works in the Regions 2006-2009 Strategic Plan • (Department of Further Education, Employment, Science and Technology's vision for employment and skill's vision for future) 	<ul style="list-style-type: none"> • Create employment and skill formation opportunities for western suburb residents particularly those disadvantaged in the workforce, through building effective partnerships with industry, Government and the community. 	<ul style="list-style-type: none"> • Four objectives that largely discuss assisting the residents of the Western Adelaide Region in employment and gaining skills, particularly those in disadvantaged areas ie the Parks and others considered disadvantaged.
<ul style="list-style-type: none"> • Industrial Land Strategy (strategic document that provides a framework for provision of industrial land in the metropolitan area for short, medium and long term (up to 15 years)) 	<ul style="list-style-type: none"> • Part 1 identifies government, industry roles and the strategic and policy context • Map 1 identifies industrial areas that shows 3 key strategic industrial areas (not in subject Council) • Part 2 	<ul style="list-style-type: none"> • Objective 1: provide a rolling 400-600 hectare supply of industrial land sites that are ready for development. • Action 1: Encourage Councils to adapt policies and zoning provisions in Development Plans to protect strategic and other industrial sites to secure future industrial activities. • Objective 2: Identify a rolling 15-year industrial land bank. • Action 3: Develop and Industrial Land Program for the supply and release of industrial land in both private and government ownership. • Action 4: Investigate land banking as a mechanism for timely supply of industrial land. • Action 5: Undertake master planning and feasibility studies of existing and future strategic industrial areas.

• Policy	• Relevant Policies	• Implications / Key initiatives / Targets of policies
	<p>provides an analysis of demand, supply and infrastructure issues and projects.</p> <ul style="list-style-type: none"> Part 3 identifies the industrial land strategy, protecting or rezoning industrial land (includes an assessment framework that takes into account 'prime industrial land') and actions for implementation 	<ul style="list-style-type: none"> Action 6: Coordinate timely provision of infrastructure to key sites and locations. Action 7: Encourage the consolidation of existing industrial sites through redevelopment of brownfields and infill of under-utilised sites and through rezoning opportunities. Objective 3: Monitor industrial land supply, demand and use. Action 9: Maintain a database with input from State, Local Government and private sources. Action 10: Monitor local, national and international trends to ensure policies meet industry requirements. Action 11: Establish a joint State, Local and private sector industry reference group to monitor industrial land supply, demand and use issues and trends. Objective 4: Review the strategy, assessment framework and regulatory controls. Action 13: Regularly review the effectiveness of the Assessment Framework. Action 14: When Councils review Development Plan policies, ensure that such policies and zoning protect and stimulate industrial and mixed use development.

7 Appendix 2 City of Charles Sturt Policy Directions and Implications for Future Growth

• Policy Document	• Relevant Policies	• Implications / Key initiatives / Targets of policies
<ul style="list-style-type: none"> • City of Charles Sturt Industrial Land Study • (defines “Prime Industrial Areas” (PIA’s) against a dozen criteria, and reinforces this by also requiring • assessment of rezoning potential.) 	<ul style="list-style-type: none"> • Provide directions for Council and identify pockets of land which is no longer required for industrial uses. 	<ul style="list-style-type: none"> • Sites identified that have potential to be re-zoned for an alternative use: <ul style="list-style-type: none"> ▪ West Lakes (Corner West Lakes Boulevard and Frederick Road) ▪ Seaton (Corner of Trimmer Parade and adjacent the railway line) ▪ Devon Park (Adjacent to the railway line, north of Torrens Road) • Other sites with possible re-zoning potential include: <ul style="list-style-type: none"> ▪ Kilkenny (adjacent the railway line and Kilkenny Road) ▪ Royal Park (corner Tapleys Hill Road and Port Road) ▪ Kidman Park South (along Findon Road) ▪ Bowden/Brompton (Clipsal Site)
<ul style="list-style-type: none"> • City of Charles Sturt Community Plan • (Vision resulting from collaboration with the community determining the desired characteristics of the City for 2027) 	<ul style="list-style-type: none"> • Strategy 2.2.1 • Provide for appropriately located, mixed density housing that caters for our diverse population (supporting T1.22, T6.7) 	<ul style="list-style-type: none"> • Supporting the State Strategic targets, more specifically to: <ul style="list-style-type: none"> ▪ Increase South Australia’s population to 2 million by 2050 ▪ Increase affordable home purchase and rental opportunities by 5% by 2014
<ul style="list-style-type: none"> • Summary of Consultation 	<ul style="list-style-type: none"> • Affordable Housing 	

• Policy Document	• Relevant Policies	• Implications / Key initiatives / Targets of policies
		<ul style="list-style-type: none"> Road) – this will also create higher demand for public transport ▪ Minimum ratios of development to private open space on private developments should be increased ▪ High density living and multi-story apartments need to consider noise attenuation and traffic implications on adjoining land uses / neighbours
	<ul style="list-style-type: none"> • Protect and enhance open space 	<ul style="list-style-type: none"> • Note: There are mixed views about increasing the density of residential development from no high rise at all to high rise at select locations (associated with transport nodes or in the Hindmarsh area close to the City). • There is concern about the amount of private open space in areas of high density. • In addition, there seems to be a strong desire to contain housing density along the coast with a concern that high density will reduce public access to the beach and will adversely impact on the sustainability of the coast.
	<ul style="list-style-type: none"> • Attractive and integrated streetscapes 	<ul style="list-style-type: none"> ▪ Ensure adequate private and public open space is provided in areas where housing density is increasing ▪ Ensure well developed, accessible, usable and well maintained public open space is provided for sport, active and passive recreation particularly as housing densities increase ▪ Establish and maintain a network of connected open space including the River Torrens Linear Park and Coast Park that is accessible by all people ▪ Develop selected open space for wetlands and biodiversity - natural areas that create clear separation from the built form ▪ Develop Cheltenham Racecourse as a wetland with a range of recreation and sport opportunities provided within the open space ▪ Enhance the Freshwater Lake on Delfin Island ▪ Port Road to be upgraded as the major boulevard linking the City to the Port with varied and

• Policy Document	• Relevant Policies	• Implications / Key initiatives / Targets of policies
		<ul style="list-style-type: none"> complimentary land uses (residential, retail, commercial) ▪ Tapleys Hill Road streetscape to be upgraded – a major thoroughfare ▪ Identify and develop local ‘places for people’ / villages eg Hindmarsh end of Port Road, Henley Square, Grange Jetty, Woodville Road, sections of the coast – which provide for people of all ages ▪ New private development along the beach and lake to be limited in scale to ensure these areas remain accessible to the public. ▪ Accessible shopping areas ▪ A variety of cafes (including outdoor) and restaurants suitable for the different lifestyle needs of the community – affordable, child and family friendly, young people, variety of cuisine – that are easily accessible ▪ Create a soul / heart within the City ▪ Retain a mix of residential, commercial and industrial land uses ▪ Create industrial and commercial precincts that are separated from residential areas, that are environmentally responsible and good corporate citizens (ie low emissions, low noise, maintain attractive streetscapes, minimise traffic impacts) ▪ Encourage a mix of accessible shopping experiences – local (Mirani Court / corner shop), district (Fulham Gardens / Findon) and regional (West Lakes / Arndale) ▪ Accessible, affordable, diverse restaurant strips (Woodville Road, Port Road Hindmarsh, Henley Square, along the coast)
	• Places for People	

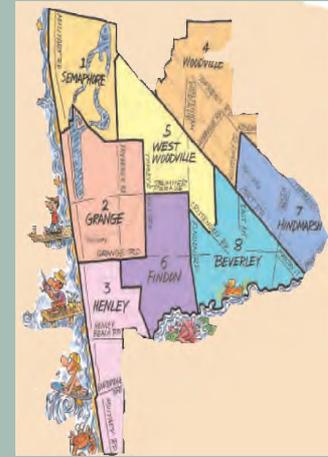
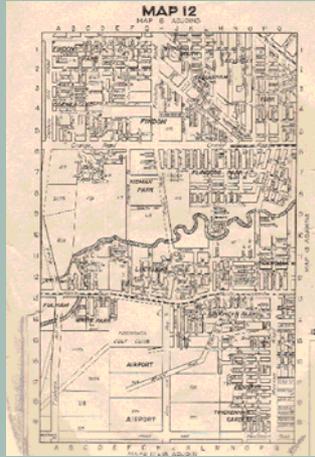
• Policy Document	• Relevant Policies	• Implications / Key initiatives / Targets of policies
<ul style="list-style-type: none"> • City of Charles Sturt Traffic Management Strategy • (A study undertaken to determine the definition of the road network, local areas and precincts, as well as the methodology for prioritising the precincts for further study) 	<ul style="list-style-type: none"> • The strategy assesses general traffic behaviour; develop strategic principles and guidelines for traffic management, • develop a structure for defining a road hierarchy, define local traffic areas for future study, establish a prioritised approach to studying the local traffic areas and; • develop a process for undertaking studies on these local traffic areas. 	<ul style="list-style-type: none"> • The Strategy has identified the need to review Council’s bicycle plan and prepare a pedestrian plan. It also establishes a road hierarchy which is used to determine the types of abutting land uses.
<ul style="list-style-type: none"> • City of Charles Sturt Transport Strategy • (aims to provide a framework for decisions making with respect to the • maintenance and 	<ul style="list-style-type: none"> • 7.1 Integrated Land Use and Transport • Objective: Maximise the land use-transport development relationship. 	<ul style="list-style-type: none"> ▪ Defining precincts based on commercial, residential, and industrial land uses for the future development of traffic management and land use strategies. ▪ Review the Development Plan to allow for the gradual removal of inappropriate or conflicting land uses from each precinct. ▪ Encourage medium and high density urban development around existing transport nodes and along transport corridors. Build on the significant analysis by Planning SA of the opportunities to introduce Transport Orientated Developments.

• Policy Document	• Relevant Policies	• Implications / Key initiatives / Targets of policies
development of the transport and land use systems)		
<ul style="list-style-type: none"> • City of Charles Sturt Open Space Strategy • (guides the provision, development and management of open space over the next 20 years) 	<ul style="list-style-type: none"> • 1.3 Develop open space that meets the demand created by urban consolidation • With continued urbanisation and infill development throughout the City, the role of urban regeneration in providing new open space, links, habitats and stormwater management opportunities is significant. 	<ul style="list-style-type: none"> • 1.3.1 Develop open space that responds to urban consolidation within the City of Charles Sturt. • Any new development must be considered in the terms of opportunities for open space and greenways provision through WSUD and the relative Stormwater Catchment Management Plans. • Some areas such as Fulham Gardens, Kidman Park and West Lakes Shore have a high level of open space provision. There are also issues with the quality of a large number of reserves, including facility/asset and landscape quality. • In general, an increase in residential densities around Seaton, Seaton, Albert Park and Cheltenham are likely to further exacerbate the current gap in open space provision in those areas. • Specific areas identified: <ul style="list-style-type: none"> ▪ Athol Park: Develop local reserves ▪ Findon, Kidman Park and Flinders Park: Increased quality of open space. ▪ Hindmarsh: Develop an open space master plan as part of the Hindmarsh Urban Village concept. ▪ Pennington: Develop local open space ▪ Cheltenham: Develop open space connections through the Port Rail corridor and local open space. ▪ Royal Park: Maintain the quality of Carnegie Reserve (north and south). ▪ Seaton: Develop open space master plans for SAHT areas. ▪ West Lakes: Monitor urban consolidation and open space provision.

• Policy Document	• Relevant Policies	• Implications / Key initiatives / Targets of policies
• City of Charles Sturt Flood Mapping	<ul style="list-style-type: none"> • The Council has completed the preparation of floodplain mapping data for many of the larger catchment areas, however this work is ongoing. • The mapping completed <i>to date</i> highlights the many areas across the Council area which are at risk of flooding in the 100 year ARI event. This floodplain mapping data is available to the public on Council's website (http://gis.charlessturt.sa.gov.au/eview-html/index.html) 	<ul style="list-style-type: none"> ▪ Woodville: Explore the feasibility of the Port Rail corridor to connect open space. Review the potential of local road closures and traffic calming measures to provide additional connections within suburbs to meet demand ▪ Woodville West: Respond to urban consolidation through improvements to existing open space. ▪ Increased provision at Findon Reserve, Frank Mitchell Reserve and Matheson Reserve
• City of Charles Sturt	• 8.4 Land Use and Transport	• Review Development Plan to nominate appropriate locations.

• Policy Document	• Relevant Policies	• Implications / Key initiatives / Targets of policies
<p>Section 30 Development Plan Review (April 2008)</p> <p>• (Determines the appropriateness of the Development Plan in relation to the Council area; and its consistency with the State Government Planning Strategy for Metropolitan Adelaide)</p>	<p>Integration</p> <ul style="list-style-type: none"> • 2. Facilitate transit-oriented development around selected high-service public transport routes. • 8.11 Residential Neighbourhoods and Housing • 1. Ensure land is used appropriately within the Urban Boundary to meet projected housing demands and satisfy varied housing preferences and incomes. • 4. Provide a range of medium-to-high density housing forms in targeted locations to maximise the use of existing infrastructure, services and facilities, including public transport, schools and open space. 	<ul style="list-style-type: none"> • (a) Promote transit-oriented development and employment uses in a band of activity from the Central City Activity Centre to Port Adelaide to maximise accessibility to, and make use of, that corridor's existing transport infrastructure and services. • Undertake residential character analysis to establish areas for retention and redevelopment • (d) Promote higher densities of residential development in appropriate locations to significantly increase the average dwelling replacement rates for metropolitan Adelaide taking into account the need to protect desired character and heritage.

• Policy Document	• Relevant Policies	• Implications / Key initiatives / Targets of policies
<ul style="list-style-type: none"> • One Planet Living 	<ul style="list-style-type: none"> • 5. Develop transit-focused neighbourhoods which provide opportunities for people to walk to public transport and other services and facilities. • One Planet Living: Greening the Western Suburbs' is a 5 year draft plan that proposes a range of strategies and actions under four key themes: climate change, water, biodiversity and waste 	



City of Charles Sturt

Residential Growth + Character Study

Report 2 Residential Opportunities + Constraints May 2011

This report has been prepared by:
Jensen Planning + Design
In collaboration with
SGS Economics and Planning Pty. Ltd.
Tonkin and Associates



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1 Executive Summary

This report is the second report prepared for the Residential Growth and Character Study. This study has been undertaken by Jensen Planning + Design in collaboration with SGS Economics and Planning and Tonkin and Associates for the City of Charles Sturt. The study is examining future residential growth and character issues across the City of Charles Sturt.

This second report examines potential opportunities and constraints for future residential growth in the City of Charles Sturt within the context of increased population growth proposed by the recently released 30 Year Plan for Greater Adelaide. It also considers the population scenarios presented by the Australian Bureau of Statistics (ABS) and the previous population forecasts by the SA State Government. The general location of future population growth is described.

This report:

- Summarises future population and housing projections specific to Charles Sturt based on a range of population scenarios
- Examines how many additional dwellings will be required in the City of Charles Sturt to 2031 to meet the Greater Adelaide 30 Year Plan Growth Targets
- Summarises major constraints to achieving future housing growth in a range of locations that are identified as having potential for future residential growth
- Summarises potential locations for future Transit Oriented Development's (TOD's)/Centres and Corridor Development which are the main opportunities for hosting significant dwelling yields into the future
- Provides a general commentary on the future character of the TOD's/ Centres and Corridors.

It has been informed by previous *Strategic Context Report*.

The first report prepared for this project - the *Strategic Context Report* , provides a more detailed analysis of population trends and policy approaches from the State Government and within the City of Charles Sturt.

The ramifications of the future dwelling yields required to meet the State 30 Year Growth Plan objectives as presented in this report are significant.

This report therefore is intended to provide an **overview of the future growth scenarios**, explaining the **general constraints and opportunities**, and **assumptions** made behind the figures and dwelling scenarios presented.

It should be noted that since the preparation of this report which was finalised in March 2010, the South Australian Government (Department for Planning and Local Government) has since undertaken further investigations into the nature of anticipated future growth and character of the Western area of metropolitan Adelaide, as part of the finalisation of the 30 Year Plan, and also as part of the Structure Planning process.

Report 4 - *Character and Form of Potential Growth* will provide more detailed guidance about the character and densities in each of the key areas that are identified as ones which could experience significant dwelling increases in line with the targets established by the Greater Adelaide 30 Year Plan.

2 Background to the Proposed Population Growth in Charles Sturt

The Government of South Australia aims to achieve significant population growth targets by developing new residential areas in greenfield locations, and by increasing infill and population densities in existing urban centres. The population growth target for Greater Adelaide is 560,000 persons over the next 30 years. As part of its strategy, the Government has announced a \$2 billion investment into upgrading and expanding public transport in Greater Adelaide.

Recommended targets in 30 Year Plan for Greater Adelaide (2010) include:

- Population growth target for Greater Adelaide of 560,000 residents over the next 30 years;
- New housing development target for Greater Adelaide of 258,000 dwellings;
- Of the Greater Adelaide total, a new population target for the Western Region (including Charles Sturt, West Torrens and Port Adelaide Enfield Councils) of an additional 83,000 people and a new housing development target of an additional approximate 42,560 dwellings and a new population target ;
- New housing will move over time from a 50:50 split between infill areas and fringe areas, to a 70:30 split between urban areas and new greenfield fringe areas;
- New development focussed in transit oriented developments, and along main transit corridors;
- 14 transit oriented developments and more than 20 sites incorporating transit oriented development principles (of which three TOD's are situated in Charles Sturt)
- Provide 10% affordable and 5% high need housing in all significant new housing developments;
- Increase use of public transport to 10% of metropolitan weekday passenger vehicles kilometres travelled by 2018;
- Provide for an additional 282,000 jobs.

Further background to the policy and population context in Greater Adelaide is provided in Report 1 - *Strategic Context*.

The City of Charles Sturt will accommodate a substantial part of the increased population growth, predominantly through infill and achieving higher densities in Transport Oriented Developments and along key transport corridors. As part of its strategy, the Government has announced to invest \$2 billion in upgrading and expanding public transport in Greater Adelaide, much of which (tram line extension, train line electrification) will directly benefit businesses and residents in the City of Charles Sturt.

The population growth target for South Australia was 2 million people by 2050 (South Australia's Strategic Plan 2004). Recently this has been revised and this is now projected to be reached 23 years ahead of target, in 2027.

This means that Greater Adelaide is forecast to grow by about 560,000 people over the next 30 years.

This is largely as a result of:

- Natural population growth (we are seeing an average of an additional 7600 people a year),
- Large increases in overseas migration (we saw an additional 14,000 people in 2007 - 2008), and
- Growing proportion of elderly people
- Changing living arrangement and consequently decreasing household sizes

In order to meet these state government goals, it is anticipated that the Western Region will be required to accommodate a large percentage of the total growth in Greater Adelaide - housing for an additional 90,000 people (about 46,000 additional dwellings).* *Note that this figure has been changed to a new growth target of 83,000 people in the final 30 Year Plan for Greater Adelaide. All of the figures quoted in this report are still based on the original 90,000 people growth target.*

An estimate for what this means for the City of Charles Sturt is that an additional approximate 22,700 dwellings will need to be provided over the next 30 years. **The majority of these will need to be provided along Corridors (in key locations along Port Road, Torrens Road, Grange Road, Henley Beach Road and West Lakes Boulevard).**

Sites at Railway Stations (TOD's) and densification around Centres will also contribute to the required dwelling yield but to a much lesser extent.

Alternative population scenarios are that over the next 30 years Charles Sturt could grow by an additional 15,000 dwellings (if normal population trends without additional migration continued) or by an additional 16,800 dwellings (if the 2 million by 2050 target was reached).

Whatever population scenario is applied, there will be a strong increase in demand for housing over the next 30 years.

Without any policy and/or price mechanisms to influence households to change their housing preferences, future demand for housing (based on past trends) will continue to be primarily for separate, low density houses. With a finite supply of land in Charles Sturt, continuance of this trend will result in a failure to provide enough land for new housing to support population growth. Housing prices, which are currently a competitive advantage for South Australia, could be placed at risk. As house prices increase, while land availability drops, the market will typically be forced towards more higher density housing.

Should such measures be adopted and normal market mechanisms shift to see changing demand patterns, the housing industry is more likely to respond by increasing supply of a range of housing types including medium to high density housing.

Council has a major role to play in influencing the design, sustainability and location of new dwellings through a range of measures including planning policy, financial incentives, and legal requirements.

There are a number of strategic and policy projects that are underway in the City of Charles Sturt that are consistent with the aims of the 30-Year Plan for Greater Adelaide and promote areas that are suitable for renewal and increasing densities.

These are:

- St Clair (Cheltenham Racecourse) Development
- Woodville Village Transit Oriented Development (TOD)
- Bowden Urban Village TOD
- Woodville West Housing SA Redevelopment
- Seaton Park and Kilkenny TODs

The biggest opportunity for accommodating increased growth will be along major road corridors, and to a lesser extent, around railway stations (TOD's).

There will be significant infrastructure implications from this new rate of growth, particularly for stormwater, open space, social infrastructure provision and road capacities.

3 Opportunities - Future Population and Housing in the City of Charles Sturt

In order to assess population growth and housing demand in the City of Charles Sturt a Housing Demand Model was applied by SGS Consulting which forward projects population. It should be recognised that this is a broad tool used to give an indication of future population implications.

Three population scenarios have been used to indicate housing demand in Charles Sturt. The projections should be used cautiously as they only provide an indication of total population numbers that are in line with an assumed target: the target's feasibility has not been tested. For instance, it has not been tested whether the migration and natural increase required to achieve these targets are realistic or not.

Key inputs of the model are:

- Population projections by age (two scenarios were applied, further explained in the following section);
- Data on dwelling types by household types in Charles Sturt to model the population's propensity to occupy dwelling types
- Population data on family types and relationships in household by age in Charles Sturt to model trends in household composition
- Data on household sizes to model the number of households in Charles Sturt.

The key finding is that whilst there are differences in the population scenario projections, they all point towards a significant increase in the dwelling supply in Charles Sturt, ranging from an additional 8,400 dwellings (medium scenario which provides for no additional migration) to an additional 22,700 dwellings by 2031(30 Year Plan for Greater Adelaide scenario).

3.1 Dwelling Supply Scenarios

In 2006 there are 44,062 households living in private dwellings in Charles Sturt.

3.1.1 "Medium population growth scenario" applied to Charles Sturt to 2031 is an additional 8447 household.

This is based broadly on the Department of Planning and Local Government's (DPLG) own projections. However DPLG's projections only went to 2021 so we have expanded them to 2031. This scenario indicates the housing demand should current population trends continue, and should there be no significant market interference that changes housing demand or supply.

In total this equates to about 52,509 households or a total of 117,312 people by 2031 which represents a 19% increase from current numbers.

3.1.2 “2 million by 2050” State Strategic Plan scenario applied to Charles Sturt to 2031 is an additional 16,857 dwellings

The projections for this scenario uses the Planning SA scenario at the SA level as a guideline and applies it to the local level by using South Australian growth rates by age over time (2011, 2016, 2021, 2026 and 2031). This scenario is based on a government policy growth objective. For it to be achieved, significant initiatives that influence housing demand and supply will be required.

This scenario indicates a jump of population growth after 2021. By 2021 the total population would be 117,492, by 2031 population would have expanded to 141,410.

The total number of households is estimated to be 60,919 households by 2031, or a 38% increase from current numbers.

Figure 1 shows the population projections for Charles Sturt according to the medium scenario and the 2 million by 2050 scenario to 2031.

3.1.3 "30 Year Plan for Greater Adelaide scenario" applied to Charles Sturt is an additional 22,730 dwellings to 2039.

This projection is based on the 30 Year Plan for Greater Adelaide's goal of achieving an additional 90, 000 people across the "Western" region which has been translated through our analysis of the distribution of anticipated TOD's and growth in transit corridors and activity areas to approximately 40,735 persons. The household size has been calculated at 2.1 persons per household. 30 Year Plans Targets are for 2039.

This Plan also notes that the original population forecasts in the 2 million by 2050 scenario (part of the previous State Strategic Plan) are likely to be achieved ahead of time. It suggests that it will be reached 23 years ahead of target, in 2027.

The dwelling forecast for Charles Sturt based on the 30 Year Plan is based on our analysis of household dwelling sizes of 2.1 persons. This reflects an average of what has been used in the 30 Year Plan (1.9 persons per household for dwellings in transit oriented developments and activity centres and 2.2 persons per household for dwellings in areas outside transit oriented developments and key activity centres).

Figure 1. Population Projections in Charles Sturt, 2006 - 2031 (Source SGS 2009, Planning SA 2007)

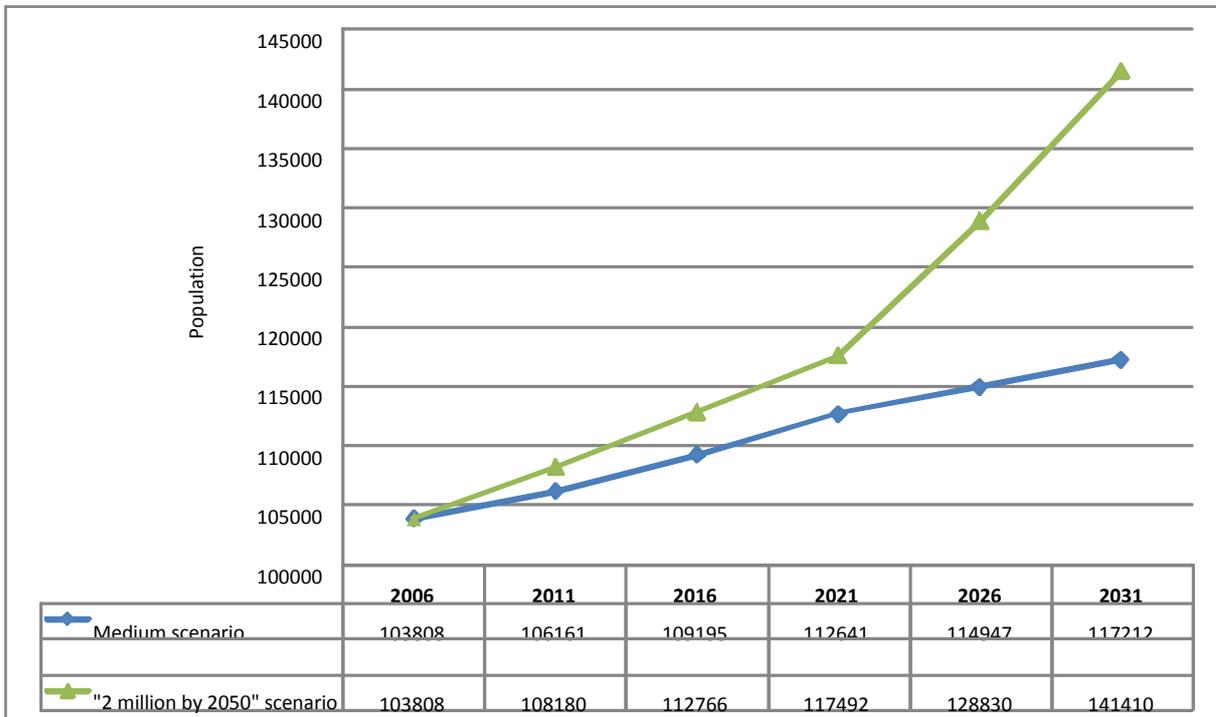
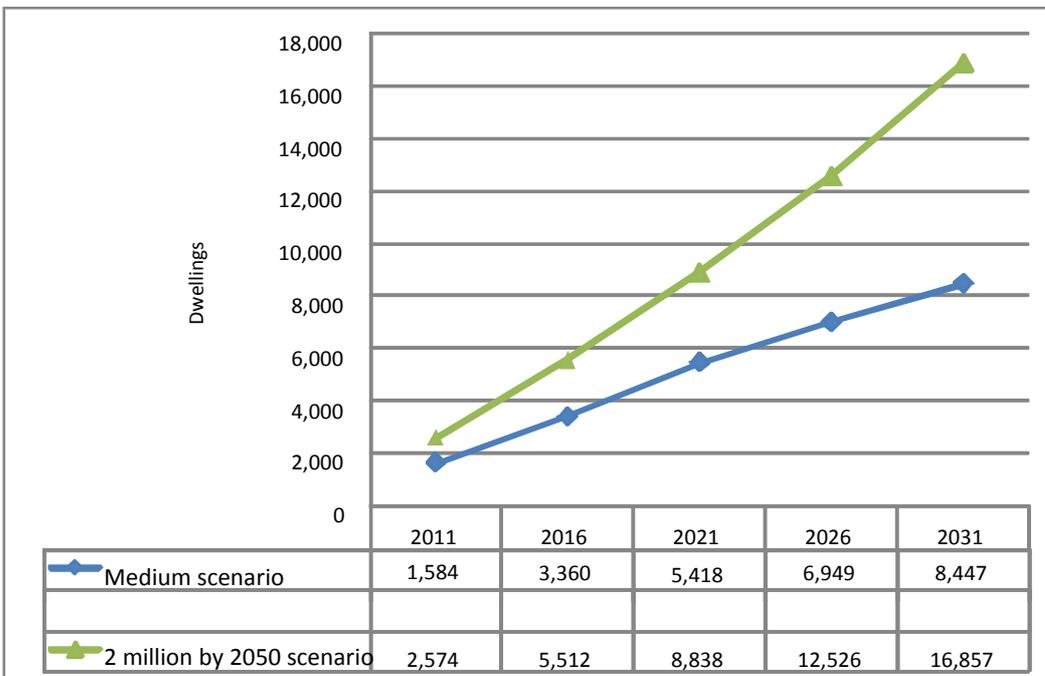


Figure 2. Net demand for private dwellings in Charles Sturt (number of dwellings), 2006-2031 (Source SGS 2009, Planning SA 2007)



3.2 Living Arrangements

What will be the future demand for people's living arrangements? This includes persons living in family households with dependent children, as a couple or as a single person households. The type of living arrangements will have important influences on the type of housing provided in Charles Sturt and also the services and infrastructure.

To project future living arrangements, historical data is extrapolated from 1996 to 2006 into the future.

Due to the ageing of the population, increasing numbers of single parent families and single person households, the demand for housing will increasingly be driven by smaller households.

Figure 3 shows the expected changes in the population's living arrangements in Charles Sturt (number of persons), 2006-2031

Regardless of which scenario is considered, the most significant increase is among persons living as a couple without dependent children.

The second largest growth will be among persons in lone person households, by 2031, lone person households are anticipated to be the biggest category of households.

The number of single parent households is also expected to increase markedly.

There is a clear shift towards smaller household sizes. The number of persons aged 65 and over is expected to increase quite dramatically (and usually elderly couples do not live together with their children).

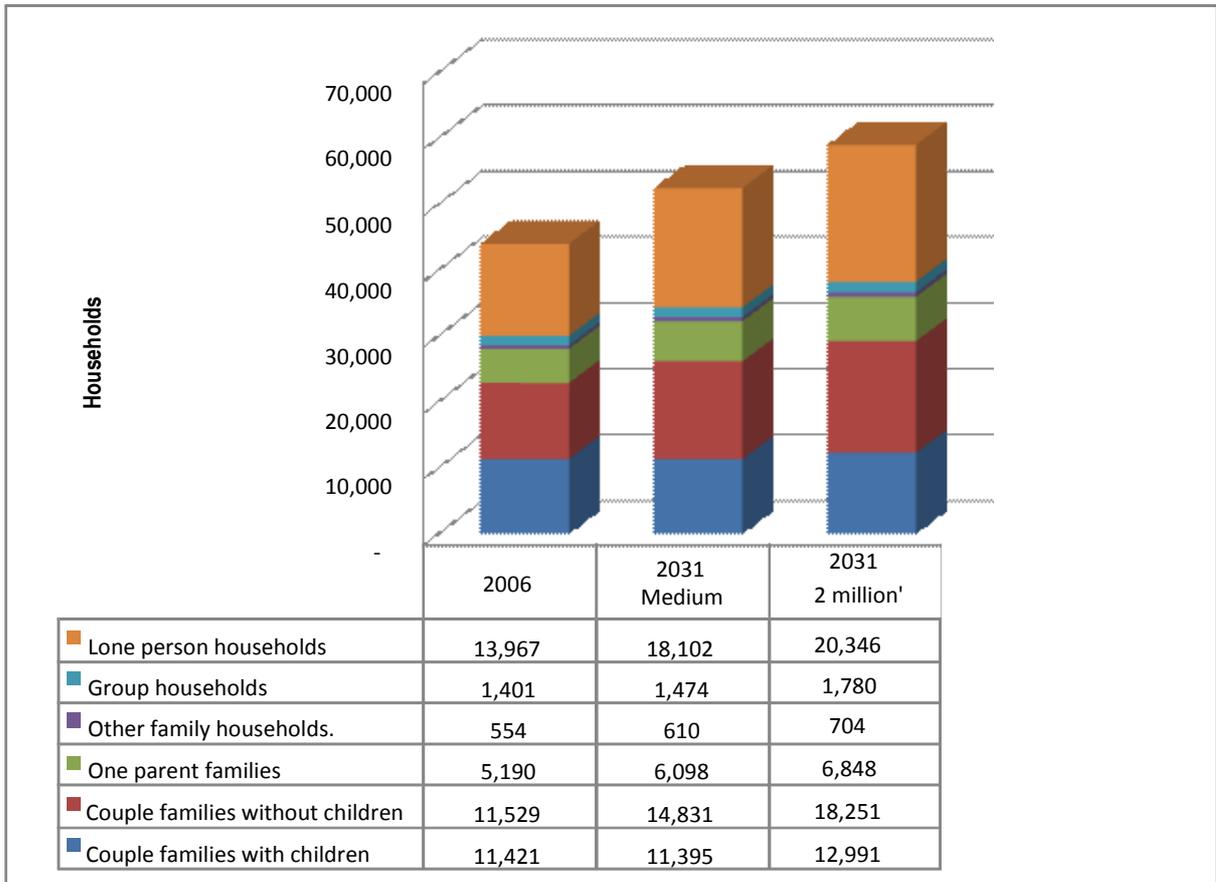
Medium Scenario

In 2031 there will be 6,700 persons more living in couple households compared to 2006, an increase of 29%. It also anticipates a net decrease in the number of couple households with children, by 353 persons in 2031

2 million scenario

For the 2 million scenario, the increase will be 58%. It also anticipates increases in the number of couple households with children, but the share is expected to drop from 45% in 2006 to 38%.

Figure 3. Households by type in Charles Sturt (number of households), 2006-2031



Source: SGS estimates (2009)

3.3 What dwelling types will be in most demand in the future?

As in many other parts of Greater Adelaide, housing in Charles Sturt is currently at low densities and primarily consists of separate houses. Historically, separate houses were primarily occupied by family households with children. Increasingly however, couples without children, single parents and lone persons tend to occupy separate houses as well. So, although household sizes are diminishing, demand for larger private dwellings is expected to grow.

It is expected that this trend will continue in the future, **unless policy and/or price mechanisms force households to change their preferences.** It is anticipated that without policy or price mechanism changes, demand will continue to be particularly strong for separated houses, and some minor take up of flats and apartments and some medium density detached dwellings on around 300m² allotments. Demand for medium to high density will need to increase significantly if the goal to increase densities around TOD's, Centres and Corridors is to be reached. The kinds of dwelling forms adjacent to main roads and around TOD's and activity centres are the most likely to achieve appropriate economic yields for investors. They will also reach density requirements that are needed to achieve the growth goal in the form of apartments and residential flat buildings, typically up to five storeys. Town houses are less likely to achieve these yields, but may be more suited to areas further back from main roads and TOD's. The dwelling types most appropriate to identified growth areas are discussed in more detail in Report 4 (Character and Form of Potential Residential Growth in the City of Charles Sturt).

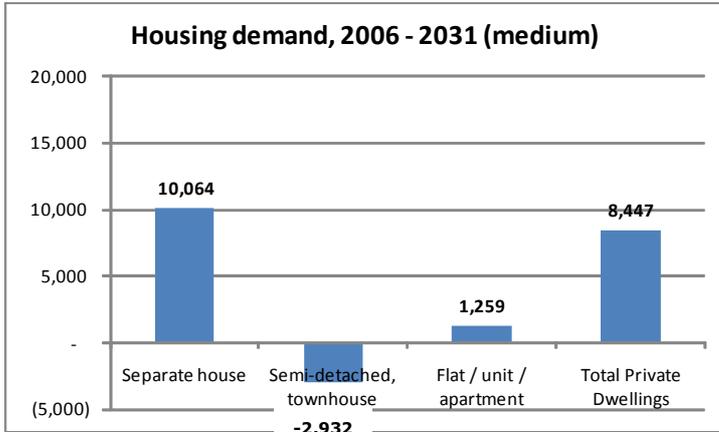
Table 1. Net housing demand in Charles Sturt (no. of dwellings), 2006-2031

		Medium scenario	Two million scenario
No. of Private Dwellings	Separate house	10,064	16,842
	Semi-detached, townhouse	- 2,932	-2,360
	Flat / unit / apartment	1,259	2,286
	Other	56	90
	Total Private Dwellings	8,447	16,857

Source: SGS estimates (2009)

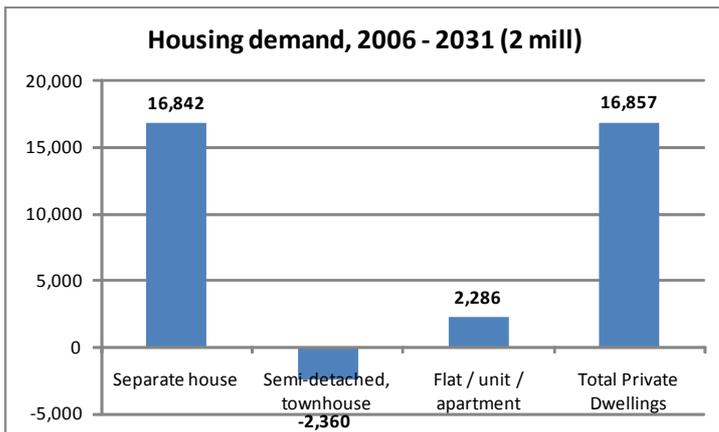
Carrying current housing demand trends through into the future to meet either the medium scenario or the 2 million by 2050 scenario, the following types of houses will be required. Of course, this demand can change should there be a range of policy and price tools/incentives that support new higher density housing models.

Figure 4. Projected demand private dwellings (no. of dwellings), medium scenario



Source: SGS estimates (2009)

Figure 5. Projected demand private dwellings (no. of dwellings), 2 million by 2050 scenario



Source: SGS estimates (2009)

4 Constraints - Infrastructure

4.1 General Infrastructure

4.1.1 Roads and Traffic

As a matter of principle, it is important that any future development areas be integrated with alternative transport modes. While the existing road networks might have adequate capacity to sustain the additional traffic generated by the developments, it is fundamental that any new concentrated residential development be supported by sustainable alternative transport modes. Alternative modes include rail, light rail (tram), bus, cycling and walking routes. The current local road network may not be suitable for increases in density. Redevelopment of larger areas provides an opportunity to reconfigure the road network, an example of this is the Woodville West Neighbourhood Renewal of the Housing SA area. The road design should reduce vehicle speed through design and promote shared use between pedestrians and vehicles in appropriate areas.

As many of the proposed sites are located along the existing rail corridor, and the State Government has announced plans to upgrade services along this corridor, there is already a good relationship between most of the proposed sites and alternative transport modes.

The light rail network has recently been extended from City West to the Adelaide Entertainment Centre and there are plans to extend the network to Port Adelaide and Semaphore. There is also a proposed extension of mass transit from Port Adelaide to Cheltenham, and along Henley Beach Road and Grange Road (refer to Map D14, 30 Year Plan for Greater Adelaide, p115).

Each of the potential development areas is adjacent to the arterial road network which generally has adequate capacity.

Increased densities may impact on capacity, design and layout of the local street networks. Where existing roads are planned for reconstruction within growth corridors, it is recommended that consideration be given to these factors in designing the roads and where possible defer works where development is planned or likely within a five to ten year period. Recent examples are Woodville West – where the development has provided an opportunity to review the local street layout.

Locations of potential concern in the existing road network include:

Port Road

- Intersection of Port Road / Cheltenham Parade / West Lakes Boulevard. This intersection is known to have limited capacity and we understand that the Department Transport, Energy and Infrastructure (DTEI) have identified the need to potentially upgrade the intersection at some time in the future. The Cheltenham, Albert Park, Woodville West, and West Lakes development areas will have the greatest impact on this intersection.

West Lakes

- West Lakes Boulevard between Clark Terrace and Port Road. This section of road is only one lane in either direction and connects West Lakes Boulevard to Port Road. It has significant capacity limitations. The Albert Park and West Lakes development areas will have the greatest impact on this road section.

Woodville Road

- The capacity of Woodville Road is limited due to its functionality in providing access to the adjacent business and shopping precinct. The train level crossing disrupts traffic flow. Further consideration should be given to the size of the Woodville development area and possible increased traffic demands on Woodville Road.

Kilkenny Road/David Terrace

- The capacity of Kilkenny Road is limited due to its functionality in providing access to the adjacent business and industrial land. Further consideration should be given to the size of the Kilkenny development area and possible increased traffic demands on Kilkenny Road.

4.1.2 Car Parking

While TODs aim to increase use of public transport and reduce dependence on motor vehicles, this could be encouraged through planning policy by reducing the number of off-street parking spaces that are provided for in private properties (for example detailing maximum car parking numbers), the likelihood is that this goal may not be achieved in the short term so consequently, there will be a demand for vehicles to be parked on street. This is an issue that may require short, medium and long term responses until culture changes occur.

Shared car parking arrangements should be encouraged. Consideration should be given to the establishment of car parking funds in strategic locations to facilitate shared facilities. Options for promoting shared car use through car pooling schemes should also be explored and promoted in TODs.

4.1.3 Cycling and Walking

The development of higher density residential sites should also encourage cycling and walking as alternative transport modes. Council has developed a Strategic Cycling Plan ("Active Living: Plan to Cycle" – May 2008). The Plan outlines a strategic cycling network for the region, including on and off road cycle lanes and paths. There does not appear to be any significant impediments to the development sites relative to the cycling network, although each site should be designed and developed to encourage cycling and walking with connectivity to Council's overarching network.

There is opportunity to develop specific dedicated cycling and walking routes through the Greenways policy initiative announced in the 30 Year Plan. This is anticipated to be a series of connected linear routes primarily alongside rail networks which meets open space and biodiversity objectives.

There is scope to increase open space in Charles Sturt whilst also providing dedicating cycling and walking paths through the Greenways policy which suggests that a minimum of 12.5% of open

space should be provided in all new development, and that greenways should be incorporated into all new corridor developments and transit oriented developments.

4.2 Rail

On the basis of the State Strategic Plan and Greater Adelaide Plan Target of increasing the use of public transport to 10% of metropolitan weekday passenger vehicle kilometres travelled by 2018, the State Government has planned investment to extend the tramline from coast-to-coast to provide a service that runs from Glenelg through the city, to West Lakes and to Semaphore through Port Adelaide. The tramline has been extended along North Terrace to the Entertainment Centre and is proposed to join the Outer Harbor line. It also proposes a new connection from the Grange line, via a spur line to AAMI Stadium and the West Lakes District Centre. The extension is proposed to be complete by 2017.

The extension of the light rail and train network will improve access and provide an opportunity to rezone land alongside the lines to higher density. The existing Outer Harbor and Grange rail line networks are proposed to be electrified.

A key issue for many of the areas is how the interface between the rail/tram line and dwellings will be treated. The 30 Year Plan promotes Greenways along the lines which will be designated open spaces for cycling and walking. However in many areas houses may back on to the rail/tram lines and it will be important to address public safety issues.

4.3 Stormwater Management

An extensive stormwater drainage network extends across the City of Charles Sturt to drain the existing developed areas to a range of destinations including:

- River Torrens
- Coast
- West Lakes; and
- Gillman basins

Council has previously identified that the network can be divided into 32 stormwater catchments, each with its own unique characteristics and outfall.

In general, investment in the development of these stormwater networks occurred at around the time of the development of the surrounding suburbs. In some locations, significant further investment was made, particularly during the period between 1960-1980 to provide an improved performance standard to serve the future development of these areas, as was expected at that time.

Council is currently in the early stage of completing a series of strategic reviews (catchment-based Stormwater Management Plans) to assess current performance standards and to identify strategies that address not only issues of flood protection and likely future development, but also to consider opportunities for water quality improvement (through Water Sensitive Urban Design) and stormwater harvesting and reuse.

In addition, Council has also recently developed a concept for the broad-scale capture and reuse of stormwater for non-potable purposes such as irrigation of Council parks, school reserves and golf courses.

The Water Proofing the West -Stage One Project is creating the first stage of a region wide system that harvests, treats and stores stormwater and distributes recycled water through western Adelaide, sustaining a growing economy and enhancing the natural environment.

The Project will result in sound water management and will treat and inject approximately 2,400 megalitres of recycled water each year (this represents approximately 1,000 Olympic size swimming pools).

The stormwater collected would otherwise drain untreated to West Lakes, Port River Estuary, Barker Inlet and the metropolitan Adelaide coast further degrading seagrass meadows and polluting Gulf St Vincent's coastal marine environment.

Potential users of the recycled water include ovals and reserves managed by the City of Charles Sturt Council, West Lakes (formerly Riverside) Golf Course, and new developments including St Clair, Cheltenham and Woodville West.

Key elements for the project include:

1. Old Port Road; wetlands and Aquifer Storage and Recovery (ASR) improving water quality, the environment and reducing flood risk.
2. Cooke Reserve and West Lakes (formerly Riverside) Golf Course; wetlands and ASR components.
3. Cheltenham Wetlands; ASR and supplying recycled water.
4. River Torrens Transfer System; diverting river water and providing additional water to harvest at the wetlands.
5. Linking and Distribution Mains; connecting Cheltenham, Old Port Road and Riverside/Cooke Reserve areas and distributing recycled water.

The project is supported by the Australian Government's Water for the Future Initiative and the Government of South Australia through the City of Charles Sturt, with contributions from other funding partners. Funding of over \$63 million has been allocated to Stage One.

Section 6 provides details of specific locations where stormwater harvesting and management is seen as an opportunity or constraint.

Figure 6. Water Proofing the West – Key Elements of the Project



4.4 Water Supply

Charles Sturt Council area is located within the EL51 water supply pressure zone except for the Clipsal site which is contained within the EL103 zone. All future development sites indicated on Figure 6 are located near large mains with some capacity to supply increase demands. Minor augmentation works (ie mains duplication and/or relay of older mains) may be needed to service proposed development. The scope of these works will be determined when more detailed information is available on each development site.

Further specific details has been provided for Cheltenham. The area abuts parallel DN600 MSCL and DN150 CICL mains along the Torrens Road and a DN600 MSCL and DN150 CICL mains along Cheltenham Parade.

These mains are contained in the EL51 water supply pressure zone. Modelling results show that minimum pressure available on the peak day at Node-1, 2 & 3 is 37m, 36.9m & 37m respectively which are well above the SA Water standard of 20 m. The proposed development can therefore be supplied by the existing network.

4.5 Waste water

Charles Sturt Council area falls into the Bolivar WWTP catchment area. All future development sites indicated on Figure 6 have the potential to discharge into the current wastewater system without any further augmentation except for the Kilkenny railway station TOD site). An existing DN150 sewer main in Kilkenny Road will require relaying in DN225 to meet the needs of increased flows.

With regard to the Bowden Urban Village (Clipsal site) – preliminary investigations indicate that significant lengths of pumping mains may be required to service the site. Further information will be available upon completion of the investigation.

With specific regards to Cheltenham, the BP058 pumping station and DN525 pumping main will have to be abandoned and a new smaller station within the proposed development and a new pumping main to discharge into the DN600 in Regency Road will be required.

Figure 7. Waste and Water Augmentation Requirements

* Note population and site coverage calculations undertaken by SA Water vary from those used to calculate future dwelling requirements in this report due to the earlier timing of SA Water’s calculations. However in general they anticipate a significant population increase and therefore are useful as a guide.

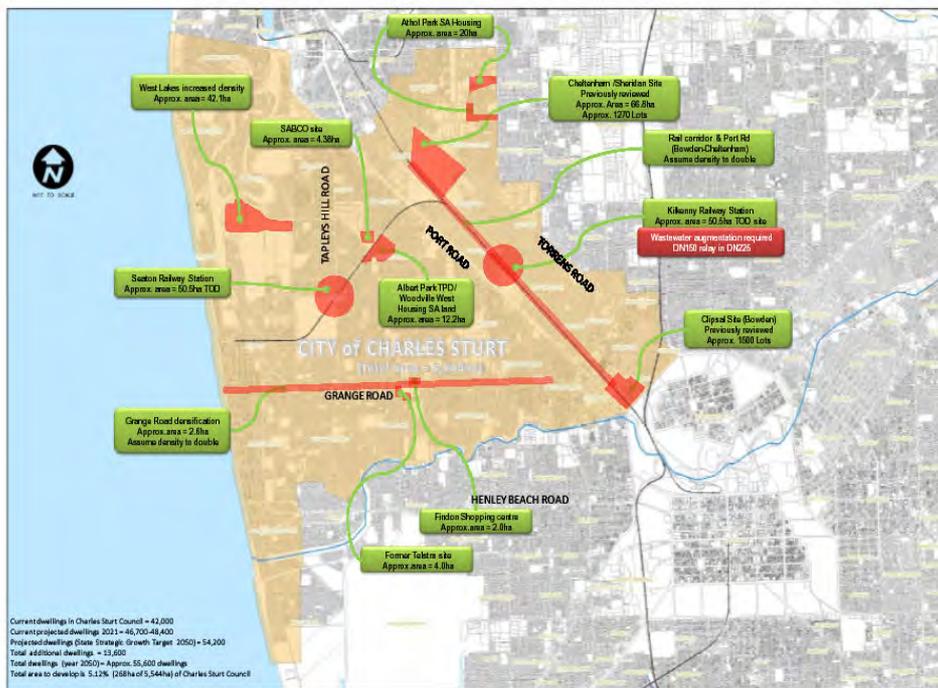
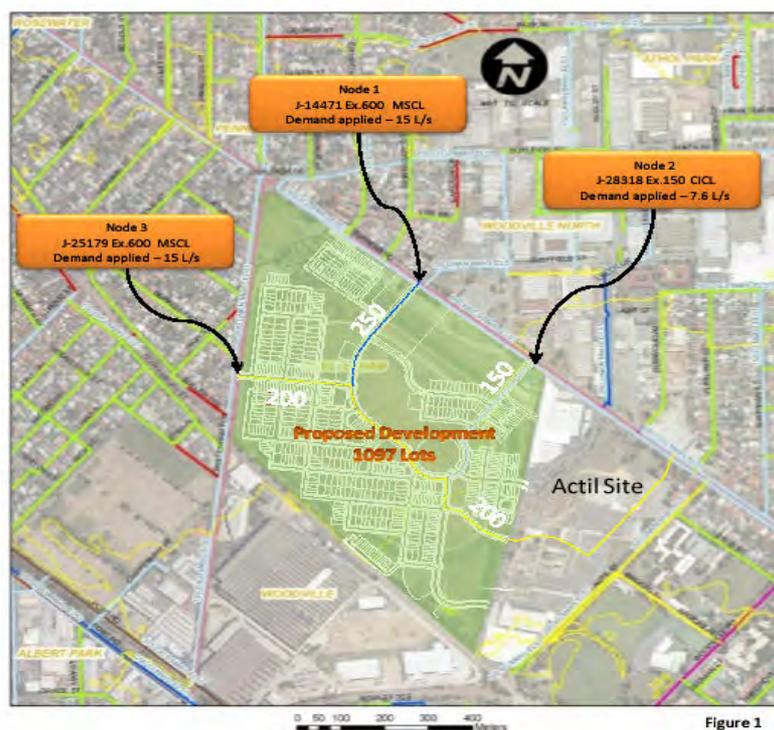


Figure 8. Water Supply Capacity at Cheltenham



4.6 Electricity

ETSA has stated generally there should not be many issues with network capacity and augmentation in these areas. Augmentation rates for these sites are expected to be standard but will be subject to the density of each residential development. There may also be changes as the system develops. In terms of capacity, there is currently insufficient information provided for ETSA to undertake meaningful assessment in each case and so each site is to be investigated on an individual basis at project commencement.

Communications with City of Charles Sturt indicate that there is perceived limited spare electricity capacity in a range of areas including the West Lakes area and any significant development will be likely to require a new substation and/or upgrades of the substation and/or lines in the region.

4.7 Gas

APA has undertaken an assessment of gas opportunities and constraints across the Charles Sturt Council Area. APA Group is Australia's largest natural gas infrastructure business, owning and/or operating more than \$8 billion of gas transmission and distribution assets including across Adelaide. Their advice is that the Charles Sturt gas infrastructure assets are 'very mixed' with respect to the age and remaining capacity of the assets, and it is not possible to give a more detailed picture about residential growth implications on gas assets at this stage.

5 Constraints - Environmental

5.1 Climate Change

Arguably, the most significant environmental issues to confront Charles Sturt Council in the next 100 years are inundation from seawater and stormwater, and the related matters of land subsidence and sea-level rise as a consequence of both sea level rise as well as wetland reclamation and groundwater extraction.

Land subsidence in the Le Fevre Peninsula and nearby western suburbs of Adelaide is understood to be the result of wetland reclamation and groundwater extraction from the aquifer, whereas sea-level rise is a world-wide phenomenon that is the result of the warming of the oceans due to climate change.

A combination of land subsidence, higher average sea level, and an escalating magnitude and frequency of storm surges, will lead to increasing risks of inundation for coastal and near coastal areas. With respect to South Australia, the two councils that are potentially most at risk are Charles Sturt and Port Adelaide-Enfield. The Australian Government's *Climate Change Risks to Australia's Coast* states that "between 8,850 and 14,100 residential buildings in the Charles Sturt LGA may be affected by sea-level rise by 2100, with the upper range representing over 30 per cent of all current residential buildings within the LGA".

The areas most at risk include Semaphore Park, West Lakes Shore, Tennyson, Queenstown, Royal Park and West Lakes (see figures below).



Figure 9. Low scenario for 2100 time period – 50 cm sea-level rise



Figure 10. Medium scenario for 2100 time period - 80 cm sea-level rise



Figure 11. High scenario for 2100 time period - 1.1m sea-level rise

Source: Ozcoasts (Commonwealth Government)



The sea-level rise scenarios have been combined with a nominal highest astronomical tide (HAT) value for the region, and are based on IPCC projections and more recent science. The maps are based on a simple 'bucket fill' approach and should be considered as approximate only. The actual impacts may vary as this model does not take account of existing sea walls, storm surge, erosion or other local factors.

The model represents a relatively simple approach to model potential impacts at a national scale and consequently has limitations at the local scale. The available national data is insufficient to answer all questions underpinning decision making at local and regional scales. Charles Sturt is taking a regional approach by joining with the Cities of Port Adelaide Enfield and West Torrens to undertake an integrated Climate Change Vulnerability Assessment and the preparation of a Western Regional Climate Change Adaptation Plan. This project is dependent on Commonwealth funding.

Sea level rise creates many other issues that need engaging apart from inundation. These include, amongst others, accelerated degradation of materials (e.g. building foundations), fatigue due to extreme storm events and greater wave energy penetration inland, increased corrosion, changes in groundwater composition as freshwater aquifers are exposed to saline intrusion, and higher water tables putting pressure on subsurface structures (pipes, tanks, pools, etc).

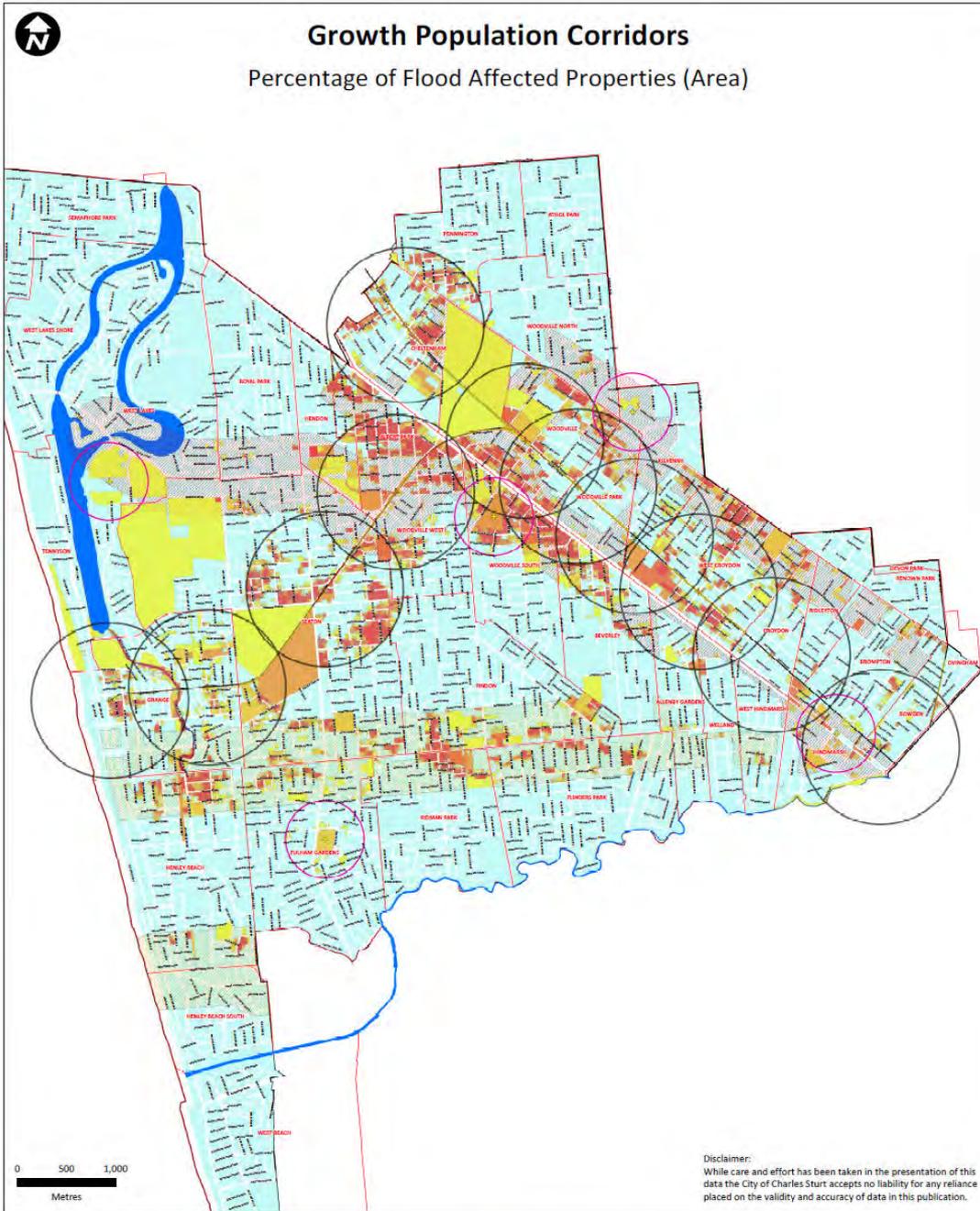
Appropriate planning decisions and policy will be crucial in terms of risk management. City of Charles Sturt will need to provide standards and benchmarks for development (e.g. building floor levels), information to its constituents, modifications to existing structures (e.g. installation of tidal flood gates on drains) and perhaps, demonstrations of adaption options.

5.2 Stormwater and Harvesting

Another significant environmental issue to confront Charles Sturt Council is increased stormwater runoff due to an increase in housing densities and impervious surfaces. Recent mapping of the 1in100 ARI flooding event (below) shows that numerous properties within the growth corridors, particularly along Port Road adjacent Woodville, will be vulnerable to up to 100% flooding of the site. Increased densification of dwellings has the potential to increase the area of land covered by impervious structures and surfaces leading to increased run-off and localised flooding.

Consideration will need to be given to:

- Appropriate stormwater management e.g. greater use of on-site detention and retention practices, increasing areas of open space and soft landscaping to improve permeability,
- Adoption of policy that seeks to minimise hazards caused by flooding e.g. building floor levels set above the flood risk levels,
- Urban design issues that arise from such hazard reduction policy provisions e.g. access and activation.



There are a number of key areas where this increase is likely to put pressure on existing stormwater infrastructure.

Bowden Urban Village (Clipsal site)

Existing development has a high level of impervious site coverage however this development is at the top of the Torrens and Hindmarsh Enfield Prospect stormwater catchments. This together with the Council detention-based strategies requirements means the development is not likely to result in any net change in stormwater discharge.

Hanson Road - Athol Park - around SA Housing area

This region is located within the Torrens Road Catchment which currently has stormwater infrastructure with a good performance standard, and is likely to have the capacity to absorb increases in flows in combination with some detention-based strategies.

Albert Park/Woodville West Housing SA land

The Woodville West Housing SA land is located within the Trimmer Parade catchment, which together with the adjoining Meakin Trimmer catchment has severe infrastructure capacity constraints. While a catchment-based strategy to resolve this issue has yet to be determined, previous studies have identified upgrade works in excess of \$10m to provide an adequate performance standard based on existing development. Provided that sufficient ownership through the area has been retained by Housing SA, a strategy that provides for increased development density within the site is likely to be feasible but would be require sufficient land to be set aside for significant mitigation of flows.

The former SABCO site is not part of the Trimmer Parade catchment and hence is likely to be achievable with less stringent requirements.

West Lakes and Seaton Railway Station

The Seaton Park TOD is located within the Trimmer Parade catchment, which together with the adjoining Meakin Trimmer catchment has severe infrastructure capacity constraints. While a catchment-based strategy to resolve this issue has yet to be determined, previous studies have identified upgrade works in excess of \$10m to provide an adequate performance standard based on existing development. Increased development densities would need to carefully consider what impacts this may have on existing levels of flood risk, and what strategies would be appropriate.

The Seaton Housing SA land is located in a different catchment and hence is not subject to the above issues. Provided that sufficient ownership through the area has been retained by Housing SA, a strategy that provides for increased development density within the site is likely to be feasible.

Torrens Road Precinct (Cheltenham Racecourse / Former Sheridan Site / St Clair Reserve)

The former Cheltenham Racecourse is a site comprising 49 hectares of land which is currently vacant. Over 8 years the land will be developed to include densities of 24 dwellings per hectare, resulting in approximately 1200 new dwellings. Buildings on individual allotments will be allowed to cover 60-70% of the site. Furthermore, there are some sections where higher density developments are envisaged that will only require 25 square metres of private open space. However, 35% of the Cheltenham site will be allocated to public open space and wetland areas. While the reuse of stormwater at the Cheltenham Racecourse site is still being determined, there will nonetheless be a very significant increase in the amount of run-off and the impacts. Under Council's development requirements the developer has a responsibility to ensure this does not adversely impact upon the downstream Torrens Road Catchment. These sites have the capacity to be developed in a way such that not only site generated flows can be retained but some minor

flows from surrounding Council drainage systems can be directed into stormwater harvesting schemes integrated within the developments. It is understood that this water reuse harvesting will occur on a significant scale within the Cheltenham site, to the extent that reuse opportunities can extend beyond the development site.

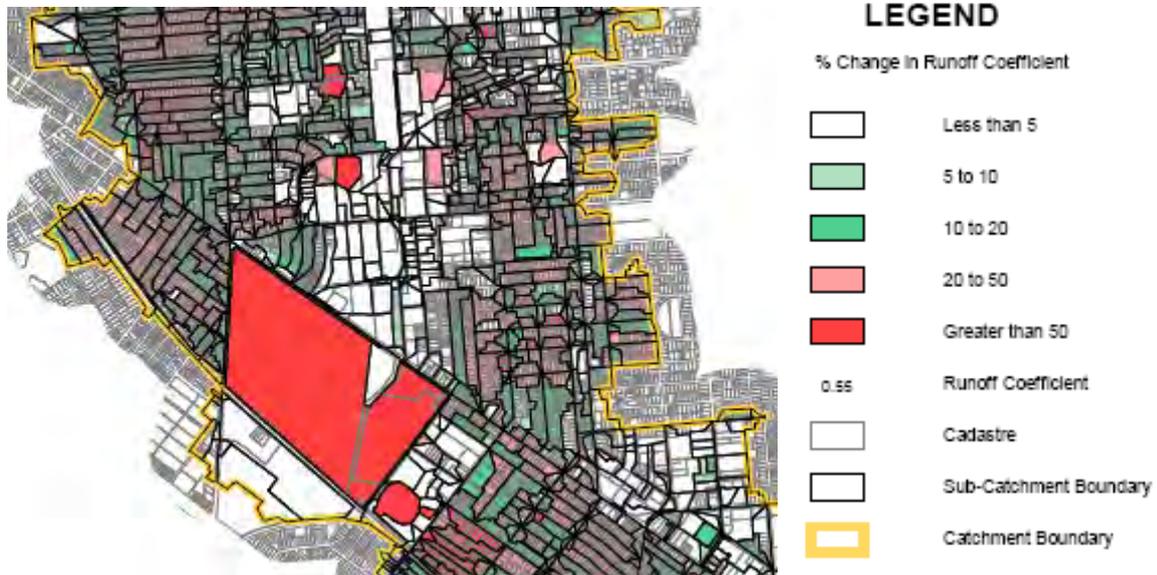


Figure 12. Runoff Coefficient Increase (10 year time horizon)

Approximately 200 new housing lots are proposed for the Sheridan site. This residential development replaces an industrial site in which the industrial buildings and associated car parking area covered the majority of the site. Consequently, the new residential development proposed on this site will represent a decreased amount of impervious surface area in comparison to the previous use.

A TOD is proposed on land adjacent to the Woodville Railway station with medium-high density development. This area would link into the Sheridan and Cheltenham sites through the inclusion of open space areas through the southern central section of the Sheridan and Cheltenham land and create additional stormwater pressures upon the Torrens Road Catchment. Stormwater management will need to be addressed as part of any redevelopment.

Westwood

The Westwood redevelopment project is currently being undertaken with an expected completion date in approximately 1-2 years. This is a large project that includes land in Athol Park, along the central and eastern side of the Torrens Road catchment area. Precinct 6 is located within the City of Charles Sturt and has released sites for 406 new dwellings which replace 301 existing dwellings.

The Westwood project has two detention basins located within or just outside of the catchment. One is to be located along the Gateshead Street corridor which will become a passive recreation area, and the other detention basin is proposed within the Cambridge Reserve. The stormwater that is stored in these detention basins will be re-used on the open space areas.

400 m Corridor either side of Main Roads

The implementation of the 30 Year Plan for Greater Adelaide is proposing to increase redevelopment along and within a 400 metre corridor either side of identified roads including Torrens Road, Port Road, Henley Beach Road and Grange Road. Taking this into consideration, an increase in dwelling numbers and density is likely to lead to a greater amount of stormwater runoff.

The increase in runoff together with stormwater infrastructure that has insufficient capacity could lead to localized flooding as seen in the example below which shows flooding potential around Woodville and Cheltenham. A number of options are available to detain, treat and reuse additional stormwater to resolve flooding potential.

Figure 13. Localised Flooding Potential Around Woodville



Kilkenny Railway Station, Rail corridor and Port Road (Bowden to Cheltenham)

This region is located within the Torrens Road Catchment which currently has stormwater infrastructure with a good performance standard, and is likely to have the capacity to absorb minor increases in flows associated with the extent of infill development, however recent investigation by Tonkin Consulting of density increases as a result of the State's 30 Year Plan shows some additional stormwater infrastructure will be required.

5.3 Water Sensitive Urban Design (WSUD)

The City of Charles Sturt current Development Plan (consolidated 10 June 2010) currently has one reference to WSUD and both are in relation to a residential infill site, Residential Zone (Cheltenham Park Policy Area 22), where it is stated that open space should incorporate “water sensitive urban design features and sustainable landscapes to enhance biodiversity”, and development in the area should address environmental sustainability through the provision of “water sensitive urban design, including stormwater harvesting and re-use”. The Water Sensitive Design Better Development Plan policy module can be incorporated into the Development Plan in future Development Plan Amendments.

This limited acknowledgement of WSUD is countered in the City of Charles Sturt’s *Corporate Plan - Shaping the Western Suburbs 2008-2012*, which has broader objectives. Objective 2.4 seeks “to create attractive, well maintained streetscapes”, and one of the two key actions proposed is to “implement streetscape upgrades using WSUD principles where feasible”. Similarly, Objective 3.3 seeks to “promote ecologically sustainable urban development within the City” and again, the key action is building “WSUD into new developments”. From the above, it is clear that WSUD principles are to be incorporated in new and existing streetscapes.

The Relationship between WSUD and Character

Vegetation plays a strong role in respect to streetscapes, as seen in numerous Desired Future Character statements. The retention and maintenance of existing vegetation is a consistently cited principle. This principle is not at odds with WSUD. Nonetheless, it needs to be remembered that streetscapes are renewed periodically as infrastructure ages and needs repair or replacement. Drainage and street tree renewal are both parts of that process, and this process provides an opportunity to retrofit the built environment in an ecologically sustainable manner.

Indeed, such opportunities can significantly improve the streetscape without detracting from its character. Raingardens can be configured to suit the existing environment. For example, garden beds that remove stormwater pollution through natural vegetation can be set around existing street trees and within traffic calming devices.

5.4 Open Space

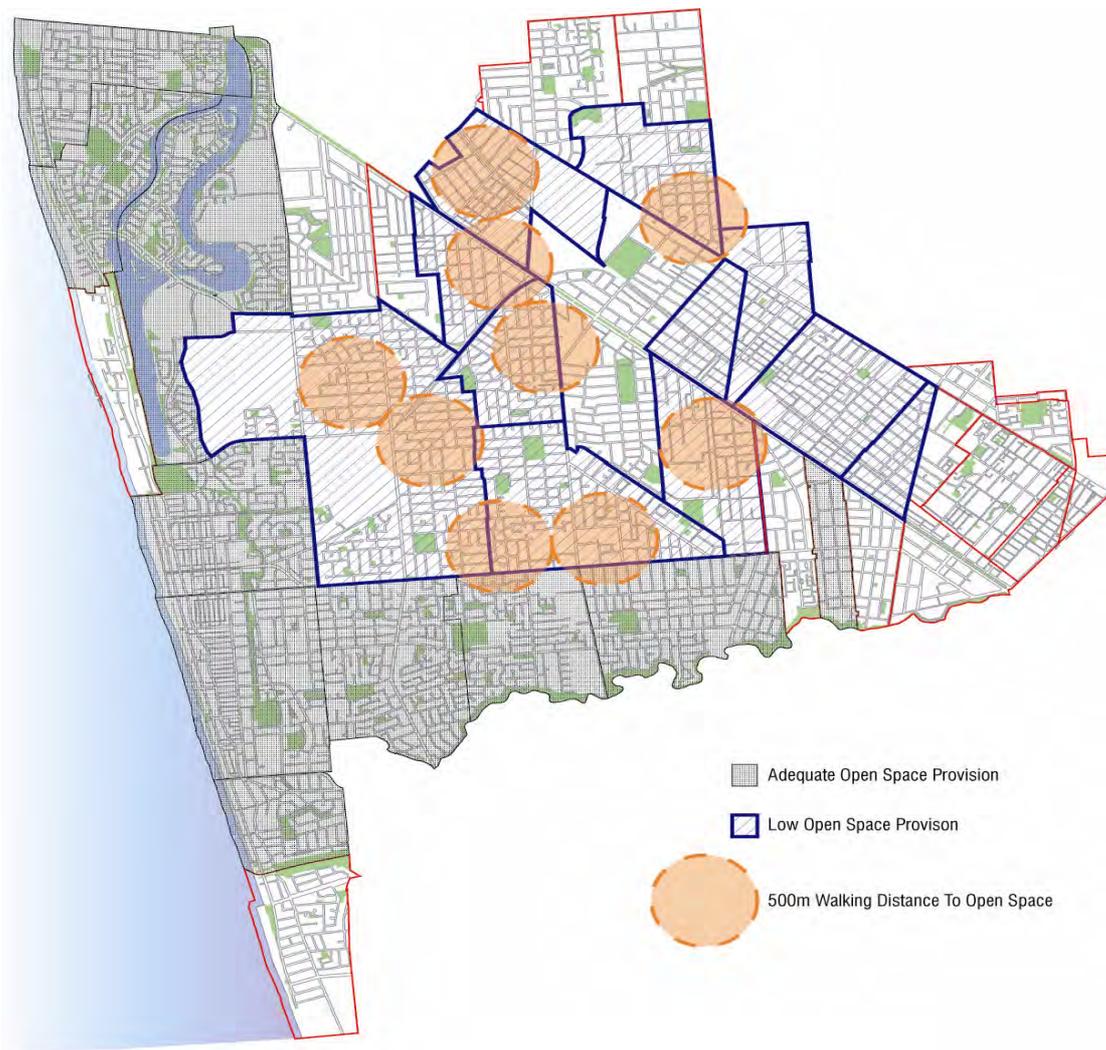
There are some gaps in provision of open space as highlighted in Figure 13 below. Some areas such as Fulham Gardens, Kidman Park and West Lakes Shore have a high level of open space provision. There are also issues with the quality of a large number of reserves, including facility/asset and landscape quality.

In general, an increase in residential densities around Seaton, Albert Park and Cheltenham are likely to further exacerbate the current gap in open space provision in those areas. Affordable housing will create greater pressure on public open space.

Any new development must be considered in the terms of opportunities for open space and greenways provision through WSUD and the relative Stormwater Catchment Management Plans.

The Charles Sturt Open Space Strategy is currently being reviewed. The review will update the plan in the context of the 30 Year Plan for Greater Adelaide, Council's Community Plan, One Planet Living and an LGA study on open space provision. The review will consider open space provision for infill and medium to high density development.

Figure 14. Charles Sturt Open Space Strategy: Gaps in the provision of Open Space in Charles Sturt



Source: Charles Sturt Open Space Strategy, Directions and Actions, Hassell, October 2006

6 Constraints - Heritage + Character

There are a number of areas which have a strong and highly valued character or heritage assets as shown in Figure 14. Many of these are along the Outer Harbor line and around railway stations.

In general, it is anticipated that the broader community would not wish to see Historic Conservation Areas significantly change to accommodate higher density dwellings. Indeed, the State Government has recognised that character or heritage in these areas are significant constraints to achieving greater residential densities and have lowered their residential growth targets accordingly.

There may be some opportunities to sensitively design dwellings around these areas on a case by case basis. For example, there are some locations adjacent to Grange Road where increased residential density is considered appropriate.

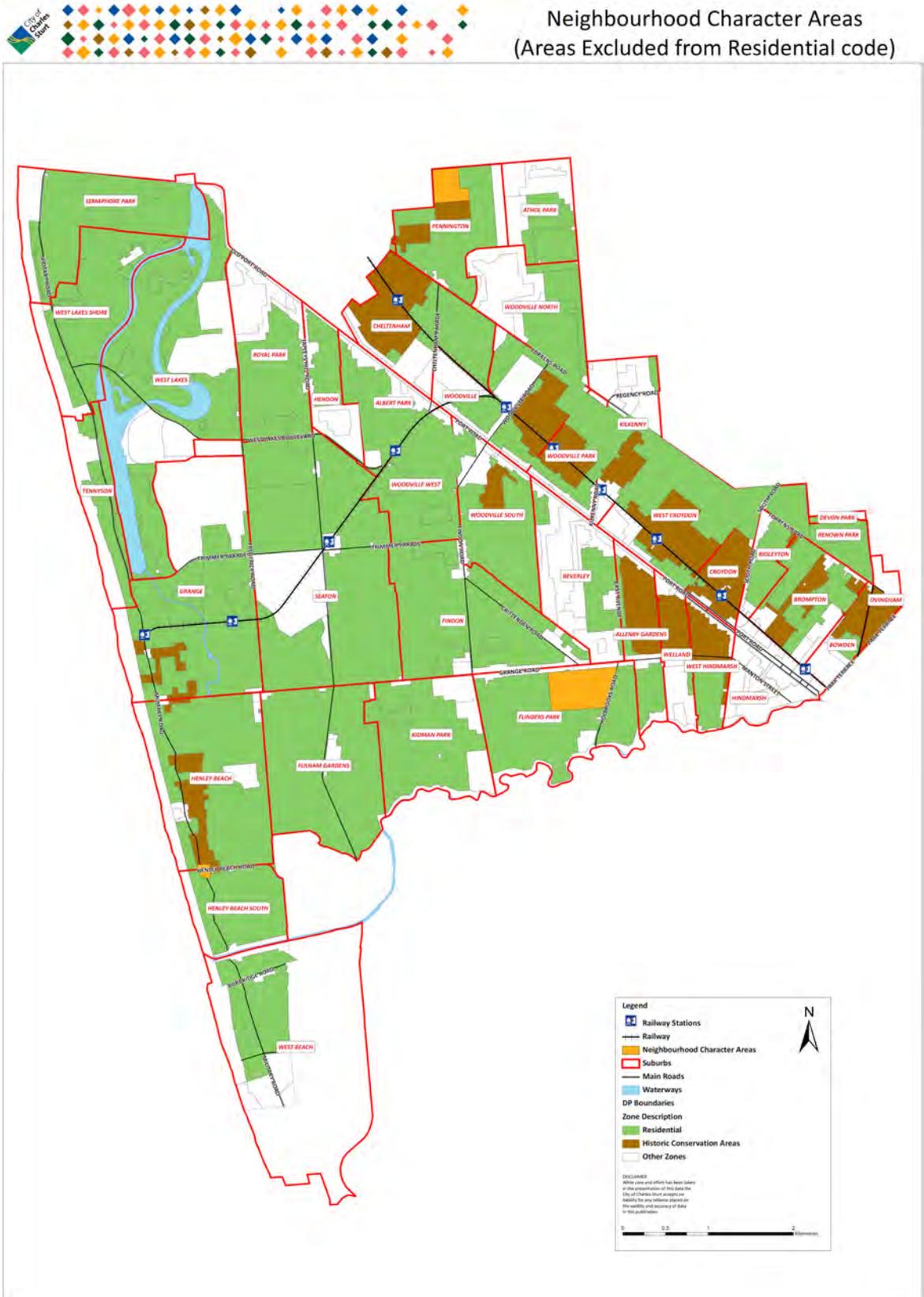
However at this stage the heritage and character areas presented in Cheltenham, Woodville, Kilkenny environs, Henley Beach and Brompton are seen as areas where it is not appropriate to change the character of the built form in order to achieve higher residential densities.

Character areas are show as yellow in figure 14. These areas have been identified as having a consistent character with a predominant built form constructed before 1940 and are excluded from the Residential Development Code. The Residential Development Code is a State Government initiative aimed at streamlining development applications for residential dwellings, alterations and minor structures. The Residential Development Code came into operation in March 2009.

It is suggested that there are significant opportunities elsewhere across the City of Charles Sturt to achieving higher residential densities, and the costs of losing built form that is highly valued by the community does not outweigh the benefits that would be gained from relatively minor increases in dwelling numbers if these areas were developed.

The Historic Conservation Areas are shown as brown shaded areas in Figure 14 on the following page.

Figure 15. City of Charles Sturt's Draft Defined areas of Neighbourhood Character and Heritage



7 Spaces for Places – How Many Additional Dwellings will be Required?

7.1 Anticipated Dwelling Demand to 2031 in Relation to the 30 Year Plan

In considering the additional dwelling requirements for Charles Sturt, the highest growth scenario (the 30 Year Plan) has been selected to provide anticipated growth numbers.

Table 2 identifies the anticipated dwelling and population numbers required in Charles Sturt if the 30 Year Plan growth targets are met.

The 30 Year Plan has provided estimated growth estimates for the Western Region; and has broken the growth objectives into "Centres and Corridors", and "Areas Outside Centres and Corridors".

Assumptions

Our translation of these growth objectives into **approximate future dwelling figures** for Charles Sturt assumes that:

Household Size

- There is an average household size of 2.1 (30 Year Plan uses 1.9 persons for TOD's areas and 2.2 persons in areas outside TOD's areas)

Estimated Portion of Total Anticipated Population Growth in the Western Area received by Charles Sturt

- Charles Sturt receives 75% of the anticipated growth in TOD's as it contains three out of the four nominated TOD's sites being Bowden, Woodville and West Lakes;
- Charles Sturt receives 50% of the anticipated growth in Centres + Corridors as it contains approximately 50% of the likely centre site/corridors being Seaton, Albert Park, Kilkenny, Port Road, Grange Road, West Lakes Boulevard;
- Charles Sturt receives 40% of the anticipated growth in areas not in Corridors and Centres as it is estimated to contain approximately 40% of the areas where densification may be possible given the existence of heritage, character and other "constraint" areas.

Estimated Densities in Centres/TOD's

- Densities in Centres/TOD's + Corridors have been calculated at a net dwelling density of 60 dwellings per ha (recognised as high density). This means that after allowances for roads, open space and public spaces, the expected number of dwellings that would be achieved on 1 hectare of land is 60 dwellings.

Table 2. Anticipated Dwelling and Population requirements for Charles Sturt based upon The 30 Year Plan for Greater Adelaide Objectives

CENTRES + CORRIDORS	WESTERN REGION GOAL	CHARLES STURT GOAL	CORE AREAS (KNOWN TO BE CURRENTLY VACANT OR UNDERUTILISED)	WIDER AREAS AROUND CORE AREAS (800 m RADIUS)
High order TODs (Clipsal, Cheltenham/Woodville, West Lakes)	19,820 persons	14,860 persons (75%)	6,390 persons	8,470 persons (4,035 dwellings)
Centres (Seaton, Albert Park, Kilkenny,) + Corridors	38,820 persons	19,410 persons (50%)	2,400 persons	17,010 persons (8,100 dwellings)
Other	5,080 persons	2,030 persons (40%)		
SUB TOTAL	63,720 persons	36,300 Persons (17,290 dwellings)	8,790 persons (4,185 dwellings)	25,480 persons (12,135 dwellings)
AREAS NOT IN CORRIDORS AND CENTRES				
Key Regeneration Areas (Housing SA Areas, Findon, Kidman Park, Ridleyton)	5,080 persons	2,030 persons (40%)		
Minor Redevelopment	14,200 persons	5,680 persons (40%)		
SUB TOTAL	19,280 persons	7,710 persons (40%) (3,670 dwellings)		
TOTAL	83,000 persons	44,010 persons (20,960 dwellings)		

Table 2 shows that in total an additional (approximate) 20,960 dwellings will be required in Charles Sturt by 2038 if the 30 Year Plan targets are to be met.

Of these, approximately 82% will be located in TOD's (which are located on the Main Transit Corridors – Outer Harbor, Grange and the West Lakes Transit Corridor), Centres, and 400 metres either side of "other" transit corridors (ie Port Road, Torrens Road, Henley Beach Road and Grange Road Transit Corridor).

However of this 82%, only about a quarter will be located in the "core" areas of TOD's and Centres with the remaining three quarters being located in the 400 - 800 metres surrounding the "core" areas and generally within the 400 - 800 metre wide corridor.

To summarise:

In total

An additional (approximately) 20,960 dwellings should be provided in Charles Sturt by 2039 to meet the 30 Year Plan population growth targets.

Residential Growth Within Centres and Corridors

Approximately 82% of this growth (17,290 dwellings) will be located in "Centres" and "Corridors".

25% of the "Centres and Corridor" growth (4,035 dwellings) will be within the "core areas" of these TOD's/Centres (the core areas are the areas immediately adjacent to Centres and Corridors which are currently vacated, non residential or underutilised. This portion of the growth does not necessarily extend to the 800 metre radius around the centres and corridors as currently proposed by the State Government). These areas should be relatively easily converted to housing.

75% of the "Centres and Corridor" growth (13,978 dwellings) will need to be located along corridors and in the wider (800m) radius around the Centres. This is likely to be a challenge.

Residential Growth Outside Centres and Corridors - in the Remaining Residential Areas

Only 3,670 dwellings need to be located in the "areas not in Centres and Corridors". This means that the ongoing development of approximately 120 dwellings per annum distributed generally across the suburbs but not located in the centres or along train/tram lines or corridors). Based on previous development trends this should be achievable.

8 Spaces for Places – Potential Locations for New Dwellings

This section of the Report gives an approximate guide to the potential dwelling numbers that could be accommodated at various sites that have potential growth opportunities. It is intended to be indicative only, in order to show what the 30 Year Plan growth targets means for the suburbs of the City of Charles Sturt. The calculations are approximate, and based on information available to the consultants at the time of preparation. It is acknowledged that continued refinement will improve their accuracy. They have informed further analysis of character and form of growth that is detailed in *Report 4 - Character and Form of Potential Residential Growth in the City of Charles Sturt*.

8.1 Train Stations/TOD's + Centres

8.1.1 West Lakes Boulevard and Grange Corridor: 2400 dwellings

There is significant potential at West Lakes for increased densities, particularly as a consequence of the proposed extension of the rail line and the potential AAMI Stadium Redevelopment. This area therefore provides excellent potential for further exploration, although the age of building stock at West Lakes would suggest that many of the dwellings are still structurally sound and have high capital to site value ratios, which makes redevelopment less economically viable. It is estimated that there is a potential total of additional 2400 dwellings in this area.

On the basis that West Lakes Boulevard becomes a transport corridor for light rail, the areas within Seaton and Royal Park within approximately 400m* each side of the Boulevard, and AAMI Stadium Precinct have the potential for future reinvestment and redevelopment in line with this concept at higher densities. It would be unlikely that there will be significant redevelopment outside the Housing SA and AAMI Precinct area as West Lakes has a relatively high capital to site value ratio, and it is not an old suburb compared to other redevelopment opportunities.

For the calculations in this report, an assumption was made that:

- The AAMI Stadium Precinct in West Lakes (between West Lakes Boulevard, Turner Drive, Frederick Road and Brebner Drive) could potentially generate an additional 1300 - 1500 dwellings,
- Seaton Park Railway Station TOD development potential (core site) 4.1 ha @65 dwellings/hectare, 266 dwellings.

* Note: the potential development area could be extended 800m either side of the corridor, this will provide additional yield.

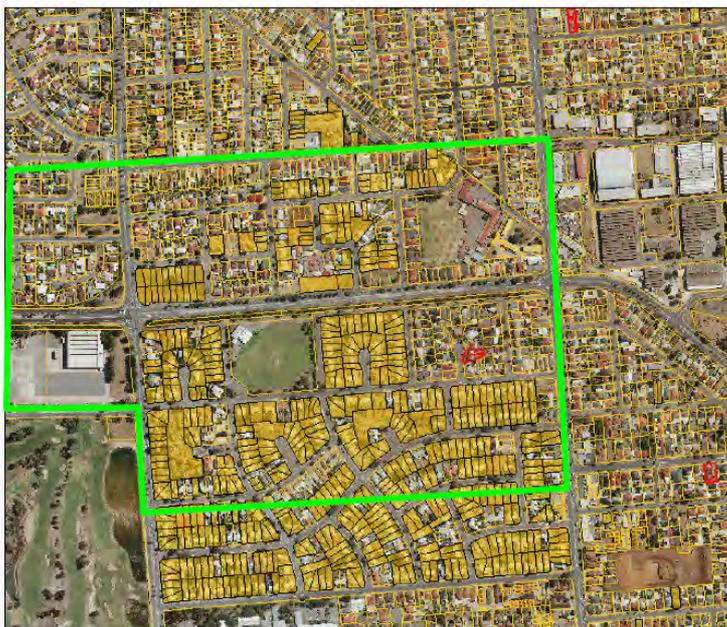
Figure 16. West Lakes - Overall Site of Potential Future Development Options

West Lakes Seaton Master Plan Study Area



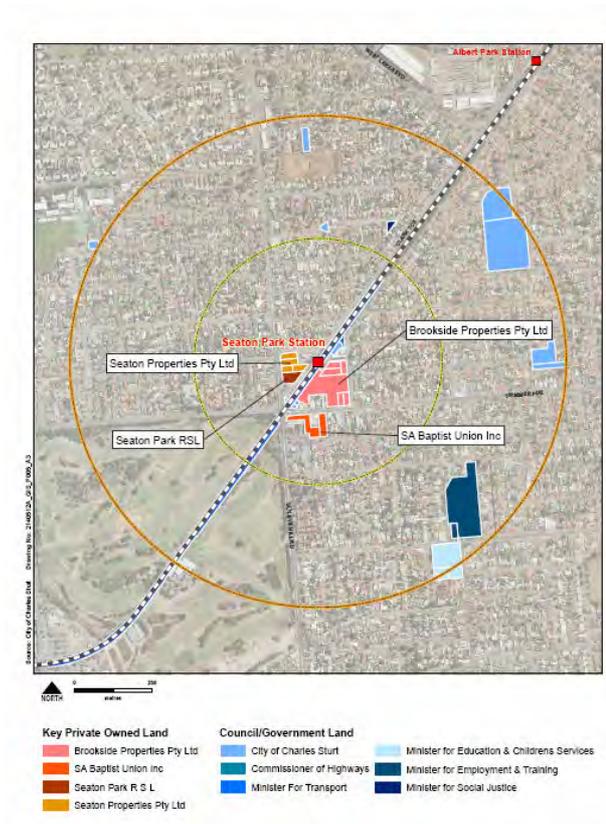
--- Study area

Figure 17. Seaton - Site of Potential Future Development Options
400 m either side of Road Corridor



Seaton Housing SA area 38.2 ha @ 33 dwellings/ha = 1260 dwellings

Figure 18. Seaton Park Railway Station - Site of Identified TOD



Source: Kilkenny and Seaton TOD Scoping Study, PB, 2010

Seaton Park Station potential TOD 4.1ha @ 65 dwellings/hectare = 266 dwellings

8.1.2 Albert Park TOD/Woodville West Housing SA land: 700 dwellings

Current calculations for the Albert Park TOD site has been based on an anticipated 300 dwellings. Calculations for Woodville West has been based on an anticipated 400 dwellings (as identified by Housing SA).

Figure 19. Albert Park Railway Station - Site of Potential Growth



Woodville West Housing SA Redevelopment has a site area of 13.2ha @35 dwellings/ha = 425 dwellings.

Former SABCO site 4.1ha @ 35 dwellings/ha = 135 dwellings.

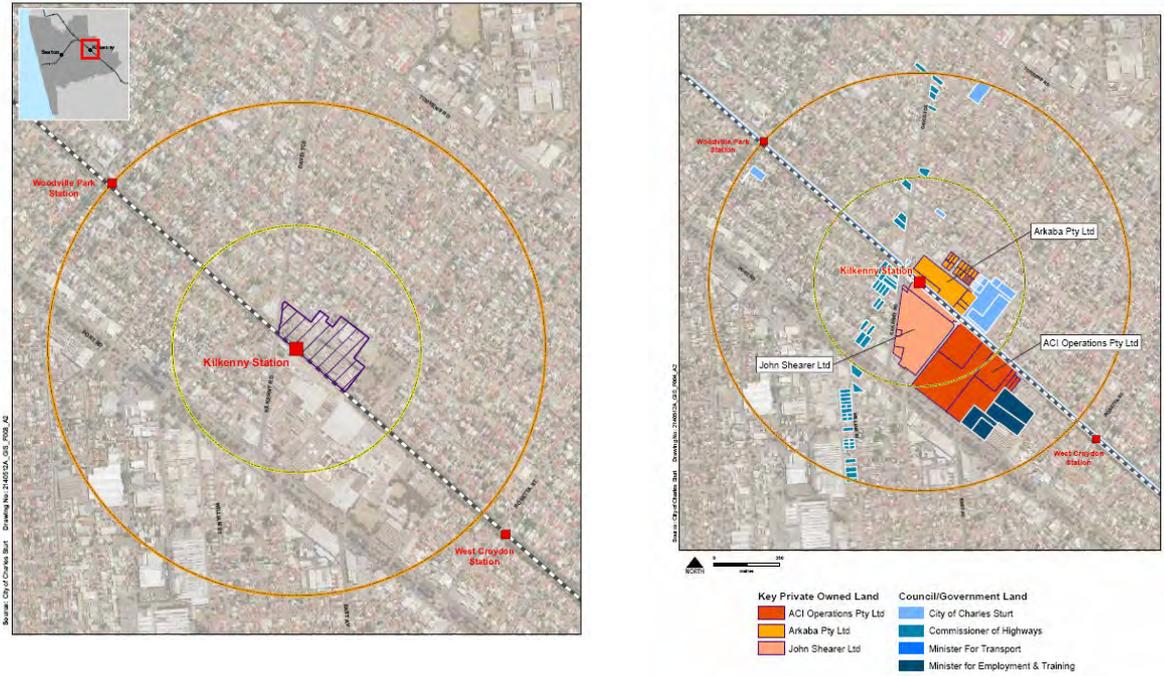
8.1.3 Kilkeny Railway Station, Rail corridor and Port Road (Bowden to Cheltenham): 260 dwellings

The potential redevelopment area around Kilkeny is located on the Bianco site approximately 7km north west of Adelaide CBD along the Outer Harbor line. This area has been the subject of a more detailed design investigation, documented in the *Kilkeny and Seaton TOD Scoping Study*, Parsons Brinkerhoff, 2010. Estimated development potential is 260 dwellings.

For the calculations in this report, an assumption was made that:

- There is a site area of 4.0 ha @ 65dw/ha=260 dwellings. There is an opportunity to further examine site potential based on an 800 m radius around the station, and through consideration of the more detailed analysis undertaken in the 2010 TOD Scoping Study.

Figure 20. Kilkenny Railway Station - Site of Currently Identified Potential Future Development Options

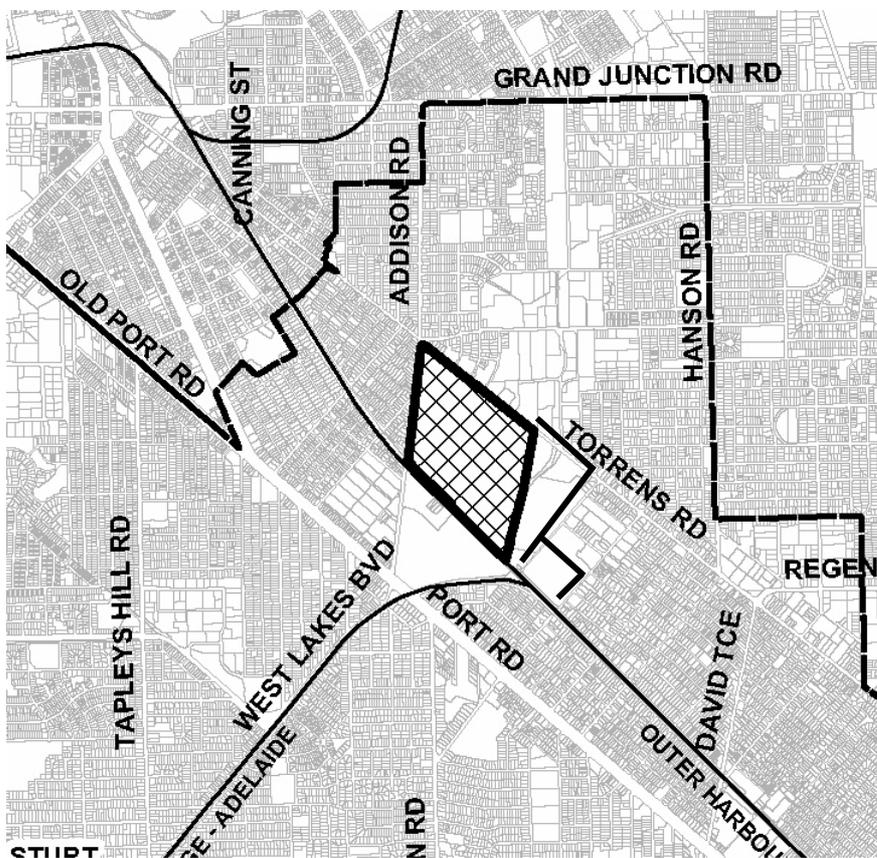


Source: Kilkenny and Seaton TOD Scoping Study, PB, 2010

8.1.4 Cheltenham/St Clair and Woodville Village TOD: 1750 dwellings

Current calculations for the Cheltenham/St Clair + Woodville Village TOD site potential has been based on 1400 dwellings (Cheltenham) + 350 dwellings (@ 75 dwellings/ha) (Woodville TOD) = 1750 dwellings.

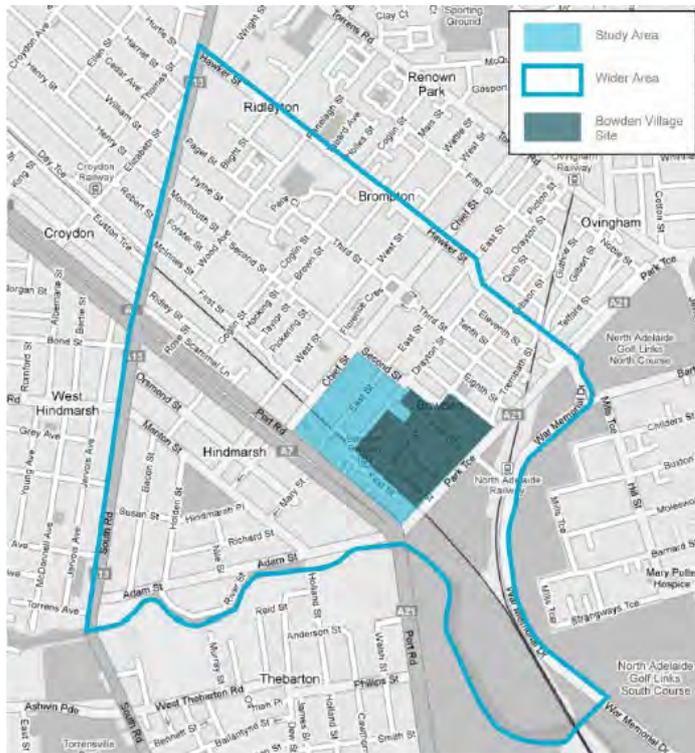
Figure 21. Cheltenham/Woodville Train Station Site - Currently Identified Future Development Options



8.1.5 Bowden Urban Village (TOD): 1880 dwellings

This is located between Port Road, Park Terrace, Chief Street and Second/Seventh Street. Current calculations for the Clipsal site 10.25 ha plus the Origin 6.5 ha site (total 16.75 ha) are 2200 dwellings (based on 135 dwellings/ha). The site is being redeveloped by the Land Management Corporation and is subject to a master planning process.

Figure 22: Bowden Urban Village Master Plan Study Area



8.1.6 Findon: 117 dwellings

Current calculations for the Findon Village potential has been based on 1.8 ha @65 dw/ha = 117 dwellings. There is an opportunity to further examine site potential based on an 800 m radius around the local shopping village which will be considered in the next stage of this project.

8.2 Road Corridors

8.2.1 Grange Road and Henley Beach Road

Potential densification could exist along either side of the road something similar to the upper end of Henley Beach Road and Findon Shopping Centre (corner Findon and Grange Road).

8.2.2 Woodville Road

Woodville Road has some opportunities for increased densities however it has significant road capacity limitations. The biggest opportunity is for TOD around the Woodville Railway Station, however this will only likely achieve an additional 350 odd dwellings (in addition to the 1400 dwellings at Cheltenham). A Master Plan has been developed on behalf of the LMC and City of Charles Sturt for Woodville Road and Woodville TOD with the Study Area identified below. Through the process of the Master Plan, character, land use and density were examined.

Figure 23. Woodville Village Master Plan Study Area



8.2.3 Port Road/Torrens Road

Port Road has the greatest potential to be further densified with varied and complimentary land uses (residential, retail, commercial) as it is the major boulevard linking the City to the Port and has an existing rail network. It will experience significant infrastructure investment into the future.

8.3 Existing Suburbs Outside the TOD's/Centres

The 30 Year Plan states that the large majority of future development and increasing densities should be located around train stations, centres and corridors, and it does not anticipate significant change to the "suburban" nature of the existing suburbs.

There are some locations scattered amongst existing suburbs that are likely to yield increased dwelling numbers, however in general they will make a minimal contribution to achieving the target yields. The areas in existing suburbs which may experience increased yields are as follows:

8.3.1 Future Public Housing Yields: 400+ dwellings

The focus of regeneration is currently on the final stages of the Westwood project including Athol Park. Small scale redevelopment activity continues through Better Neighbourhood Projects at densities allowed for by the existing Development Plans. In general, substantial increases in yield are not proposed in the short term:

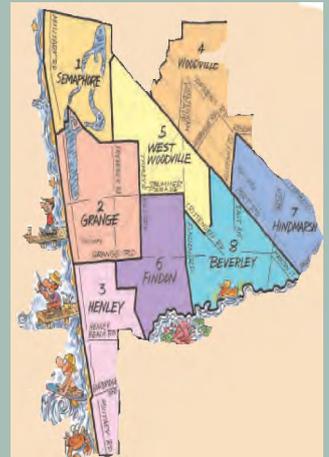
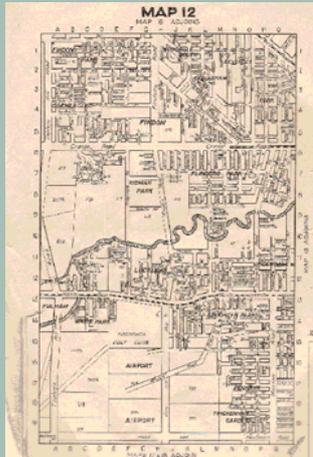
- Pennington currently has 116 dwellings, not likely to gain a significant increase
- Semaphore Park currently has 498 dwellings, not likely to gain a significant increase in the next 10 - 15 years
- West Lakes currently has 55 dwelling, not likely to gain a significant increase
- Kidman Park

In the medium term there is recognised potential for redevelopment:

- Seaton currently has 463 dwellings, anticipated increase in the order of 32 to 36 dwellings per ha
- Woodville West currently has 143 Housing SA homes, 41 privately owned dwellings, anticipated increase in the order of 32 to 36 dwellings per ha. Expected yield of 425 dwellings.

8.3.2 Ridleyton: 100 dwellings

This public housing area has been identified in the 30 Year Growth Plan as having redevelopment potential (refer Map E3). It is not currently identified as having such potential by Housing SA. The next phase of this project will further investigate the potential of this site although it is not expected for there to be any potential for a significant contribution to achieving the dwelling yield goals required to meet the 30 Year Growth Plan. Current calculations are based on a dwelling yield of 100 dwellings, with a site area of approximately 1.8 ha.



City of Charles Sturt

Residential Growth + Character Study

Report 3
Summary of Future Social
Infrastructure Requirements
May 2011

This report has been prepared by:
SGS Economic and Planning and
Jensen Planning + Design

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1 Executive Summary

This report is the third report prepared for the Residential Growth and Character Study. The study is examining future residential growth and character issues across the City of Charles Sturt.

This report provides a broad overview of the context and supply requirements of future social infrastructure needs across Charles Sturt. In particular it will provide a general understanding of the regional needs for:

- Child care centre
- Community centre / multipurpose hall
- Primary + secondary school – public
- Youth centre
- Nursing home for residential aged care and respite care (District facility)
- Branch library (District facility)

Once there is a more detailed understanding of the exact population growth targets and of the localities and centres of growth across the whole of the Western Region, it would be important to make a more detailed assessment of specific needs. Such an assessment would take existing infrastructure and their capacities into account (i.e. how much growth can be accommodated for by existing facilities?), government policy related to individual service infrastructure provision, growth quotas, service delivery models, population make up, cultural influences, and also the availability of facilities in adjacent residential communities (sharing of facilities).

Although we may be in a position to identify general population increases in particular areas, the relationship between population numbers and the other regional, policy, cultural, demographic and funding factors is complex. Therefore future human services provision will require a regional and collaborative approach between the large number of government and non government service providers.

The first report prepared for this project - the *Strategic Context Report*, provides a more detailed analysis of population trends and policy approaches within the State Government and the City of Charles Sturt.

The second report - *Opportunities and Constraints*, examines potential opportunities and constraints for future residential growth in the City of Charles Sturt. It summarises future population and housing projections specific to Charles Sturt based on a range of population scenarios, and examines how many additional dwellings will be required in the City of Charles Sturt to 2031 to meet the Greater Adelaide 30 Year Plan Growth targets.

The fourth report – *Form and Character of Potential Residential Growth Opportunities*, provides recommendations about the future character, form and extent of residential growth areas in the City of Charles Sturt.

The fifth report - *Development Plan Policy Analysis for Growth Areas* assesses current Development Policy relating to the identified residential growth areas. It proposes new residential design policy

and zoning changes for the identified residential growth areas that will inform a forthcoming Residential Development Plan Amendment.

The sixth report - *Review of Certain Historic Conservation Areas*, reviews the zone boundaries and policies for a number of existing Residential Character Zones, Historic Conservation Areas. It identifies opportunities for the refinement of the zone boundaries.

2 Context

The adequacy of social infrastructure is related to many factors. This includes current supply levels, quality of service, location and accessibility, design, relationship to the socio-spatial elements of demand, cultural influences, and government policy.

Recently the Draft City of Charles Sturt Community Health Report (Kath Moore and Associates, 2009) reported on the state of health of the Charles Sturt communities. Whilst this report did not provide a detailed analysis of social infrastructure supply issues, it provided a good context of physical, social and emotional need related to different regions within Charles Sturt. This provides an understanding of social infrastructure need in differing local regions.

Analysis undertaken for the Bowden Urban Village development has also provided an indication of future social infrastructure requirements in that region. This is referred to in Section 3 of this report.

The key findings of the Charles Sturt Community Health Report are detailed below.

2.1 Spatial Socio Economic Trends Influencing the Future Supply of Social Infrastructure

There is differing socio-economic disadvantage amongst different regions with the City of Charles Sturt. The Coastal region rates on many of the factors analysed indicated relative advantage, whereas the other three regions were quite the opposite. The Coastal data could be said to skew the overall City of Charles Sturt data toward a more positive light. Refer to Report 1 – Strategic Context – for a further discussion on SLAs and Regions.

Residents of North East, Inner West and Inner East indicated relative disadvantage in a range of factors including mortgage and rental stress (see Figure 1). The North East showed the greatest relative disadvantage. People that have higher rates of socio-economic disadvantage often have higher rates of indicators of health disadvantage.

Other key findings of the Community Health Report (Draft, 2009) are that:

- Inactivity and the rate of obese/overweight people in City of Charles Sturt is greater than the South Australian average.
- The City of Charles Sturt's rate for the estimated number of current smokers, 18 years and over was greater than the figure for South Australia.
- The Inner East and Inner West regions also ranked higher than the South Australian average for some incidences of lung cancer and Chronic Obstructive Pulmonary Disease.
- The Coastal region had the greatest rate of asthma and respiratory issues.
- Rates of psychological distress, behavioural disorders and deaths from suicide were higher in Charles Sturt in comparison to the South Australian average.

- Charles Sturt has a greater percentage of persons with a profound or severe disability living in either long-term accommodation or in the community in comparison to the South Australian average.
- There is a lower offering of residential aged facility places in Charles Sturt in comparison to the South Australian average.

Figure 1. Regions in City of Charles Sturt that are displaying higher than average indicators of health or socio economic disadvantage (Source: Draft Community Health Report, 2009)

INDICATOR	Coastal	Inner East	Inner West	North East
Socio-economic Disadvantage				✓
Mortgage Stress			✓	
Rental Stress				✓
Perceptions of Poor Health				✓
Four major health risk factors		✓		
Physical Inactivity				✓
Obesity			✓	
Obese Males			✓	
Obese Females				✓
Overweight (not obese)	✓			
Obesity and Type 2 Diabetes				✓
Type 2 Diabetes				✓
Smoking				✓
Smoking and asthma				✓
Alcohol consumption		✓		
Asthma and respiratory disease incidence	✓			
Asthma and respiratory disease hospitalisation				✓
Respiratory disease deaths		✓		
Lung cancer deaths				✓
Cardiovascular disease incidence		✓		
Cardiovascular disease deaths				✓
Cancer Incidence			✓	

INDICATOR	Coastal	Inner East	Inner West	North East
Cancer Admissions		✓		
Cancer Deaths				✓
Mental Health				✓
Infections and parasitic diseases				✓
Injury events	✓			
Injury event hospitalisation				✓
Disabilities		✓		
Aged care places				✓
GP and Emergency Attendance				✓
Hospital Admissions			✓	
Community Health Services Attendance				✓

2.2 Key Policy and Demographic Trends Influencing the Supply of Human Service Infrastructure

2.2.1 The 30 Year Plan for Greater Adelaide

The 30 Year Plan for Greater Adelaide identifies locations for substantial new residential growth alongside road and train corridors, Transit Oriented Developments (TOD's) and activity centres. It also nominates new greenfield growth areas of Roseworthy, Concordia, Buckland Park and others. For the City of Charles Sturt, some areas alongside Port Road, Woodville Road and Torrens Road may experience substantial increases in density, as well as the nominated high order TOD's sites of Woodville/Cheltenham, Bowden and West Lakes, and lower order TODs/Centre Sites at Seaton, Albert Park, Kilkenny and others.

Significant increases in population in these areas will lead to increased localised and possibly regional demand in a range of social infrastructure facilities. The nature of the facilities demanded will depend on a range of factors including existing levels of supply, the demographic makeup (particularly age and household formation), and the function of the local area (whether district activity centre, TOD etc).

However, the 30 Year Plan does not at this stage have an implementation arm or provide any guide to how, where or when human service infrastructure planning should be provided alongside the nominated new growth areas.

Nor is there an up to date guide to human service planning provision - the previous well respected and widely utilised Human Service Planning Kit from the 1990's has dealt with only greenfield sites and is not applicable to infill or regeneration areas that will be the focus of Charles Sturt Human Services Planning.

2.2.2 Population Growth and Ageing of our Population

Population growth in Charles Sturt will increase the need for local social and community services. A range of population scenarios and their underlying assumptions have been detailed in *Report 1 - Strategic Context* and *Report 2 - Residential Growth Opportunities*.

The Scenarios used in this social infrastructure analysis to assist in identifying future social infrastructure requirements are based on medium population projections, and on the government growth target scenario '2 million by 2050'. They do not consider the population projections outlined in the 30 Year Plan as this was released after the social infrastructure analysis was undertaken. However as a broad guide for future need, the scenarios used in this report are still relevant.

Population projections for Charles Sturt show that from 2006 to 2031 population will expand by 13,404 according to the 'medium scenario' and 37,602 according to the growth target scenario '2 million by 2050'. An assessment of the 30 Year Plan Growth Targets indicates that Charles Sturt will need to provide an additional approximate 22,730 dwellings within the next 30 years (see discussion in *Report No 2 - Residential Growth and Character Study, Opportunities and Constraints*).

As a consequence, demand for social and community facilities is expected to increase.

We know that the numbers of people aged 65+ will double, the characteristics of older population will change, and where older people live will change.

We also know that the degree, timing and speed of ageing varies greatly across regions so there are different human services planning implications between areas. For example there are high levels of ageing in coastal regional areas fuelled by retirement migration.

The ageing of population will have a marked impact on the demographic structure of Charles Sturt. Under the medium scenario, there will be a real drop in the number of persons aged 5 to 19 years. Both scenarios anticipate strong growth in the number of persons aged 70 years and over. The figures below reflect the anticipated change in population by broad age group according to the two scenarios.

Figure 2. Population change by broad age group in Charles Sturt, Medium Scenario (2006 - 2031)

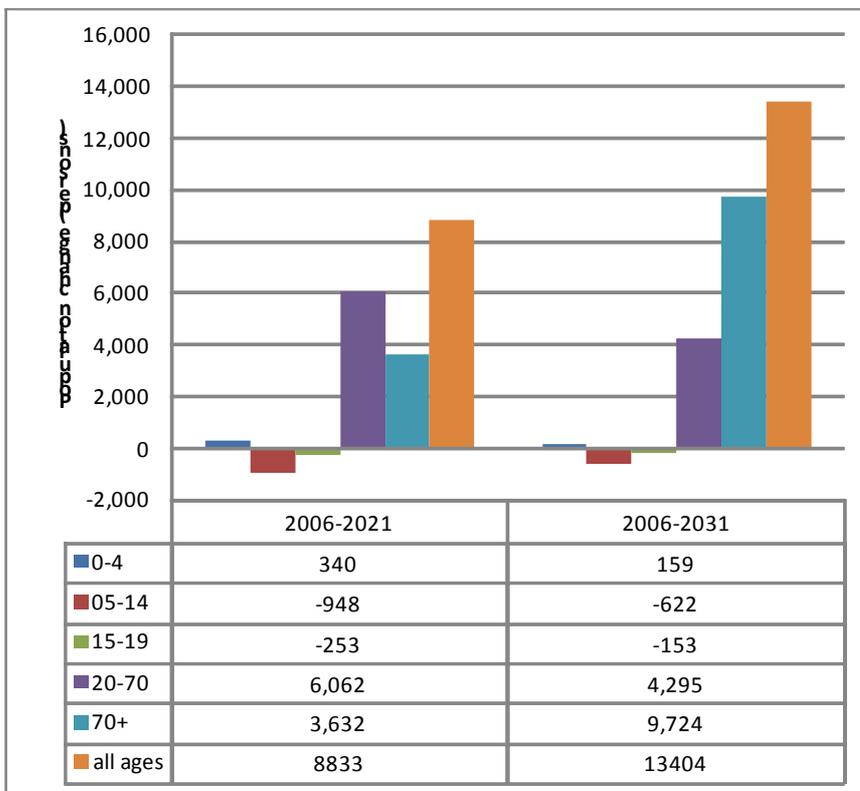
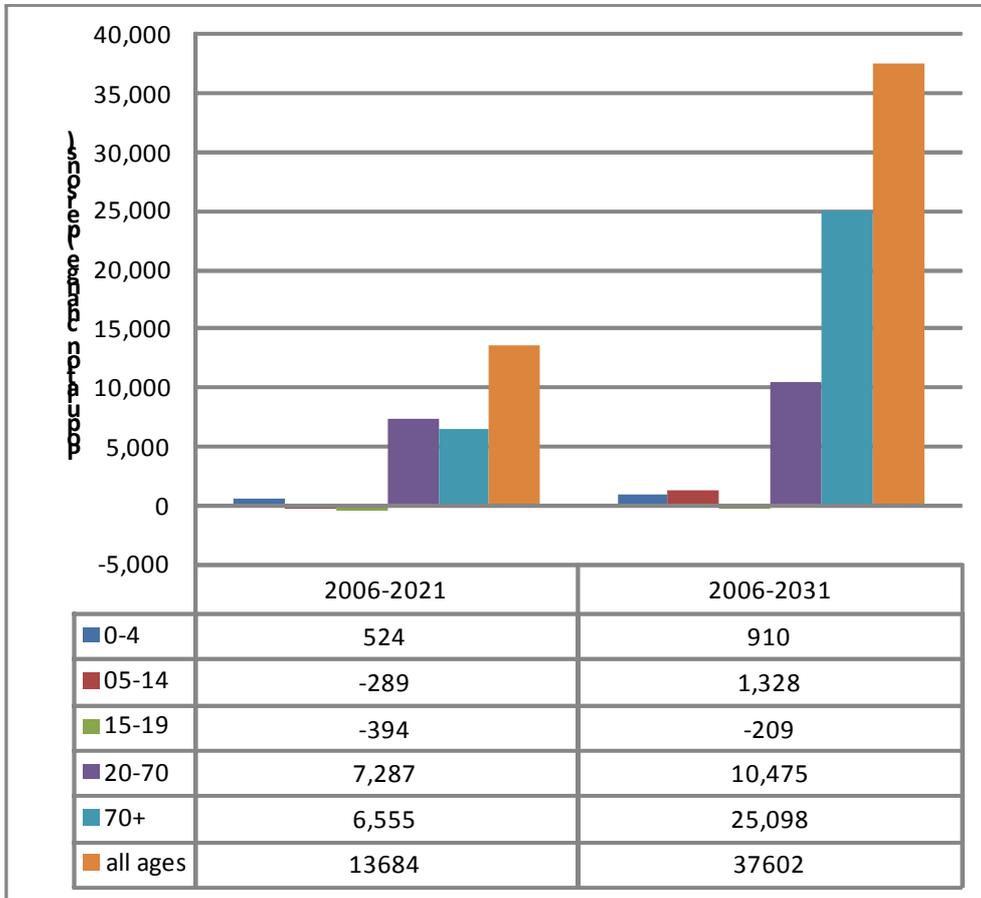


Figure 3. Population change by broad age group in Charles Sturt, 2 million by 2050 Scenario (2006 - 2031)



Also critical is that approximately 60% of future households are anticipated to be smaller, comprising lone persons and couples without children.

2.2.3 Migration

South Australia continues to experience strong increases in overseas migrants - made up of "skilled", "business" and "humanitarian" migrants. This is primarily due to increased migrant quotas for the Australian migration program and changes to immigration policy. Migration strongly contributed to the continued goal of the State Government to achieve 2 million people in SA by 2050. Charles Sturt has experienced strong increases in migration. The varying nationalities and cultural mixes across the different regions of Charles Sturt will strongly influence the provision of human services into the future.

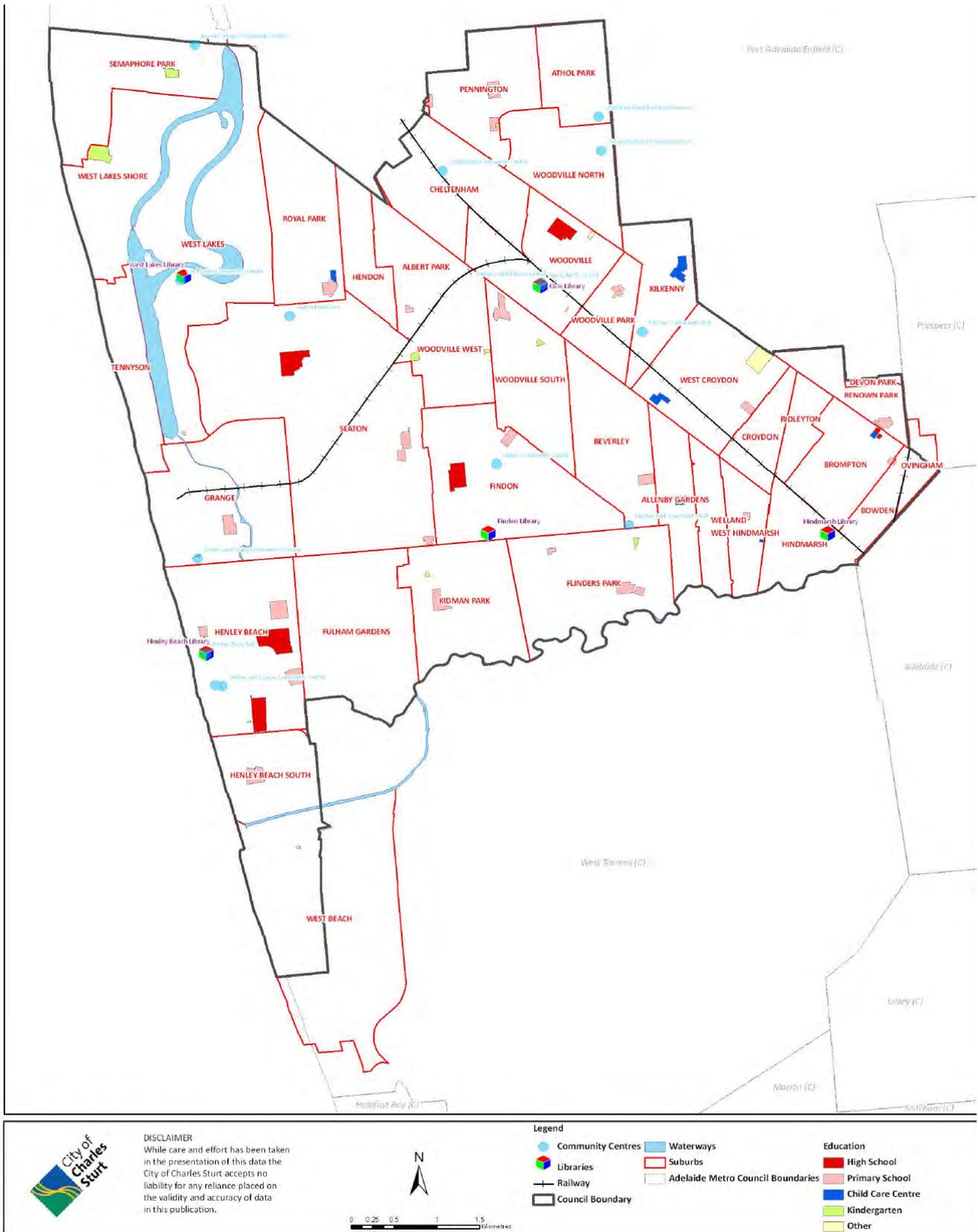
2.2.4 Overseas Students

South Australia's share of overseas students, primarily from Asia, continues to grow. Most overseas students live in and near the CBD, and are not strongly represented in the City of Charles Sturt.

2.2.5 Current Supply

This report does not detail the current supply of key human service agencies as it has just considered demand requirements based on broad population projections. As a preliminary guide, the current provision and distribution of education facilities, library facilities, child care centres and community centres is shown in Figure 4.

Figure 4. Distribution of Schools, Libraries and Community Services (Source: Community Health Report, 2009)



3 Social Infrastructure Needs Assessment

Social infrastructure needs change with population growth and with changes in the composition of the population. SGS has developed the Social Infrastructure Needs Assessment Model. The model uses a set of benchmarks (one benchmark per type of facility) that reflect the number of residents to be serviced by one facility. The benchmarks are based on experience throughout Australia. The assumptions used in the population modelling have been outlined in *Report 1 - Strategic Context*, and are of course subject to change.

Key local infrastructure facilities that have been assessed for Charles Sturt are:

- Community Cultural Infrastructure (Child Care Centre, Community Centre / Multipurpose Hall, Youth Centre, District Facility Branch Library)
- Education Infrastructure (Primary School + Secondary School – public)

Other higher level facilities such as TAFE, SES services and performing arts have not been included. At a higher geographical level, the district and regional level, the anticipated population growth in Charles Sturt will drive up demand for State Emergency Services, police, primary health care and community and arts venues as well. It should be noted that many of these services are State or Commonwealth Government provided or funded.

Also not considered is the need for health facilities such as aged care supported accommodation, independent seniors living units, nursing accommodation, GP Plus, health research and development services; and allied health and services.

3.1.1 Assessing Social Needs Infrastructure in Charles Sturt

In the past, social infrastructure requirements have been based on fairly standardised figures which imply a 'norm'. Typically these standards have related to greenfield sites, and were documented in the past in the widely used *Human Services Planning Kit* developed by the SA Urban Lands Trust. However for at least the last ten years, this kit has been out of date as greenfield provision has significantly different infrastructure requirements to infill provision in existing urban areas. As a general guide, Figure 5 provides an estimation of facility requirements based on estimated population numbers in a greenfield site.

Alternatively, other ways of assessing rates of facility provision includes using:

- benchmarks, which often imply 'adequacy'; and
- targets, which can indicate a goal to be achieved.

In Charles Sturt, we consider that the rapid ageing of population in South Australia is one of the most significant influences on the need and type of social infrastructure. Therefore this analysis has

assessed future need using an age specific approach instead, whilst having reference to existing standards that exist within government or other agencies.

Figure 5. Estimated social infrastructure requirements per population in a greenfield site

Infrastructure	Benchmark Service Provision (Indicative Only)
Community Centre	
Local (Small)	1 facility per 5,000-10,000 residents
Neighbourhood (district)	1 facility per 30,000 residents
Education	
Preschool	1 facility per 5,000-10,000 residents
Primary School (Public)	1 facility per 2,000-2,500 residents
Primary School (Private)	1 facility per 20,000 residents
Secondary School (Public)	1 facility per 6,000-7,000 residents
Secondary School (Private)	1 facility per 35,000 residents
Local TAFE	1 facility per 30,000-50,000 residents
University	1 facility per 220,000 residents
Health	
Public Hospital	2-3 beds per 1000 residents
Private Hospital	1-2 beds per 1000 residents
Neighbourhood Community Health Centre	1 per 10,000 residents
Child Care and Youth	
Long Day Centre	1 place per 10 children aged 0-4 years (70 -140 children)
Family Day Care (home base)	1 place per 200 children aged 0-5 years (91 - 180 children)
Occasional Care	1 place per 100 children aged 0-5 years (91 - 180 children)
Outside of School Hours (OOSH)	1 place per 80 children aged 5-12 years (112-224 children)
Vacation Care	1 place per 75 children aged 5-12 years (112-224 children)
Youth Centre	1 facility per 20,000 residents
Aged Care Facilities	
Residential High Care Beds	44 beds per 1,000 residents over 70 years (540-1080 people)
Residential Low Care Beds	44 beds per 1,000 residents over 70 years(540-1080 people)
Community Care Spaces	25 beds per 1,000 residents over 70 years(540-1080 people)
Older Persons day care/Senior Citizens Centre	1:15,000 - 20,000 residents
Libraries	
Branch Library	1 facility per 20,000-30,000 residents

Adapted from the Draft Bowden Village Master Plan Stage 1 Report, 2008

Below is an overview of the expected social infrastructure needs for Charles Sturt between 2006 and 2031, with Figure 6 to the Medium Scenario and Figure 7 referring to the 'Two Million' Scenario.

Figure 6. Social Infrastructure Needs in Charles Sturt, Medium Population Scenario (2006 - 2031)

		Medium scenario - additional requirements		
Level	Facility	Facilities by 2021	Facilities by 2031	Land area (max estimate)
Local	Childcare Centre (long day care) & Kindergarten	1	1	5,000
	Community Centre/Multipurpose Hall	1	2	10,000
	Primary and Secondary School - Public	0	0	-
	Youth Centre	0	0	-
District	Aged Care Service/ Respite	36 beds	93 beds, 1 nursing home	5,000
	Branch Library	0	1	5,000

Social infrastructure needs according to the 'Two Million' Scenario are more substantial and are also expected to occur earlier (see table below).

Figure 7. Social Infrastructure Needs in Charles Sturt, 2 million by 2050 Population Scenario (2006 - 2031)

		High scenario - additional requirements		
Level	Facility	Facilities by 2021	Facilities by 2031	Land area (max estimate)
Local	Childcare Centre (long day care) & Kindergarten	1	2	10,000
	Community Centre/Multipurpose Hall	2	4	20,000
	Primary and Secondary School - Public	0	1	70,000
	Youth Centre	0	1	10,000
District	Aged Care Service/ Respite	66 beds, 1 small nursing home	251 beds, 2 nursing homes	10,000
	Branch Library	1	2	10,000

These specific infrastructure needs are expanded in the next section.

3.1.2 Children's and Youth Facilities

Due to the ageing of population there will be a lesser need for children's and youth facilities, especially according to the medium scenario. The medium scenario identifies the requirement of an extra child care centre and of one to two community centres. No additional needs are anticipated for the age groups of five to 19 years. According to the 2 million by 2050 scenario one to two additional child care centres would be needed and two to four community centres. In case these growth targets are realised by 2031 a need would arise for an additional primary school and a youth centre.

Aside from actual population increases, it is also acknowledged that child care facilities are a draw card for future employees as well as residents. If TOD's and other higher density local mixed used centres are to be attractive to potential purchasers, and are to vibrant, healthy and active areas, consideration should be given to supporting business/employers and agencies to increase the number of child care facilities associated with these growth areas.

There are no specific education provision benchmarks for new regeneration areas within existing suburbs. As a guide, when planning for schools in greenfield sites, the Department of Education and Children's Services (DECS) applies generic benchmark of one primary school for a community of between 6,000 to 6,500 persons where the proportion of school aged children is between 12-14%. Secondary schools should be planned with an enrolment capacity of at least 1,000 students and a catchment of at least 4 primary schools. It would be expected that one secondary school would be provided for approximately 15,000 - 25,000 people. The new model of super schools which applies to existing urban areas means that these figures are only useful as a guide.

The DECS also advised that future planning of education services will consider primary education as 0 to 12 years and ultimately education campuses are also considering whole of school life from Preschool to Year 12 formats. Given this, plus the uncertainty about locations of future growth, future education facility considerations will change from current methods of education provision (Reference: Draft Bowden Village Master Plan Stage 1 Report, 2008).

Best practice now suggests that youth facilities should be co-located with other community facilities.

3.1.3 Residential Aged Care

There will be a substantial need for residential aged care services (nursing homes or aged care supported accommodation). The optimal size of a nursing home is between 80 and 120 beds¹. According to the medium scenario demand for an additional nursing home will occur between 2021 and 2031, around 2026.

¹ Recent SGS research



In the '2 million by 2050' scenario, due to the ageing of population there is a need for a small nursing home by 2021. The need for aged care will grow more rapidly after 2021 to 251 nursing beds in 2031. This need can be met by two nursing homes or one very large nursing home (although nursing homes are run most efficiently at a scale of 80 to 120 beds).

In addition to nursing homes, it is recognised that increasingly trends are showing that many older people would prefer to be part of the general community and do not wish to live in identified seniors accommodation. Therefore aged accommodation should also be provided through diverse housing choice in accessible locations.

3.1.4 Multi Purpose Community Centre

There will be a need for an additional community centre by 2021, and possibly an additional 2 centres by 2031. Whilst this analysis has not considered specific location or regional catchment issues, the centre would need to be located where it is easily accessible by public transport, pedestrians and bikes, be in a prominent location, be flexible in design and form so that it can adapt to changing local community needs.

3.1.5 Land Requirements

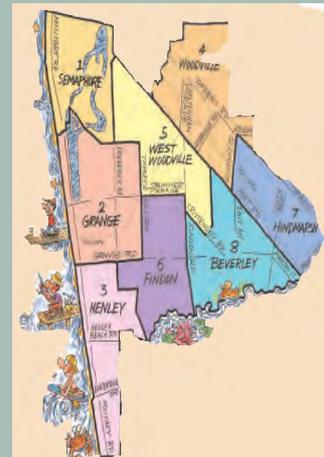
The land area required to sustain these services can vary considerably, depending on a range of parameters including urban design principles, opportunities for co-location, land costs and availability of land.

The maximum expected need for land to sustain the anticipated services by 2031 is 25,000 sqm (2.5 ha) for the medium scenario (table 2).

To meet '2 million by 2050' population requirements, the maximum requirement for land by 2031 is 130,000 sqm (13 hectares). The majority of this total is taken up by land for a primary school (7 hectares).

Master Planning for specific growth locations such as Cheltenham/Woodville, along key corridors and smaller TOD's will need to incorporate land either on site, or ensure there are linkages to areas off site, where these facilities will be located.

Whilst this report has not discussed the need for green space, it is also recognised that this is an important component of future social infrastructure need to meet health and well being active living goals. Open Space Requirements have been discussed separately in *Report 1 - Strategic Context*.



City of Charles Sturt

Residential Growth + Character Study

Report 4
Form and Character of Potential
Residential Growth Opportunities
May 2011

This report has been prepared by:
Jensen Planning + Design

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1 Executive Summary

This report is the fourth report prepared for the Residential Growth and Character Study. This Study has been undertaken by Jensen Planning + Design for the City of Charles Sturt. The study is examining future residential growth and character issues across the City of Charles Sturt.

This report provides recommendations about the form of future character and extent of primarily residential growth in areas that have been identified as having potential for increased residential density in the City of Charles Sturt.

It builds upon the previous research undertaken and documented in three previous reports.

This report was prepared prior to further detailed work about the form and character of the growth opportunities undertaken by DPLG, included Structure Planning, Precinct Planning, and BDP modules relating to housing form and densities around activities areas, transport corridors and TODs.

The first report prepared for this project - the *Strategic Context Report* analyses population trends and policy approaches from the State Government and within the City of Charles Sturt.

The second report - *Opportunities and Constraints*, examines potential opportunities and constraints for future residential growth in the City of Charles Sturt. It summarises future population and housing projections specific to Charles Sturt based on a range of population scenarios. It also summarises major environmental, infrastructure and other constraints to achieving future housing growth, and examines how many additional dwellings will be required in the City of Charles Sturt to 2031 to meet the 30 Year-Plan for Greater Adelaide growth targets.

The third report - *Future Social Infrastructure Requirements* provides a broad overview of the context and supply requirements of future social infrastructure needs across Charles Sturt.

The fifth report - *Development Plan Policy Analysis for Growth Areas* assesses current Development Policy relating to the identified residential growth areas. It proposes new residential design policy and zoning changes for the identified residential growth areas that will inform a future Residential Development Plan Amendment.

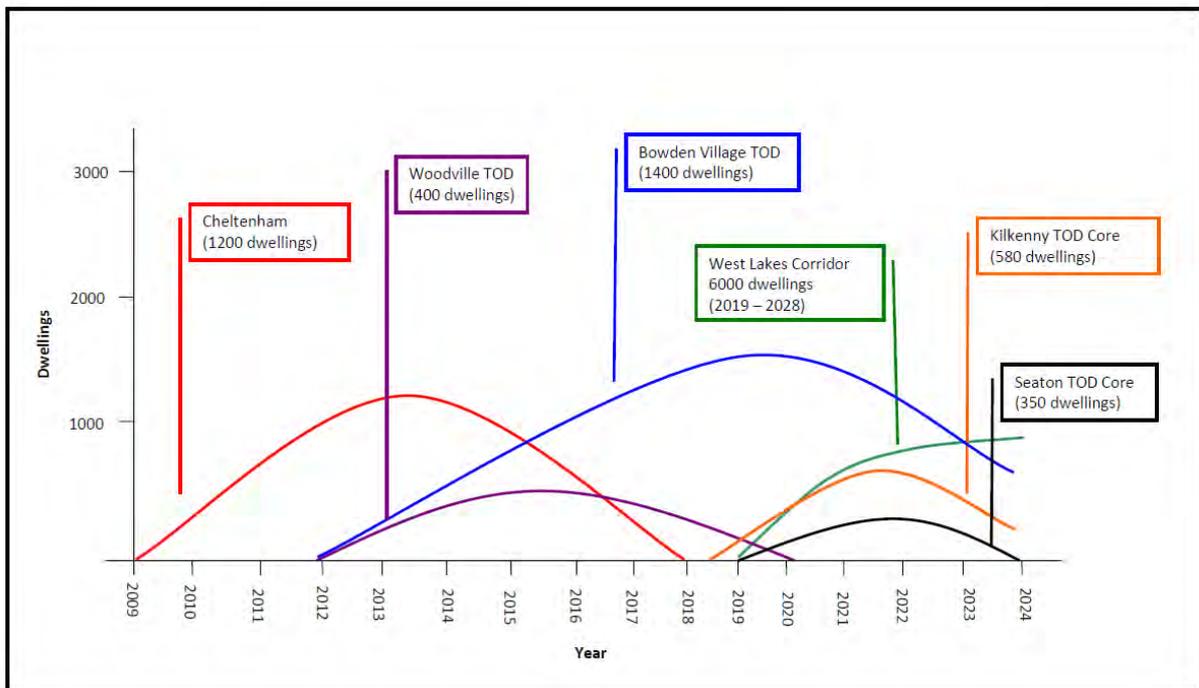
The sixth report - *Review of Certain Historic Conservation Areas*, reviews the zone boundaries and policies for a number of existing Residential Character Zones. It identifies opportunities for the refinement of the zone boundaries.

2 The Extent and Form of Growth

This section describes the extent and form of growth around the TOD's, Major Transit Corridors, other transit corridors, and key activity centres. It provides a general guide to the distances around the growth areas that may experience increased growth and changes to built form.

Each site will require further localised investigations as part of a Development Plan Amendment process to more accurately identify exact boundaries and density and building height opportunities. Section 5 in this Report identifies the further investigations and processes required that are related to the required Development Plan Amendments.

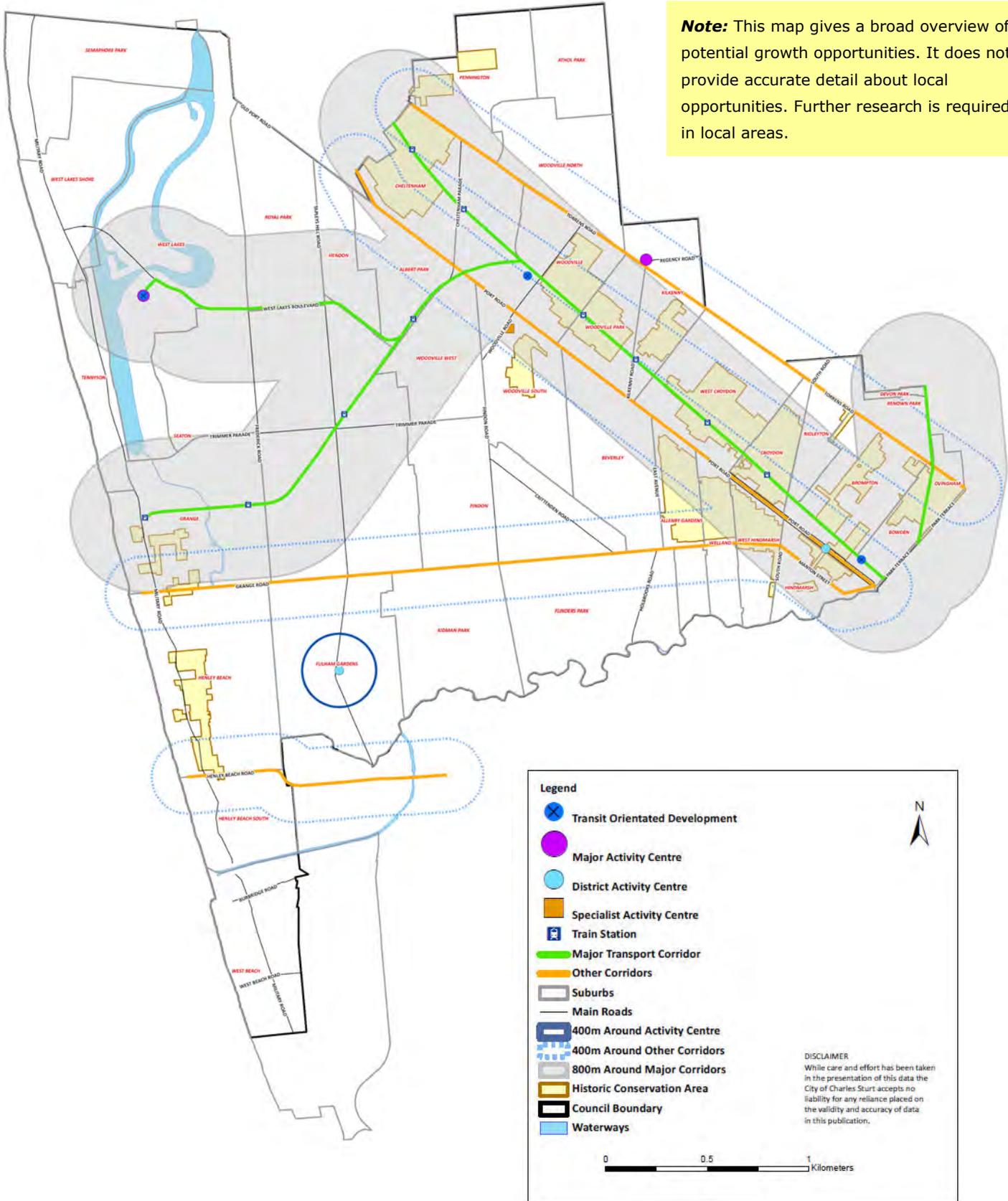
The general extent of the main residential growth opportunities till 2024 is indicated in the following diagram:



The general locations of key residential growth opportunities which are located around train stations (TOD's), activity centres and along road corridors are indicated on the following plan:

Charles Sturt Indicative Residential Growth Opportunities

Note: This map gives a broad overview of potential growth opportunities. It does not provide accurate detail about local opportunities. Further research is required in local areas.



2.1 Transit Oriented Developments – Woodville, West Lakes and Bowden

The 30-Year Plan identifies 14 new Transit Oriented Developments (TODs) to be located across Metropolitan Adelaide. These comprise "*mixed-use, higher-density development centred on a major public transport access point. They accommodate residential, high-order retail services and employment activities as well as high quality open space. They will be attractive, self-contained, accessible and walkable communities in which people can live, work, shop and recreate.*" The Plan identifies three TODs within the City of Charles Sturt - namely West Lakes, Woodville and Bowden.

2.1.1 Extent and Form of Transit Oriented Developments

The extent and form of growth around transit oriented developments is of high density and higher rise buildings, largely comprising residential but incorporating retail, commercial and community uses on ground and lower floors. Development may have heights of up to 10 storeys (in inner city locations), building heights will depend on the specific location of the TOD, its surrounding context and market conditions.

Generally residential built form closest to the centre/rail station will comprise apartments, either with lifts or walk-up.

Higher density townhouse forms will also form part of the TODs, particularly as distance from the rail or tram station increases.

TODs will also be designed with a built form interface scaling down in height adjacent to existing, lower-rise neighbourhoods.

Generally the extent of a TOD will have an 800 metres walking catchment distance to the train/tram stop, subject to localised physical constraints and barriers which may restrict access to the stop or limit potential increased residential densities.

Constraints include Historic Conservation Areas as identified in the current Development Plan's Residential Character Zones around Bowden and Woodville and other areas in the Port Road / Torrens Road corridor - Brompton, Ovingham, Croydon, West Croydon, Kilkenny, Woodville Park. Other areas of Character that have been identified include Henley Beach South, Pennington and Flinders Park. Other constraints are industrial areas and special use areas (such as a cemetery or golf course) as identified in the Development Plan's Industrial Zones and the Special Use Zone.

Key elements of TOD's are:

- Higher order retail (that serve weekly convenience and comparison goods needs), commercial, employment, educational, institutional, civic and community land uses within TODs that create activation with the public realm and extend hours of activity will be provided at street levels
- Retail (that serve weekly convenience and comparison goods needs), commercial, employment and community land uses within activity centres that create activation with the public realm and extend hours of activity will be provided at street levels
- Other non residential land uses will be provided above street level up to the third storey
- Residential development should be provided either above street level or from above the third storey
- Single use buildings should generally be avoided (i.e. large scale office or retail over numerous levels without residential development).
- Activities that require large floor plates or do not activate with the public realm in a meaningful manner (such as bulky goods outlets or inward looking shopping malls) should not be established within TODs or activity centres

Summary of Extent of Densities around TOD's

Note: Recently, DPLG has released *Planning Policy Reforms - Proposed zone modules and related general provisions, February 2011, Draft for Consultation* that addresses the issue of building heights in these areas. We note that DPLG's proposed building heights vary from the recommendations in this report. Consequently, this report's recommended building heights are shown in orange textboxes and DPLG's proposed building heights for the equivalent zones are shown underneath in green text boxes.

<200m from rail station/centre:	medium rise 5-10 storeys, high density
200-400m from rail station/centre:	low-medium rise 2-4 storeys, medium density
400-800m from rail station/centre:	low rise up to 2 storeys, low-medium density

DPLG's proposed Urban Core Zone Better Development Plan (BDP) Module

<400m from rail station/centre:	4-10 storeys (Core Area)
400-800m from rail station/centre:	2-4 storeys (Transition Area)

2.1.2 West Lakes

The full extent of the proposed West Lakes TOD is somewhat dependent on whether or not mass transit is extended from the Grange line through to West Lakes. It also depends on the future use of the AAMI stadium site and on whether or not high density housing can be retrofitted within the existing retail centre site. Higher density development is already being developed at West Lakes along Brebner Drive and at Island Point.



The State Government is proposing redevelopment of some of its Housing Trust properties in the Royal Park/Seaton areas adjacent to West Lakes Boulevard.

The current drivers of high density development at West Lakes focus on proximity to and views over the West Lakes and to the West Lakes Mixed Use Activity Centre (Major District Level).

It is envisaged that higher density development will decrease with distance from the Lakes and the shopping precinct, and will then focus in areas close to West Lakes Boulevard. Outside of these areas development is more likely to be in the order of 2-3 storeys in height, whereas closer to the centre of activity building heights may increase to 4-8 storeys, depending on the size of the site.

2.1.3 Woodville

The Woodville TOD has been identified as a priority area in the 30 Year Plan, and was subject to further detailed planning and design as part of the Woodville Village Master Plan project (to be undertaken during April - September 2010).

Key development opportunities exist on the land either side of the Woodville Station, residential areas close to the station within the St Clair housing project, mixed use development along Woodville Road and within the residential areas between Port Road and the rail line either side of Woodville Road. The Vision for Woodville Village is "an exciting destination for both the locals and the broader community. It is an area framed by a mixture of mostly medium to higher density housing, offices, shops, health and education facilities, and an expansive green open parkland. At its heart is a bustling train station, community plazas, civic facilities, cafes and shops. It celebrates its proud heritage and embraces its diversity with food, colour, art, greenery and activity on the street, in the community markets, in the open spaces and recreation areas. A community that is thriving, diverse, proud, robust and active. A place that is a destination for the Western suburbs".

2.1.4 Bowden Urban Village

Bowden Urban Village is another TOD priority development area identified in the 30 Year Plan. The Land Management Corporation on behalf of the State Government is currently finalising the Master Plan with Council which will see a major transformation of this Precinct. The vision for the site developed by the Principal Stakeholder group states that "*Bowden Village will be a world class medium and high-density, mixed use development - a flagship project for subsequent developments across Metropolitan Adelaide. Bowden Village will exhibit leading edge application in urban design and energy and water use in the context of sustainable transit oriented development (TOD) and infill.*" The Master Plan for the site proposes a mix of land uses including residential, retail and commercial. The retail and commercial development will be focused around the railway station(s). Open space will be provided throughout the site including a community garden. The site is proposed to be linked with the parklands via a land bridge across Park Terrace. The high density development is focused along Park Terrace and Port Road.

2.2 Major Transit Corridors – Outer Harbour, Grange, and West Lakes

Major Transit Corridors are the major fixed line mass transit routes including rail and light rail. Transit oriented developments comprise mixed-use, higher density development centred on a major public transport access points.

They accommodate residential, high order retail services and employment activities as well as high quality open space. They will be attractive, self contained, accessible and walkable communities in which people can live, work, shop and recreate.

The 30-Year Plan identifies two existing and one potential major transit corridor within the City of Charles Sturt - the Outer Harbour line, the Grange line and the West Lakes extension (potential). The 30-Year Plan expects that over 50% of the growth in dwellings in Adelaide will occur along corridors (inclusive of TODs located within these corridors), as well as approximately 35% of new jobs.

It is expected that this residential growth will be located within 800 metres of current or extended transit corridors, while it can also be expected that the majority of growth will be concentrated in closer proximity to rail and light rail stations along these major transit corridors.

Density of development will vary throughout the corridor but is expected to increase from an average of 15 dw/ha to a future 25-35 dwellings per hectare. Indicative heights of development at differing distances from the corridors are given below as an indication, although they have not been factored into any calculations that determine approximate dwelling yields.

2.2.1 Extent and Form of Major Transit Corridors

High density and medium rise residential development (4-5 storeys) is most likely within 100 metres of the rail station/tram stop, with low-rise (2-3 storeys) and medium density more common between 100-400 metres of the actual stop.

Beyond 200 metres and out to approximately 800 metres it is envisaged that low-rise (2 storeys) and low-medium density development, predominantly in the form of townhouses, row dwellings, will occur. Development further than 800 metres of the actual stop is less likely as the attractiveness to households to live close to transit corridors relates specifically to walking accessibility to the transit station or stop, and not to the line itself.

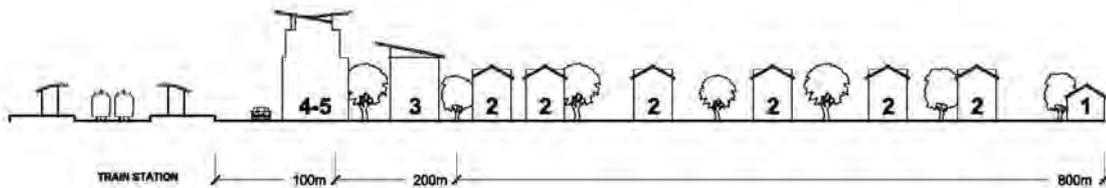
Residential Character Zones, Industrial Zones and the Special Use Zone significantly constrain the extent of "growth areas" along the Major Transit Corridors, particularly along the Outer Harbour Line. Changes to zoning will be required in order to facilitate growth along major transit corridors.

Key elements of the transit corridor stations (<100m) are:

- Small scale retail (that serve day to day retail needs) land uses that create activation with the public realm and extend hours of activity will be provided at street level directly adjacent station
- Residential development should be provided above retail land uses or at ground level surrounding the station.

Major Transit Corridor - Indicative Extent of Building Height (not incorporated into any modelling)

<100m of rail stations/transit shops:	medium rise 4-5 storeys, high density
100-200m from rail stations/transit shops:	low-medium rise 2-3 storeys, medium density
200-800m from rail stations/transit shops:	low rise 2 storeys, low-medium density



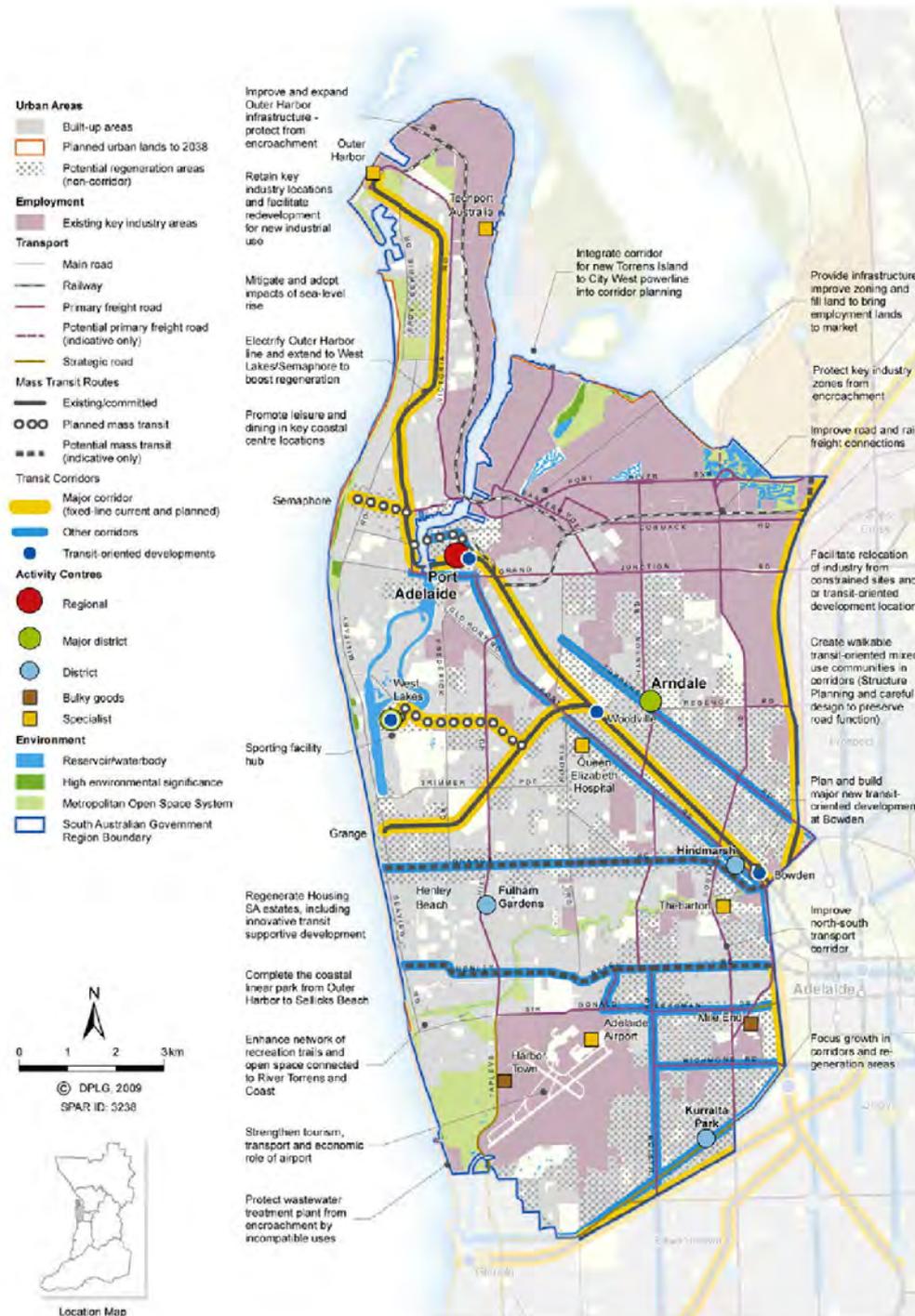
DPLG's proposed Suburban Activity Node Zone BDP Module

<400m from rail station/centre:	3-6 storeys (Core Area)
400-800m from rail station/centre:	2-3 storeys (Transition Area)

2.3 Road Corridors – Torrens Road, Port Road, Henley Beach Road and Grange Road

The 30-Year Plan identifies major transit corridors as well as "other transit corridors". These are characterised by main road access and either have, or are earmarked to have, mass transit such as frequent bus or light rail services.

Road corridors within the City of Charles Sturt identified in the 30-Year Plan include Torrens Road, Port Road, Grange Road and a small section of Henley Beach Road, while we have also identified parts of Woodville Road within this category.



2.3.1 Extent and Form of Road Corridors

Public transport services along these road corridors are likely to revolve around frequent bus services, or potentially a tram/light rail service. Most of these corridors are currently characterised by a mix of retail/commercial strip development interrupted with sections of low and/or medium residential development.

Assuming an increase in the quality and frequency of public transport and a significant improvement in the physical amenity of these road corridors, it is envisaged that the form of development could comprise high density buildings of up to 5 storeys in height within 60 metres of the road frontage, incorporating non-residential usage at ground level. Development between 60-400 metres of the road will decrease in scale and density as distance from the road increases.

Naturally the potential to redevelop sites along these road corridors will have a lot to do with market conditions, particularly the value of existing developments within these corridors. Underutilised and large sites are likely to be the first to be redeveloped, subject to their location.

Similarly, sites closest to the Adelaide CBD and/or to other facilities (eg Activity Centres) are likely to be developed first and to higher densities.

As indicated in the figure on the following page, although a 400 metre wide corridor either side of the roadways can be considered as the "growth area", higher densities are expected on or close to the roadway itself.

Residential Character Zones, Industrial Zones and the Special Use Zone constrain the extent of the "growth area".

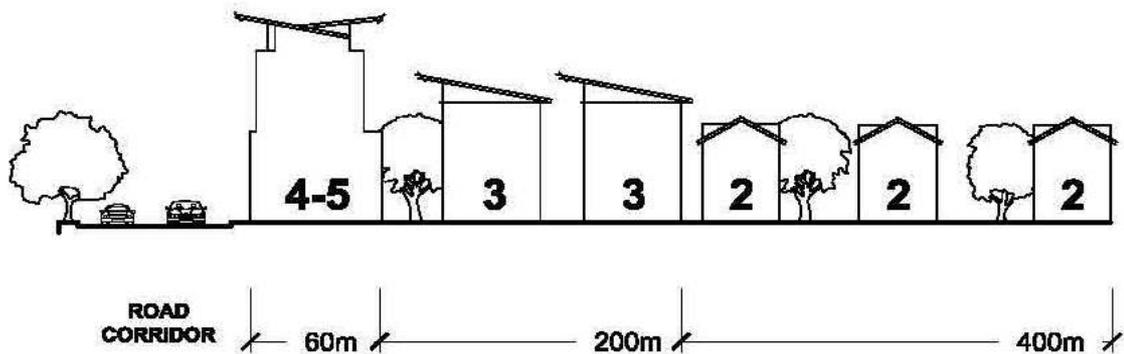
Indicative heights of development at differing distances from the corridors are given below as an indication, although they have not been factored into any calculations that determine approximate dwelling yields.

Key elements of road corridors (<60m) are:

- Retail (that serve weekly convenience and some comparison goods needs), commercial and community land uses that create activation with the public realm and extend hours of activity will be provided at street level, particularly where they interact with community facilities and public transport nodes (such as libraries, community centres, open space areas, bus stops and trains stations)
- Other non residential land uses that do not generate the same level of pedestrian activity (such as offices and gymnasiums) will be provided above street level up to the second storey
- Residential development should be provided above street level.

Road Corridor - Indicative Extent of Building Height (not incorporated into any modelling)

<60m from road:	medium rise 4-5 storeys, high density
<60-200m from road:	low-medium rise 2-3 storeys, medium density
<200-400m from road:	low rise 2 storey, low-medium density



DPLG's proposed Urban Corridor Zone BDP Module

Abutting road corridor:	minimum 3-4 storeys
<400m:	maximum 4 storeys

2.4 Activity Centres

The 30-Year Plan identifies Mixed Use Activity Centres, including 17 higher-order Activity Centres comprising the Adelaide CBD, Regional Centres and Major District Centres.

Activity Centres provide concentrations of business, administrative, civic, retail, entertainment, employment, research, education and community uses, and increasingly residential development.

The purpose of activity centres is to cluster commercial and employment activity to improve accessibility, productivity and the efficient use of infrastructure. The 30-Year Plan promotes co-located Government services and facilities in these higher order centres, as well as mixed use development rather than separate residential, commercial and retail developments. Higher-density residential development is envisaged within and adjacent to Activity Centres.

The 30 Year - Plan establishes a "typology" for Activity Centres, identifying the following additional types of Centres:

- Regional Centres - major strategic centres that provide a full range of retail, commercial, administrative, entertainment, recreational and regional community facilities.
- Major District Centres - major shopping and business centres serving immediate subregional residential population.
- District Centres - large centres that provide a range of retail, office, community and entertainment facilities. Shopping usually provides the most significant role.
- Bulky Goods Centres - Centres usually containing larger stores selling DIY and household goods (such as carpets, furniture and electrical items). Located on main roads and cater mainly for car borne customers.
- Specialist Centres - include major airports, ports, hospitals, universities and research centres.

The Charles Sturt Development Plan also designates the following centres:

- Neighbourhood Centres
- Local Centres

High Order Activity Centres - Indicative Extent of Building Height

Within and <200m from Centre:	medium rise 3-5 storeys, medium-high density
200-400m from Centre:	low-medium rise 2-3 storeys, medium density

DPLG's proposed Urban Core Zone BDP Module

<400m from rail station/centre:	4-10 storeys (Core Area)
400-800m from rail station/centre:	2-4 storeys (Transition Area)

2.4.1 Major District Centres - Arndale

Arndale is one of the 17 higher-order Activity Centres, nominated as a Major District Centre.

Currently there is a significant bus interchange located at Arndale shopping centre, and a wide range of services available. It can therefore be anticipated that land surrounding the Activity Centre, and potentially sites within the Centre, should be developed at high densities.

There are other non-residential land uses surrounding the shopping precinct, with potential for future mixed use development.

While it may be possible for residential development up to 5 storeys in height, at this location lower scale medium-rise (3-5 storeys) may be more likely. The scale and density of residential development would reduce beyond, say, a 200 metre distance from the Activity Centre, with apartments giving way to 2 storey townhouses forming an appropriate interface with surrounding lower density development.

Arndale will continue to provide a wide range of retail facilities, and will service a catchment population of 100,000+. It is also a significant employment destination serving the surrounding region, provide a range of retail, office, community and entertainment facilities.

The retail floor space will range from 60,000 - 100,000m².

2.4.2 District Centres - Fulham Gardens and Hindmarsh

Fulham Gardens and Hindmarsh will function as a District Centres, providing a range of retail services that meet the community's need for weekly grocery shopping and some comparison shopping. Stores will include discount department stores, supermarkets, speciality stores and convenience stores.

The catchment population ranges from 30,000 -60,000 people.

The retail floor space ranges from 200 - 10,000m².

The centres also represent important local employment nodes comprising mixture of retail, professional services, education, health and community services,

2.4.3 Other Centres (Neighbourhood and Local Centres)

Most of the other Neighbourhood and Local Centres located within the Council area are located along road corridors. However, as discussed above, the potential for growth within road corridors increases surrounding these Centres, with higher densities and taller buildings resulting.

It is also considered more feasible for apartments to be constructed within Centres (vertical mixed use) that fall within the local and neighbourhood level in the hierarchy, most likely as part of any redevelopment of such Centres.

Neighbourhood and local centres will continue to service local residential communities, generally incorporating a mix of services and community facilities serving the daily to weekly needs of the neighbourhood, and generally anchored by a supermarket or convenience store.

The catchment population of a neighbourhood centres ranges from 1500 - 15,000 people, and the retail floor space ranges from 2000 - 10,000m².

The catchment population of a local centre ranges from 200 - 2,000 people and the retail floor space ranges from 250 - 2000m².

2.4.4 Specialist Centres

The 30 Year Plan designates 'specialist' centres that contain clusters of key economic and service activities, including airports, ports, hospitals, universities, and research and business centres that perform vital economic and employment roles.

The Queen Elizabeth Hospital Precinct falls within this category given its significant employment base. Excluding allotments within the Residential Character Zone, land within 400 metres of the Hospital Precinct should be earmarked for growth in the form of low-rise (2-4 storeys) development at medium densities (eg townhouses, row dwellings and low-rise apartments). It is also noted that the Hospital Precinct is located close to the Port Road corridor and not far from the Woodville TOD.

Any retailing space in this specialist centre should relate to the number of workers and visitors in order to provide daily needs. It is not intended that this area becomes a major shopping precinct that competes against identified activity centres.

Specialist Centres - Indicative Extent of Building Height

<400m of QEH:	low rise 2-4 storeys, medium density
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3 The Character Elements of the Growth Areas

The success of achieving high quality development within the identified growth areas requires careful consideration of a number of design matters relating to the location, type and form of development. Adequate consideration of the following matters during Structure Planning, Precinct Planning and Development Plan Amendment stage will ensure that Development Plan policy, together with supporting Concept Plans and Structure Plans provide suitable guidance for the development of the growth areas to their full potential without compromising the amenity of pedestrians, workers and residents within and surrounding the areas.

3.1 Character Element - Mixture of Land Uses

A mixture of land uses is important in revitalising centres and road corridors (being Port, Torrens Henley Beach and Grange Roads). Typically, existing centres are dominated by retail land uses, with some minor commercial activities in support. They rarely comprise solely residential development as the predominant land use. However there will need to be an element of residential development along Port, Torrens and Grange Roads that may consist of active commercial ground floor uses, with residential above.

Within the main road corridors, the historic settlement of land uses has been more ad-hoc over time and as such there is more of a mixture of land uses, driven by the increased exposure to non-residential activities by passing traffic along the main thoroughfares. Residential development in these locations is typically in the form of original housing fronting the main roads (together with the occasional medium density walk-up flats built in the 1960's and early 1970's) scattered between retail and commercial activities. The true mixture of land uses needs to be improved through both activity centres and the corridors, largely through a residential led regeneration of areas.

3.1.1 Benefits of Mixed Land Uses

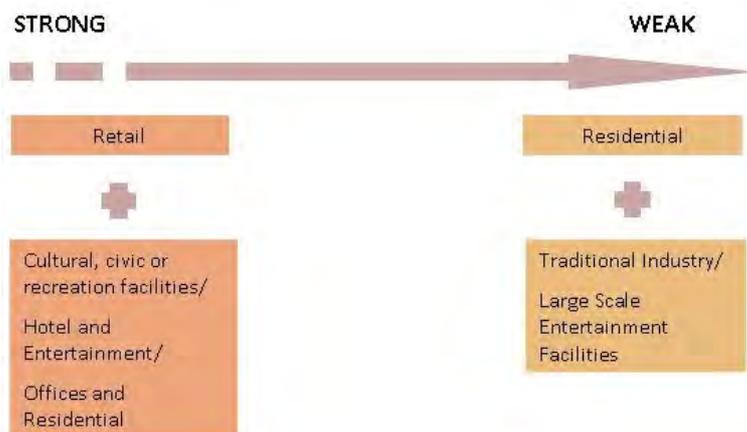
Mixed use developments have the benefits of increasing the vibrancy of centres by bringing together a range of activities throughout a larger spread of hours throughout the day and week. Successful mixed use developments can increase housing, employment, business and investment choice and represent a more efficient use of land and infrastructure. When integrated with public transport services mixed use development can reduce car dependency through providing for multi-purpose trips (ACC, 2008). The provision of housing, typically in forms that differ from other areas, also provides opportunities to diversify the housing stock within an area and provide for affordable housing opportunities.

3.1.2 Best Mixed Land Use Relationships

Getting the right mix of land uses, together with other design issues, is important in achieving successful mixed use development, as well as healthy places. The ambition of redevelopment of activity centres and corridors should be that residents can meet most daily needs within walking or cycling distance to where they live. Successful mixed use developments feature proximity to economic activity and employment, high amenity areas and key attractors such as retail, recreation and public transport services. (ACC, 2008).

The variety of land uses within easy walking distances generates high levels of street activity along building edges and public spaces (Ziebots, 2008). Retail tenancies, particularly in the form of restaurants, cafés and entertainment facilities have the greatest ability to encourage an active streetscape and a vibrant atmosphere as hours of operation tend to be longer than those of commercial uses. For this reason, they should be encouraged at the street level and required to activate to the street. However, community facilities also play an important part in mixed use areas as they also assist in spreading the activity over a larger portion of the day, and into weekends (Thompson, 2009).

There is a need to ensure that these activities, while providing vitality and activity at street level, do not impact negatively on the amenity of the location as a place to reside. The Adelaide City Council's Guide to Mixed Use Development has researched the economic and amenity synergies between different land uses to determine the best land use relationships. As a guide the following uses have strong and weak synergies:



Notwithstanding this, consideration needs to be given to the characteristics of each site, the market, together with appropriate design and construction techniques which can reduce amenity impacts between land uses.

The preferred format for residential development in mixed use areas would be to locate residential development above the non-residential uses in central locations, providing passive surveillance to public spaces and maximising the benefits of accessibility to public transport services. This form of

development will allow for an increase in diversity in housing stock throughout the Council area, providing greater housing choice to an increasing numbers of lone and couple only households.

This form of development also provides an ideal opportunity for residential development to be provided in a variety of sizes to meet the different needs of the community and provide a greater number of options for people seeking to live in close proximity to services, employment or public transport services. Reduced land areas and dwelling sizes will also contribute to the provision of *more* affordable housing (as well as affordable housing as defined) with access to a range of facilities and services.

3.2 Character Element - Built Form

The new urban form desired by the 30-Year Plan for Greater Adelaide requires a substantial change to the built form from what has previously been established within activity centres and along the road corridors, which have typically been low rise and low density in nature (both retail, commercial and residential).

A compact urban form, together with mixture of land uses, is important in facilitating a walkable environment (Cotton, 2008). This is reflective of transit oriented development principles where the focus on automobile related travel is transformed to more sustainable transport modes such as public transport, bicycles and walking. A compact, high density urban form also takes advantage of the accessibility to public transport facilities in these locations, improving the viability for these services.

3.2.1 Densities

It is envisaged that the highest densities will be established within the TODs, as expected within the Bowden Village TOD being developed (although this is deemed as an "urban TOD" within the 30-Year Plan warranting higher densities and building heights than expected in other TODs throughout the metropolitan area). Buildings of up to 12 storeys in height are proposed in the Bowden Urban Village Master Plan. Peak densities would also be expected within activity centres, immediately surrounding stations along the transit corridors (train line), and along the road corridors being Port Road, Torrens Road and Grange Road. Buildings envisaged within these locations will be of medium rise (up to 5 storeys) with net residential densities of over 70 dwellings per hectare.

Beyond these immediate locations, densities will need to reduce to lower levels so that there is an appropriate transition between the growth areas and the established residential form. This is particularly important within the City of Charles Sturt where there are large numbers of Residential Character Zones (Historic Conservation Areas) along the rail line and the Port Road, Torrens Road and eastern section of the Grange Road corridors. Within these locations, built form should typically be in the form of low rise development (two to three storeys) with dwelling densities of between 35 and 70 dwellings per hectare. It may be necessary to provide additional policy guidance (including lower densities) for those areas at the immediate interface between the growth

areas and Residential Character Areas, which limit dwelling types, forms and height to be more complimentary to the low density and low rise forms that exist.

To facilitate the increased densities, it is necessary to consolidate development sites so that areas are large enough to accommodate larger building forms. This will enable a more coordinated form of development to occur throughout these areas. However, the extent of consolidation should avoid the creation of “massive” developments that chock entire blocks and threaten the scale and diversity sought within TODs, activity centres, transit corridors and the road corridors.

3.2.2 Setbacks

It is important that buildings have no or minimal setbacks to public roads and public spaces so that they frame these spaces as a continuous and cohesive built form edge. Retaining a degree of human scale is important in maintaining pedestrian comfort and building form should define lower and higher land use elements through the introduction of a base podium for non-residential land uses. Residential land uses on the higher levels should be transitioned by stepping the building back slightly, as well as utilising different materials and finishes. To the sides and rear, buildings will be stepped in height as required to complement the desire lower built forms within adjacent areas, as well as appropriately manage the extent of shadowing that may occur, depending on the orientation of the site.

There should be sufficient setbacks between buildings to provide usable semi-private space as an outlook for occupants. In particular, adequate separation should be provided between buildings containing dwellings that face each other, so that outlook and an adequate degree of privacy are maintained. As such, it will be necessary for the taller elements of buildings comprising residential development to be stepped inwards to the sides of the buildings as well.

3.2.3 Built Form Design Techniques

Facilitating larger buildings requires additional attention to the building design and form. It will be necessary to utilising a range of design techniques to break down building massing and bulk. Attaining an appropriate rhythm in the building design can be achieved through a continuity of building heights roof lines, proportion and scale of walls and windows. Buildings should accentuate the vertical rhythm to the street scene through articulation, modulation, variation in materials and colours and avoidance of large blank walls. This is important in breaking down the length and mass of buildings.

With comprehensive redevelopment to occur in certain locations, there is an opportunity to establish a new character through architectural style. There is scope for a range of contemporary and bold building designs, particularly within landmark locations, which can facilitate the achievement of an identity to TODs, activity centres and particular corridors. This needs to be considered in the context of surroundings and may need to be toned down in locations where an established character is characterised by heritage places, proximity of Residential Character Zones or other identified residential character areas.

3.2.4 TOD's

<200 metres

- Amalgamations of allotments to create larger, coordinated development sites
- Medium rise buildings (5 to 10 storeys) located within central locations around train station for TODs (within 200 metres) at high densities (over 70 dwellings per hectare / max 145m² average per dwelling site). Dwellings principally in the form of apartments in mixed use buildings.
- Zero or minimal setback from public roads and public spaces so that these areas are framed with a cohesive and continuous built form edge.
- Transition between non-residential and residential levels through podium treatment with a small setback to the residential levels
- Building form broken up through appropriate articulation, modulation variety in materials and colours
- Buildings separated sufficient distance to provide for meaningful landscaping
- Residential balconies setback at least 10 metres from an opposing residential balcony in another building
- Balconies incorporated into building design to add visual interest, provide additional separation from non-residential activities and provide outdoor living space contiguous with internal living areas.

200-400 metres

- Amalgamations of allotments to create larger, coordinated development sites
- Medium rise buildings (2-4 storeys) at medium densities (35-70 dwellings per hectare / 150-285m² average per dwelling site). Dwellings principally in the form of apartments in mixed use buildings, but also with some residential flat buildings, group dwellings and row dwellings.
- Zero or minimal setback from public roads and public spaces so that these areas are framed with a cohesive and continuous built form edge.
- Building form broken up through appropriate articulation, modulation variety in materials and colours
- Buildings separated sufficient distance to provide for meaningful landscaping
- Residential balconies setback at least 10 metres from an opposing residential balcony in another building
- Balconies incorporated into building design to add visual interest and provide outdoor living space contiguous with internal living areas.

400-800 metres

- Low rise (up to 2 storeys) at medium densities (35-70 dwellings per hectare / 150-285m² average per dwelling site). Dwellings comprising a mixture of residential flat buildings, group dwellings, row dwellings, semi-detached dwellings and detached dwellings.
- Reduced front setbacks to maximise use of smaller allotments and frame streets
- Building form broken up through appropriate articulation, modulation variety in materials and colours
- Side and rear setbacks to accommodate shadowing of adjacent buildings and open space areas
- Reduced site coverage ratio to provide for smaller building footprints

3.2.5 Transit Corridor Stations

<100 metres

- Medium rise buildings (4 to 5 storeys) located adjacent train stations along Transit Corridors (within 100m) at high densities (over 70 dwellings per hectare / max 145m² average per dwelling site). Dwellings principally in the form of apartments in mixed use buildings, but also with some residential flat buildings, group dwellings and row dwellings.
- Zero or minimal setback from public roads and public spaces so that these areas are framed with a cohesive and continuous built form edge.
- Transition between non-residential and residential levels through podium treatment with a small setback to the residential levels
- Building form broken up through appropriate articulation, modulation variety in materials and colours
- Buildings separated sufficient distance to provide for meaningful landscaping
- Residential balconies setback at least 10 metres from an opposing residential balcony in another building
- Balconies incorporated into building design to add visual interest, provide additional separation from non-residential activities and provide outdoor living space contiguous with internal living areas.

100-200 metres

- Low rise (2-3 storeys) at medium densities (35-70 dwellings per hectare / 150-285m² average per dwelling site). Dwellings comprising a mixture of residential flat buildings, group dwellings, row dwellings, semi-detached dwellings and detached dwellings.
- Reduced front setbacks to maximise use of smaller allotments and frame streets
- building form broken up through appropriate articulation, modulation variety in materials and colours
- Side and rear setbacks to accommodate shadowing of adjacent buildings and open space areas
- Reduced site coverage ratio to provide for smaller building footprints

200-800 metres

- Low rise (up to 2 storeys) at low densities (25-35 dwellings per hectare / 300-400m² average dwelling site area). Dwellings comprising a mixture of residential flat buildings, group dwellings, row dwellings, semi-detached dwellings and detached dwellings.

3.2.6 Road Corridors

<60 metres

- Medium rise buildings (4 to 5 storeys) located adjacent road within Road Corridors (<60m) at high densities (over 70 dwellings per hectare / max 145m² average per dwelling site). Dwellings principally in the form of apartments within mixed use buildings.
- Amalgamations of allotments to create larger development sites (approximately 40 metres in width and 60 metres in depth)
- Zero or minimal setback from public roads and public spaces so that these areas are framed with a cohesive and continuous built form edge.

- Transition between non-residential and residential levels through podium treatment with a small setback to the residential levels
- Building form broken up through appropriate articulation, modulation variety in materials and colours
- Buildings separated sufficient distance to provide for meaningful landscaping
- Residential balconies setback at least 10 metres from an opposing residential balcony in another building
- Balconies incorporated into building design to add visual interest, provide additional separation from the main road frontage and provide outdoor living space contiguous with internal living areas.

60-200 metres

- Low rise (2-3 storeys) buildings at medium densities (35-70 dwellings per hectare / 150-285m² average per dwelling site). Dwellings comprising a mixture of residential flat buildings, group dwellings, row dwellings, semi-detached dwellings and detached dwellings.
- Reduced front setbacks to maximise use of smaller allotments and frame streets
- Building form broken up through appropriate articulation, modulation variety in materials and colours
- Side and rear setbacks to accommodate shadowing of adjacent buildings and open space areas
- Reduced site coverage ratio to provide for smaller building footprints

200-400 metres

- Low rise (up to 2 storeys) at low densities (25-35 dwellings per hectare / 300-400m² average dwelling site area). Dwellings comprising a mixture of residential flat buildings, group dwellings, row dwellings, semi-detached dwellings and detached dwellings.
- Reduced front setbacks to maximise use of smaller allotments and frame streets
- Building form broken up through appropriate articulation, modulation variety in materials and colours
- Side and rear setbacks to accommodate shadowing of adjacent buildings and open space areas
- Reduced site coverage ratio to provide for smaller building footprints

3.2.7 Activity Centres

<200 metres

- Medium rise buildings (3 to 5 storeys) located centrally within activity centres (within 200 metres) at medium to high densities (35-70+ dwellings per hectare / <150-285m² average per dwelling site). Dwellings principally in the form of apartments in mixed use buildings, but also with some residential flat buildings, group dwellings and row dwellings.
- Amalgamations of allotments to create larger development sites (approximately 40 metres in width and 60 metres in depth)
- Zero or minimal setback from public roads and public spaces so that these areas are framed with a cohesive and continuous built form edge.
- Transition between non-residential and residential levels through podium treatment with a small setback to the residential levels

- Building form broken up through appropriate articulation, modulation variety in materials and colours
- Buildings separated sufficient distance to provide for meaningful landscaping
- Residential balconies setback at least 10 metres from an opposing residential balcony in another building
- Balconies incorporated into building design to add visual interest, provide additional separation from the main road frontage and provide outdoor living space contiguous with internal living areas.

200-400 metres

- Low rise buildings (2-3 storeys) located centrally within activity centres (within 200 metres) at low densities (25-35 dwellings per hectare / 300-400m² average per dwelling site). Dwellings comprising a mixture of residential flat buildings, group dwellings, row dwellings, semi-detached dwellings and detached dwellings.
- Reduced front setbacks to maximise use of smaller allotments and frame streets
- Building form broken up through appropriate articulation, modulation variety in materials and colours
- Side and rear setbacks to accommodate shadowing of adjacent buildings and open space areas
- Reduced site coverage ratio to provide for smaller building footprints

3.3 Character Element - Ease of Movement

The integration of transport infrastructure with the residential growth areas is essential to achieving the new urban form desired by the 30-Year Plan for Greater Adelaide. Access to affordable and accessible public transport is a critical factor for many people, particularly the elderly as it can assist in maintaining independence and gain easy access to key services. Making movements through our urban environment easier and more efficient also has substantial economic benefits with improvements in the movement of people and goods reducing running costs generally.

Transit oriented development has a principal focus on alternative modes of transport to private vehicles. This requires a move away from the car dominated models of inward focussed, single use, low rise centres surrounded with large areas of at grade car parking. Access to a frequent reliable public transport system for the desired centre will, together with reductions in the supply of parking for employment based (such as office) and residential land uses help strengthen the attractiveness of public transport. Legible and permeable road and pedestrian networks within TODs and activity centres will also encourage the attractiveness of walking for short trips instead of driving. Both walking and cycling will be further facilitated by the development of greenways along the transit corridors, linking stations, activity centres and TODs.

3.3.1 Parking

Accommodating vehicles is still important in the success of a vibrant mixed use TOD or activity centre, particularly with regard to convenient shopper parking and drop-off zones adjacent public



transport stops/stations. At grade parking within streets should be maximised where possible to provide a buffer between pedestrian movements and passing traffic, as well as providing potential short-term convenient parking directly in front of businesses.

Notwithstanding this, at-grade parking and the visual impact of large surface parking lots should be avoided. Rather, parking areas should be located in underground, multi-storey decks or at the rear of buildings to avoid dominating the urban form and freeing up areas for landscaping and public spaces for interaction. Within existing centres, it may be possible over time to progressively redevelop the at-grade car park areas with buildings that add to the mix of activities occurring in the centre, converting aisles to pedestrian paths catering for pedestrian activity rather than vehicle movements.

The provision of bicycle parking facilities is important in encouraging this form of transport within and around the growth areas. It is important that sufficient levels of bicycle parking are provided in safe and convenient locations within and adjacent to buildings to which they are associated or in a central location for multi-building developments. Facilities should be secure and accompanied by facilities that encourage usage, such as lockers and showers.

Improved pedestrian and bicycle activity, together with improved access to public transport warrants some degree of relaxation on car parking provision for development within the TODs and stations along transit corridors. This may also be the case for those activity centres and road corridors with excellent levels of public transport service.

Access to development needs to be consolidated as much as possible, facilitate by shared parking areas between developments and land uses. Key access points need to be located away from key pedestrian movement paths, ideally to the sides and rear of developments so that valuable street level activation is not sacrificed. Within residential areas, the same principles apply, although to prevent negative impacts on vehicle garaging and driveways to streetscapes and on-street parking. The consolidation of sites and coordination of development will facilitate the provision of rear loaded developments, maximising building frontage and presentations to the street and improving the streetscape.

The increased importance of pedestrian movement and networks within activity centres and road corridors requires more careful management of possible conflicts between pedestrian and vehicle activities, particularly in regard to servicing areas for the larger scale retail and commercial tenancies. It is important that the location of these service areas do not compromise pedestrian safety or the quality of the streetscape activation through the creation of large areas of blank walls. Servicing areas will need to be located away from street frontages and designed to minimise the conflict with pedestrian activity and residential amenity.

3.3.2 TODs, Activity Centres, Road Corridors (<60m) and Transit corridor Stations (<100m)

- Integration of public transport stops within key development areas of TODs and centrally located and connected within Activity Centres
- Pedestrian and cycle paths connect key attractor land uses and have primacy over vehicle manoeuvring areas

- Excellent facilities at public transport stops (including shelter, lighting, seating and landscaping)
- Inclusion of bicycle parking requirements and facilities within developments
- Reduced parking requirements for development
- Minimise at grade parking within developments
- Underground or multi-deck parking encouraged
- Consolidation of access points
- Service areas are located away from pedestrian routes

3.3.3 Road Corridors (60-200 metres), Transit corridors (100-200 metres)

- Reduced parking requirement for residential development
- Consolidation of access points
- Rear loading of consolidated dwellings sites to reduce visual impact on streetscape
- Provision of bicycle storage facilities for residential flat buildings and other coordinated developments involving numerous dwellings on one site

3.4 Character Element - High Quality Public Realm

The public realm, be it in the form of an open space, plaza, footpath or shared use area, plays a critical role in ensuring an active and vibrant activity centre. Ideally, the public realm should facilitate a range of functions and activities, catering for a wide variety of users and times of the day.

3.4.1 Safety

Increasing safety, particularly outside of retail and office hours is another aim and challenge of revitalising activity centres and road corridors. The mixture of land uses will assist in drawing activity in the area across a broader range of operating hours, however, this will be limited in success if the public realm is not perceived to be comfortable or safe at night.

Safety is increased with activity and the presence of people, highlighting the importance of activation of building frontages adjacent public spaces, pedestrian routes, train stations and bus stops. Land uses that have high interactivity with pedestrians should be located in key positions, particularly where they extend the nature of activity beyond normal business hours.

The form of buildings should be utilised to frame public spaces and streetscapes so that they provide passive surveillance over these spaces which, together with activity, appropriate lighting and clear sight lines, contribute to creating a safer environment.

3.4.2 Comfort and Sociability

Use of public areas will also require the provision of comfortable areas for pedestrians to walk, shop, socialise and relax. The form of buildings and street furniture play an important part in providing this comfort, particularly for all year weather protection. Canopies should be encouraged along street frontages to provide a continuous cover for pedestrians from rain and summer sun. The height and setback of taller elements of buildings can impact on access to daylight along certain sections of footpath. Taller buildings can also impact on wind flows, creating tunnelling effects which reduce comfort levels on footpaths, discouraging people to sit or stay. It is important that building forms also take into account the potential shadowing and wind impacts on surrounding areas. Street furniture such as seats and water fountains, as well as trees for shade encourage people to stay and provide opportunities for people to rest.

3.4.3 Landscaping

Landscaping across the entire activity centre is important in providing an attractive and unified identity to the centre as well as softening the hard edges created by built form. As the desire is for a compact urban form, with reduced setbacks, opportunities for additional landscaping can be limited. This places greater importance on creating boulevards, laneways and malls with high quality landscaping finishes, particularly street trees, linked with water sensitive urban design techniques for irrigation. Development should take advantage of existing site features with regard to landscaping elements, such as mature trees and watercourses.

An improvement to the streetscape treatments within growth areas is particularly important along the Road corridors, where much of the public realm is adjacent busy multi lane roads. These corridors already incorporate mature vegetation, however, improvements will need to make this harsh environment more welcoming for pedestrians.

3.4.4 TODs, Activity Centres, Road Corridors (<60 metres) and Transit Corridor stations (<100 metres)

- Forced activation of street level building frontages, particularly at key locations, through fenestration (clear), door openings, outdoor dining and other activities that promote interactivity.
- Provision of pedestrian comfort by protecting from elements such as wind, sun and rain through the provision of canopies, trees and appropriate building designs
- Maintain a degree of human scale through retaining openness to sky and access to daylight through stepping of taller elements centrally within sites behind base podiums
- Maintain safety through activation, clear sight lines, preventing entrapment spots and appropriate levels of lighting, together with passive surveillance through building design and siting
- Provide amenities to encourage people to rest, meet and socialise including public seating, public art, drink fountains, landscaped areas and a range of open spaces
- Improve landscaping within the public realm (including streetscape) to create attractive boulevards and add identity to activity centres or specific locations

3.5 Character Element - Residential Amenity

The quality of accommodation within residential growth areas is important to ensure an adequate level of amenity is provided to occupants. Dwellings within multi-storey buildings can present some design challenges, however this should not equate to reductions in adaptability, thermal comfort and outlook to its occupants.

3.5.1 Sunlight and Ventilation

Both access to natural sunlight and natural ventilation assist with maintaining a reasonable degree of thermal comfort without reliance on mechanical systems. Use of borrowed light may be appropriate in limited circumstances, however should not be relied upon for achieving access to sunlight, particularly for living areas of dwellings (use of light wells should be avoided). Dwelling layouts should enable for the free flow of air ideally by achieving cross ventilation, or through an open floor plan layout.

3.5.2 Views

The increased height of buildings within growth areas provides opportunities to take advantage of views. However, this will not be possible for all dwellings and consideration needs to be given to appropriate outlooks from living areas of dwellings. This is not only important to providing an interesting view, but also in ensuring an adequate level of privacy. Separation between dwellings that face each other needs to be maintained so that a reasonable degree of privacy is maintained, particularly when living rooms face each other.

3.5.3 Outdoor Living Areas

The improvements in vitality and activity within the public realm provide an alternative recreation and entertainment forum for occupants of dwellings within the core areas of the growth corridors. This, coupled with the desire for more compact urban form, facilitates the reduction in the extent of open space area provided per dwelling within multi-storey buildings where they are largely in the form of balconies. There are however opportunities for communal roof top gardens or other communal facilities such as swimming pools and gymnasiums which assist in encouraging community interaction and recreation.

3.5.4 Interface

Given the number and mixture of uses desired within TODs, activity centres and Road Corridors, the management of the interface between these uses is important, not only to provide a suitable level of amenity for sensitive uses, such as residential development, but also to secure the more intensive activities that are likely to have noise, odour or traffic impacts. Many of these issues can be appropriately managed through the careful placement and design of development itself. Likely interface issues will be in the form of noise from these sources, together with odour and air quality



from nearby industry or traffic (it is noted that the switch to an electric rail system will improve air quality and noise issues associated with the rail line).

3.5.5 Multi Storey Buildings

- Reduced private open space requirements
- Encouragement of communal open space facilities such as a community/complex garden
- Ensure adequate natural light within living areas by avoiding over reliance on borrowed light or light wells
- Provide for natural ventilation through cross ventilation or open plan design which facilitate airflow
- Maximise views out over public spaces and other attractive features of a site or locality
- Maintain sufficient setbacks between residential components of two buildings (no less than 10 metres to maintain outlook and privacy)
- Ensure appropriate design treatments to prevent sound transfer between dwellings and entry/foyer areas internally within building
- Ensure building treatments are suitable to the anticipated noise from desired activities within the growth corridor (land uses and traffic)
- Ensure non-residential land uses within mixed use buildings are provided with adequate servicing risers to prevent extraction of odours to dwellings above

4 Visualising Increased Growth

Increased built form growth may relate to both density as well as height. Typically, people perceive increased density to equate to "high rise". There are clearly many built form alternatives that are not necessarily high rise buildings. There are strong and increasingly mobilised community perceptions about these sorts of issues which are related to increased growth.

4.1 Resident Focus Group Research

The City of Charles Sturt engaged a consultant to gather information from a cross section of the community, seeking people's views on increasing residential densities with a focus on growth corridors and Transit Oriented Development (TOD) areas (Harrison Research, 2010). The information gathered from the focus groups has informed this Residential Growth Strategy and Character Study.

The methodology selected was to conduct 8 group discussions, of 2 hours duration each, across different locations within the City of Charles Sturt but particularly focused on areas which have been identified as potential areas for redevelopment to higher density.

The groups comprised residents randomly selected (except where identified) from within the immediate catchment area surrounding the transit corridor, as follows:

- Findon Library – residents within the Grange Railway Corridor catchment area.
- Hindmarsh Library – residents from the catchment area surrounding the Brompton / Croydon Corridors.
- Findon Library – residents from the catchment area surrounding the Grange Road Corridor.
- Civic Centre, Woodville – participants were invited to send two representatives from each of the known Residents' Interest Groups. A total of 22 were invited, although only 12 representatives attended the discussion.
- Woodville North Community Hall – residents from the catchment area surrounding the Kilkenny / Arndale TOD's.
- West Lakes Library – residents from the catchment area surrounding the West Lakes Corridor.
- Henley Beach Library – random selection of residents living within the catchment area around the Henley Beach Road Corridor.
- Civic Centre, Woodville – residents from other residential areas, not immediately impacted by living within one of the proposed corridors and TOD's, but live near to them and are likely to access services or egress along these corridors.

The research identified some common themes regarding positive and negative perceptions about increased residential growth and TOD's.

4.1.1 Positives

There was a high level of loyalty and pride associated with living in the Western suburbs. Across all groups, the valued attributes of the western suburbs which residents wish to retain and enhance were:

- Proximity to city and sea
- Character and history of the area
- Good public transport system – in particular the railway line is highly valued, but there was a perception that public transport lacks interconnectivity across suburbs
- Open spaces, trees and green areas
- Easy access to a wide range of services and social infrastructure
- Cultural and demographic diversity

Positive aspects of the TOD concept were as follows:

- The proposed extension of the light rail line to West Lakes was identified as being a valuable asset.
- The potential for the growth strategy to ensure that their children could be living nearby once they become independent rather than having to move further out in the outer suburbs or interstate.
- Linking of open spaces to interconnect areas was perceived as a positive outcome of the TOD concept, encouraging both reduced reliance on motor vehicles and more physical activity
- Residents involved in the group discussions were pleased to have been involved and wished to continue to be kept informed (at the least) as the Strategy develops
- Residents revealed a strong interest in how their area develops into the future and a varying level of understanding about a range of social and environmental issues and concerns surrounding the concept of higher density development.

4.1.2 Negatives

Residents expressed common concerns across the group discussions about higher density (in particular focused on infill through sub-division of properties). The key issues raised were:

- Retaining the existing character of the areas, not just in terms of the specific character zones but also other “character” built form outside of those zones, was of paramount concern to many residents.
- Open spaces were perceived as either less usable than in the past due to loss, or partial loss, of larger open spaces which left small and unlinked open space. And also that the allocation of open space in some areas, such as in Cheltenham, Woodville and in the catchment surrounding Grange Road, was very low and fragmented into small, pocket parks.

-
- Many residents across the Western suburbs felt that much of the contemporary built form of 1 or 2 storey, detached houses, large enough to take up most of the land do not fit within the character of the area and therefore detract from the whole.
 - Along the same lines as concerns regarding contemporary design, were issues surrounding the trend towards smaller housing blocks with large built form and little allocation for outdoor areas.
 - Residents felt that TOD's would impact negatively on vehicle traffic, which they perceived would be congested, perhaps forced into back streets and residents would have to park long distances from home.
 - There were concerns raised with regard to future water proofing, stormwater catchment, supplies and replenishing the aquifer.
 - The majority of participants across all areas perceived that energy consumption of higher density dwellings was considerably higher than single storey houses.
 - There was limited support for eco-friendly developments, with local examples such as Lochiel Park and Christie Walk being mentioned only among the representatives of the residents' interest groups.
 - Almost all participants saw themselves as still living in the same house in the same area in ten years time, regardless of whether participants were currently in the older age groups, middle or mature families or young and unattached.
 - It was believed that the type of accommodation would mean it was relatively expensive for many older residents and, therefore, they would not be able to buy back into the community they are familiar with.
 - The other commonly raised barrier which was thought likely to influence potential older buyers of higher density, low maintenance living was the number of storeys and the fact that stairs in a 3 or 4 storey building would detract from the ability to attract older purchasers.
 - There was very limited knowledge about the TOD concept and its implications and even less was known about the Greater Adelaide 30 Year Plan.

These findings highlight that a major public education and consultation programme will be required over a long period of time before the South Australian communities begin to better understand, and start to more fully embrace, increased residential densities.

Case studies and highly visual examples that illustrate great design and energetic, vibrant and sustainable living areas is an important part of this process.

The following illustrations may be helpful to this process.

4.2 Visualising Higher Densities along Corridors



Current



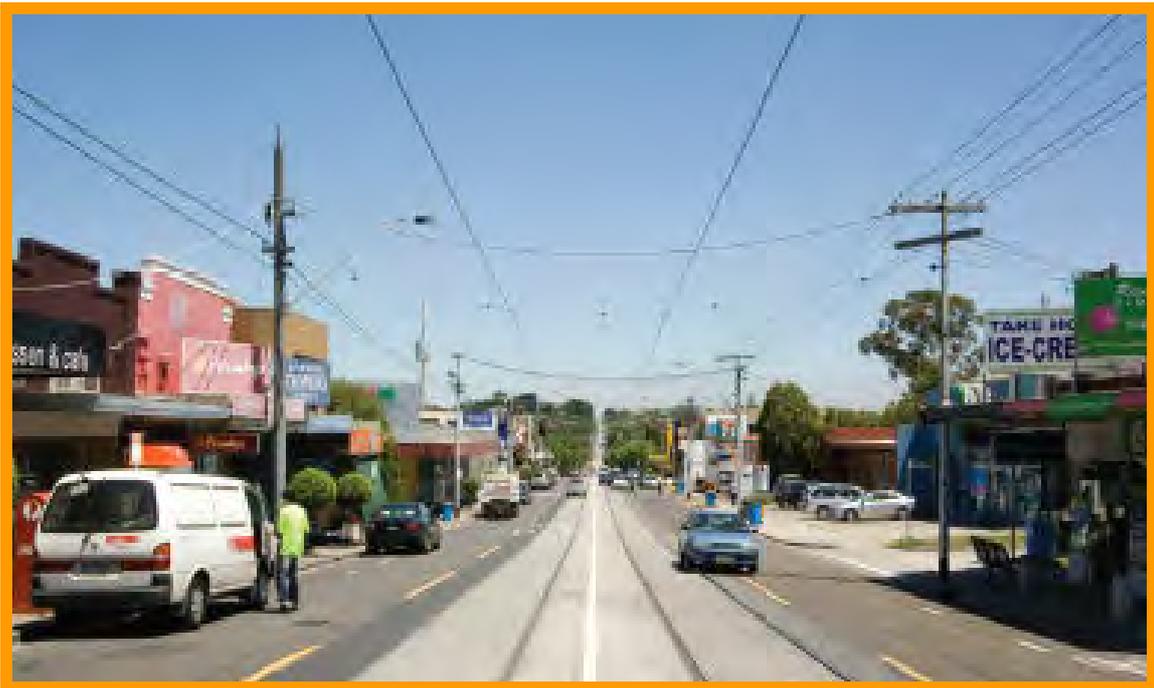
Potential



Current



Potential



Current



Potential

Images above courtesy of City of Melbourne and Victorian Department of Transport, 2009





040 Stanley Street, North Adelaide

Medium Density



Built Form: Single storey row dwellings
Date Built: 1880
Site Area: 2068 sqm
No. of Dwellings: 11
Ave. Site Area per Dwelling: 188 sqm
Net Density: 53.2 dw/ha

Comments: Small front setbacks and no side setbacks. Car parking is provided via a rear laneway; however there is ample on-street car parking.

042 Wheatland Street & Esplanade, Seacliff

Medium Density



Built Form: 3 storey residential flat buildings
Date Built: 1994
Site Area: 2138 sqm
No. of Dwellings: 13
Ave. Site Area per Dwelling: 165 sqm
Net Density: 60.8 dw/ha

Comments: This development utilises the natural slope of the land to maximise views over the coast in a beachfront location.

High Density



048 East Terrace, Adelaide



Built Form: 3 storey residential flat buildings
Date Built: 1975 approx
Site Area: 2679 sqm
No. of Dwellings: 20
Ave. Site Area per Dwelling: 133.5 sqm
Net Density: 74.7 dw/ha

Comments: Car parking is located at the rear away from the dwellings. Site coverage is low with considerable landscaping at the front.

059 Colley Terrace, Glenelg

High Density



Built Form: 12 storey apartment building with basement car parking
Date Built: 2004 approx
Site Area: 2856 sqm
No. of Dwellings: 257
Ave. Site Area per Dwelling: 11 sqm
Net Density: 899.9 dw/ha

Comments: Multi-storey, very high density development with 4 levels of basement car parking.



5 Determining Priorities for Growth

As identified in this report, there are many areas that have potential to accommodate increased growth. Some areas will contribute more significantly to meeting the Greater Adelaide 30 Year Plan growth targets (eg: around Activity Centres, TOD's and Major Transit Corridors) than other areas (eg: haphazard and small scale infill scattered throughout the suburbs).

The growth priorities will be primarily determined by:

1. The 30-Year Plan for Greater Adelaide (which has already identified and commenced work on Bowden Village, and Woodville Village)
2. Government commitment towards infrastructure initiatives (including DTEI's rail electrification initiative, and Housing SA's initiatives such as Woodville West)
3. Inner Metropolitan Rim Structure Plan, DPLG
4. Planned private investment that is already known by Council
5. Infrastructure capacity and costings
6. Land size and/or ability to amalgamate sites

5.1 General Work Programme

The general work programme associated with each growth "area" is suggested to be as follows:

5.1.1 Development Plan Amendments

DPA's will be undertaken for corridor and major growth area. The recommended DPA's are in order of priority:

DPAs Current

- Woodville West Neighbourhood Renewal (Ministerial) DPA – Housing SA Area adjacent to the Albert Park Railway Station
- Bowden Urban Village (Ministerial) DPA – Former Clipsal and Origin Energy sites
- Woodville Village and Environs DPA – Woodville Road, Woodville
- Devon Park Residential DPA – rezoning industrial site corner Exeter Terrace and Alexander Avenue, Devon Park. Identified in the Charles Sturt Industrial Land Study 2008 as being appropriate for an alternative use.

Short term priority DPAs, Structure and Precinct Plans (1 to 3 years)

- Inner West Structure and Precinct Plan and DPA – Bowden, Brompton, Hindmarsh area. Includes the Bowden Urban Village study area excluding the area rezoned by the Bowden Urban Village Ministerial DPA.
- Woodville TOD (Ministerial) DPA, LMC site adjacent Woodville Station

West Lakes and Grange Railway Line Precinct

- AAMI Stadium and SANFL Land (Ministerial) DPA
- West Lakes Precinct Structure and Precinct Plan and DPA – investigate the rezoning potential of the land along the light rail corridor adjacent to the SANFL land.

- 
- Grange Railway line Corridor Structure and Precinct Plan and DPA
 - Seaton TOD Structure and Precinct Plan and DPA

Henley Precinct

- Henley Precinct Master Plan, Structure and Precinct Plan and DPA
- Henley Beach Road Corridor Structure and Precinct Plan and DPA

Medium term priority DPAs and Master Plans (4 to 10 years)

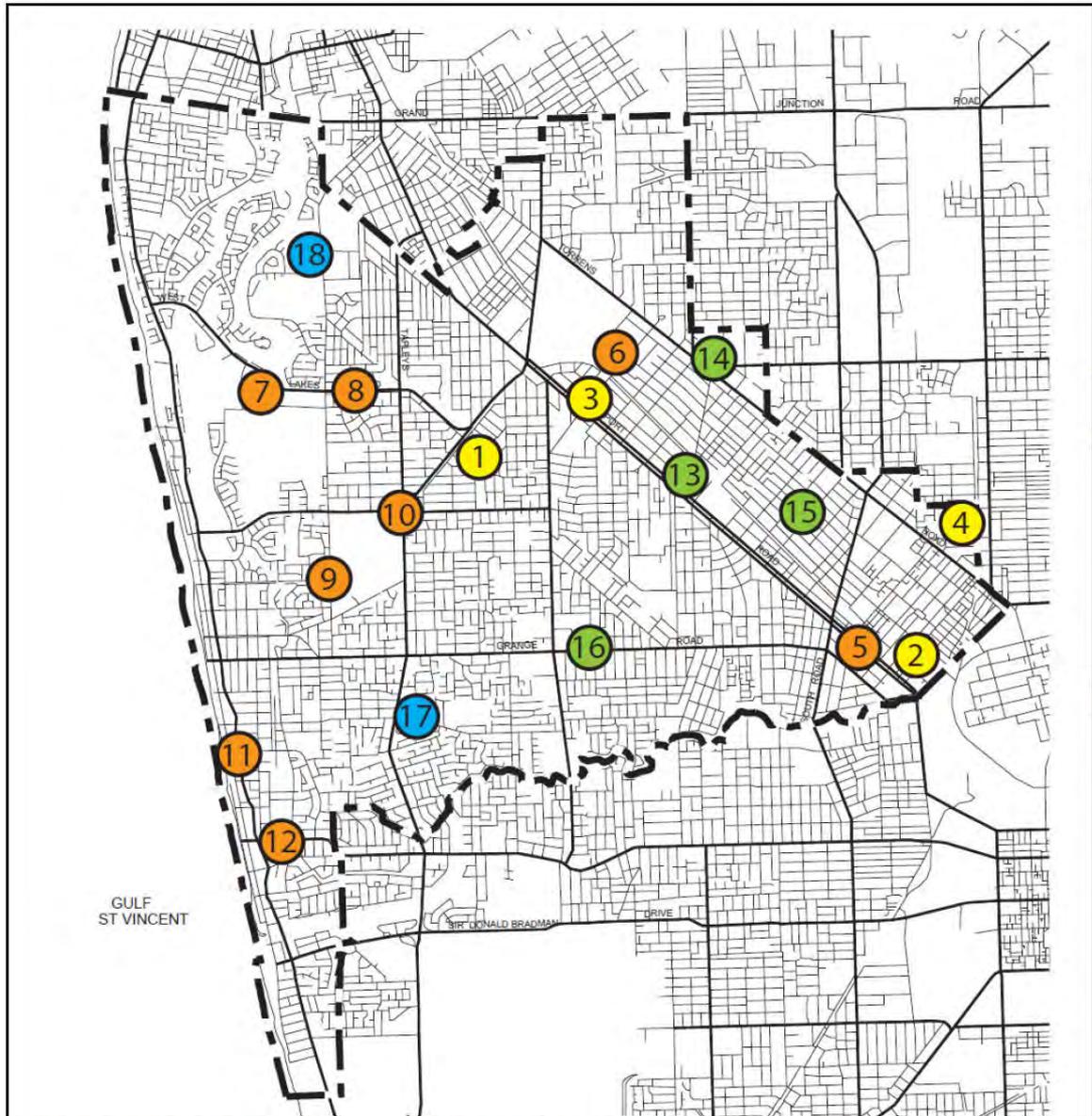
Outer Harbor Line Precinct

- Kilkenny TOD Structure and Precinct Plan and DPA
- Arndale Activity Centre Structure and Precinct Plan and DPA
- Port Road and Torrens Road Corridors Structure and Precinct Plan and DPA
- Grange Road Corridor Structure and Precinct Plan and DPA

Long term priority DPAs and Master Plans (11+ years)

- Fulham Gardens Activity Centre Structure and Precinct Plan and DPA
- SA Water Site West Lakes – Rezone from Special Uses to Residential. Identified in the Housing and Employment Land Study 2010.

DPA's will be informed by Design Guideline recommendations, Development Plan Policy recommendations and DPLG Structure Plans/Precinct Plans.



List of Residential DPAs, Structure and Precinct Plans for Residential Growth Strategy (2011)

DPAs Current

- 1. Woodville West Neighbourhood Renewal (Ministerial) DPA
- 2. Bowden Urban Village (Ministerial) DPA
- 3. Woodville Village and Environs DPA
- 4. Devon Park Residential DPA

Short term priority DPAs, Structure & Precinct Plans (1 to 3 years)

- 5. Inner West Structure and Precinct Plan and DPA
- 6. LMC site, Woodville (Ministerial) DPA
- West Lakes and Grange Railway Line Precinct*
- 7. AAMI Stadium and SANFL Land (Ministerial) DPA
- 8. West Lakes Precinct Structure and Precinct Plan & DPA
- 9. Grange Railway Line Corridor Structure and Precinct Plan & DPA
- 10. Seaton TOD Structure and Precinct Plan & DPA
- Henley Precinct*
- 11. Henley Precinct Master Plan, Structure and Precinct Plan & DPA
- 12. Henley Beach Road Corridor Structure and Precinct Plan & DPA

Medium term priority DPAs, Structure and Precinct Plans (4 to 10 years)

- Outer Harbor Line Precinct*
- 13. Kilkenny TOD Structure and Precinct Plan & DPA
- 14. Arndale Activity Centre Structure and Precinct Plan and DPA
- 15. Port Road and Torrens Road Corridors Structure and Precinct Plan and DPA
- 16. Grange Road Corridor Master Plan and DPA

Long term priority DPAs, Structure and Precinct Plans (11+ years)

- 17. Fulham Gardens Activity Structure and Precinct Plan & DPA
- 18. SA Water Site West Lakes DPA

5.1.2 Design Guidelines and Development Plan Policy

Design Guidelines that build on the character statements detailed in this report for the corridors and major growth areas have been provided in *Report 5 - Development Plan Policy Analysis for Growth Areas*.

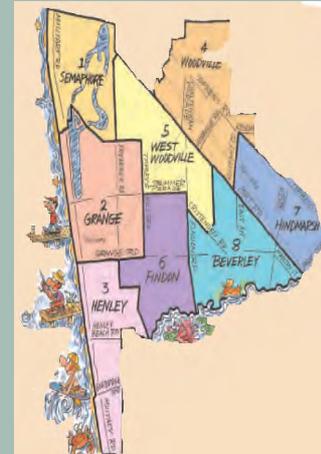
Recommendations for policy content and zoning boundaries are also detailed in *Report 5 - Development Plan Policy Analysis for Growth Areas*.

It should also be noted that DPLG has recently prepared a suite of guidelines relating to form and density of residential development in the key growth areas. These include guidelines relating to Urban Core Zones which will be established to provide a flexible policy framework for master planned precincts around high order tram and train stations. This zone will be divided into various areas (e.g. Core and Transition) with differing density and height provisions.

These provisions will also inform future DPA's around TOD's, activity areas and other nominated residential growth areas.

5.1.3 Structure Plans and Precinct Plans

The 30-Year Plan for Greater Adelaide identifies that Structure Plans for corridors and other major growth areas should be developed. These will identify desired land uses, development outcomes, complying developments and design principles. They will be undertaken collaboratively between DPLG and local government.



City of Charles Sturt Residential Growth + Character Study

Report 5
Development Plan Policy
Analysis for Growth Areas
May 2011

This report has been prepared by:
Jensen Planning + Design

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1 Executive Summary

This report is the fifth report prepared for the Residential Growth and Character Study. This Study has been undertaken by Jensen Planning + Design for the City of Charles Sturt. The study examines future residential growth and character issues across the City of Charles Sturt.

This report:

- describes the assessment of current policy for the targeted residential growth areas based on a desktop analysis and workshop with development assessment and policy staff.
- identifies proposed residential design policy applicable to the **targeted residential growth areas** that will inform a series of forthcoming Residential DPAs
- contains the proposed zoning changes around the targeted growth areas and describes the assumptions and justification for this approach
- describes potential policy approaches for the areas **located outside the targeted residential growth areas**
- builds upon the previous research undertaken and documented in previous reports.

The first report prepared for this project - the *Strategic Context Report*, analyses population trends and policy approaches within the State Government and the City of Charles Sturt.

The second report - *Opportunities and Constraints*, examines potential opportunities and constraints for future residential growth in the City of Charles Sturt. It summarises future population and housing projections specific to Charles Sturt based on a range of population scenarios. It also summarises major environmental, infrastructure and other constraints to achieving future housing growth, and examines how many additional dwellings will be required in the City of Charles Sturt to 2031 to meet the 30 Year-Plan for Greater Adelaide Growth targets.

The third report - *Future Social Infrastructure Requirements*, provides a broad overview of the context and supply requirements of future social infrastructure needs across Charles Sturt.

The fourth report - *Form and Character of Potential Growth Opportunities*, provides recommendations about the future character, form and extent of primarily residential growth in areas that have been identified as having potential for increased residential density in the City of Charles Sturt.

The sixth report - *Review of Certain Historic Conservation Areas*, reviews the zone boundaries and policies for a number of existing Residential Historic Conservation Areas. It identifies opportunities for the refinement of the zone boundaries.

2 Policy Issues

2.1 Areas within Targeted Residential Growth Areas

As outlined in Section 7 of Report 2, in order to achieve the residential targets outlined in the *30 Year Plan for Greater Adelaide*, a significant proportion of the expected future residential growth within the Council area will occur in targeted growth areas (e.g. corridors, TODs and other infill sites). These sites have been identified in detail in the previous report *Character and Form of Potential Growth Opportunities*.

An analysis of zoning issues relating primarily to the existing zoning for these sites follows. The analysis is based on the zoning found in the existing Charles Sturt Council Development Plan. The analysis highlights where policies for particular areas that have been identified as having future residential growth opportunities may require a re-evaluation if residential intensification strategies are to be pursued.

Other work informing policy issues in targeted residential growth areas

It should be noted that the new suite of DPLG BDP modules relating to nominated growth areas will be a key influence on the direction of policy relating to these areas. These modules were released after the development of this *Residential Growth Strategy*, therefore they have not been considered in detail.

Additionally, separate to this Residential Growth Strategy research, the City of Charles Sturt has undertaken a range of studies and concept plans specifically relating to some of the targeted residential growth areas. These should also inform further policy development for the residential growth areas. These studies include the Woodville Village Master Plan, Seaton and Kilkenny TOD Scoping Study and Woodville West Neighbourhood Renewal Master Plan.

2.1.1 Clipsal Site and Environs

The Clipsal site and Origin site (north of the railway corridor) and surrounding land (south of the railway corridor and north of Port Road) are currently contained within the Industry Zone and District Centre Zone - Policy Area 2 (Hindmarsh). The area is also affected by the Airport Building Height limitations - Zone D (structures should not exceed 45 metres above existing ground level).

Any comprehensive residential development project within this area would require wide-scale changes to the Development Plan, with particular attention to the Industry Zone. While residential development is anticipated within the District Centre Zone, a 3 storey limit currently applies.

This area is currently being reviewed as part of a Ministerial DPA process.

2.1.2 Kilkenny Station Environs

An 800 metre radius of the Kilkenny Station includes land contained within the Industry Zone, Mixed Use Zone (either side of Kilkenny Terrace), Residential Character Zone and Residential Zone - Policy Area 16 (Mid Suburban). The area is also affected by the Airport Building Height limitations - Zone D (45 metre height limit) and Zone E (100 metre height limit).

Again, changes to policies within the station catchment would be required to encourage residential redevelopment with particular attention to parts of the Industry Zone.

The current Residential Zone - Policy Area 16 provisions allow low-medium density forms of residential development (i.e. 250 - 400 square metre site areas for attached and attached housing forms), which would also necessitate a review if it was intended to encourage residential intensification. Similarly, the Residential Character Zone provisions allow low-medium density housing at slightly lower densities (i.e. 350 - 450 square metre site area requirements). However, as discussed elsewhere, the review of the heritage character of this area concluded that it is still intact and that it warranted ongoing protection. A strategy to encourage residential intensification of the southern parts of the Kilkenny Character Area would be at the expense of maintaining this historic character.

A scoping study for the Kilkenny and Seaton Park TODs has been undertaken.

2.1.3 Railway and Port Road Corridor (Bowden to Cheltenham)

This vast area (defined for the purpose of this analysis as 800 metres either side of Port Road and an 800m radius surrounding stations on the rail line) includes land contained within the following Zones/Policy Areas (with estimated proportions):

Zone	Policy Area	Estimated Proportions
Industry Zone		20%
District Centre Zone	Hindmarsh PA 2 Woodville PA 5	10%
Residential Character Zone		35%
Residential Zone	Inner Suburban PA 15 Mid Suburban PA 16 Integrated Medium Density PA 20	20%
Mixed Use Zone		5%
Neighbourhood Centre Zone	Welland PA 14	<5%
Local Centre Zone		<5%

Parts of the area are also affected by the Airport Building Height limitations - Zones C (15 metre height limit), D (45 metre height limit) and E (100 metre height limit).

Any residential intensification strategy within this corridor would need to consider the following possible policy changes and issues:

- Whether any of the existing Industry Zone areas are underutilised and would warrant rezoning to accommodate residential redevelopment (Note: this could only occur in accordance with the assessment framework contained within the Metropolitan Adelaide Industrial Land Strategy (2007) and the City of Charles Sturt Industrial Land Study 2008);
- The current Residential Zone - Policy Areas 15 and 16 provisions allow low-medium density residential development forms (albeit at slightly different densities). This will require further evaluation if higher residential densities are to be encouraged;
- In contrast, the Residential Zone - Policy Area 20 does not prescribe maximum site areas and effectively encourages a wide range of dwelling types at 'medium to high densities'. However, the Desired Character Statement does encourage two storey development, with "three storey buildings appropriate in the middle of the policy area", suggesting the need for amended policy to provide for taller buildings;
- As discussed above, the Residential Character Zone density provisions would impose limitations on residential intensification objectives for parts of this area. The analysis of some Historic Conservation Areas (reported elsewhere) suggested that there may be some justification in reconsidering the Historic Conservation Area designation of the Brompton Park area, which lies within this corridor.

2.1.4 Hanson Road, Athol Park

This area is mostly contained within the Residential Zone - Policy Areas 16 (Mid suburban) and 20 (Integrated Medium Density). The area is also affected by the Airport Building Height limitations - Zone E (100 metres height limit).

The Residential Zone - Policy Area 20 (Integrated Medium Density) parts of this area correspond to concentrations of Housing SA properties. As mentioned, the current policies are encouraging of residential redevelopment at "medium to high densities". The remaining areas are contained within Policy Area 16 (Mid Suburban), which imposes density/site area limits of between 250 and 400 square metres per dwelling (for detached and attached housing forms). This will warrant a re-evaluation if higher residential densities are anticipated.

2.1.5 Cheltenham / Sheridan Sites and Woodville Station Environs

The former Cheltenham Racecourse and Sheridan sites are contained within the Residential Zone - Policy Areas 22 (Cheltenham Park) and 21 (Woodville Medium Density). Woodville Road (within a 400 metre radius of the Woodville Railway Station) is mostly contained within the District Centre Zone - Policy Area 5 (Woodville); Residential Zone - Policy Area 16 (Mid Suburban); and the Residential Character Zone. The area is also affected by the Airport Building Height limitations - Zone E (100 metre height limit).

Both the former Sheridan/Actil and Cheltenham Racecourse sites have been the subject of relatively recent new policy provisions and therefore do not warrant any further attention for now.

The District Centre Zone - Policy Area 5 (Woodville) is further differentiated into two Precincts - 20 Civic and 21 Recreation / Education. The former essentially relates to the mix of uses either side of Woodville Road, between the train line and Port Road; while the latter relates to the St Clair recreation facilities and the Woodville High School site. While the District Centre Zone provisions allow medium to high density residential development, the Desired Character Statements and Policy Area provisions are somewhat less encouraging and ambiguous. This would necessitate changes if, for example, forms of higher density residential development were to be encouraged within Precinct 21, subject to the Woodville Village and Environs DPA.

Similarly, a significant part of the station catchment is currently contained within the Residential Character Zone (in particular east of Woodville Road and predominantly north of the railway line). As discussed previously, the site area provisions are more conservative than most other residential areas. This area was not reviewed as part of the assessment of particular Historic Conservation Areas (reported elsewhere). Any intentions to encourage higher residential densities within this area would be at the expense of maintaining the acknowledged historic character of the area. These considerations have been taken into account as part of the Woodville Village Master Plan for this precinct.

2.1.6 Albert Park Station Environs / Woodville West Housing SA Land

This area (400 metre radius of the Albert Park Train Station) is contained within the Residential Zone - Policy Area 16 (Mid Suburban); Industry Zone and a Local Centre Zone. The area is also affected by the Airport Building Height limitations - Zone E (100 metre height limit).

Consideration would need to be given to changing the current Industry Zone designation of parts of the station catchment (subject to the assessment framework contained within the Metropolitan Adelaide Industrial Land Strategy (2007) and recommendations from City of Charles Sturt Industrial Land Study 2008).

The remaining areas are contained within Policy Area 16 (Mid Suburban), which imposes density/site area limits of between 250 and 400 square metres per dwelling (for detached and attached housing forms). This will warrant a re-evaluation if higher residential densities are anticipated.

A Ministerial DPA is soon to be completed for the Woodville West Housing SA regeneration which will create a mixed use neighbourhood node, and accommodate a mix of medium density housing.

2.1.7 West Lakes and Seaton

This area, extending from West Lakes to Tapleys Hill Road, south of West Lakes Boulevard, is contained within the District Centre Zone - Policy Area 4 (West Lakes); Stadium Zone; Industry Zone; and Residential Zone - Policy Area 20 (Integrated Medium Density). The area is also affected by the Airport Building Height limitations - Zone E (100 metre height limit).

The District Centre Zone consists of 2 Precincts (Retail Core West Lakes and Lakefront). The Lakefront Precinct provisions allow medium to high density residential development with some qualifications. Assuming mixed use development (including shop-top housing) is a form of development to be encouraged within and immediately adjacent to the District Centre there would be some justification in reviewing the provisions of the District Centre, Stadium and Industry Zones within this area.

The concentration of Housing SA land located south of West Lakes Boulevard and west of Tapleys Hill Road is contained within the Integrated Medium Density Policy Area 20, which imposes no housing density limitations but does limit building heights to 2 - 3 storeys. This will require re-evaluation if higher forms are to be encouraged.

A small pocket of residential land (the south-west corner of the West Lakes Boulevard / Tapleys Hill Road intersection) is contained within Mid Suburban Policy Area 16, which imposes density/site area limits of between 250 and 400 square metres per dwelling (for detached and attached housing forms). This will warrant a re-evaluation if higher residential densities are anticipated.

A Ministerial DPA for the redevelopment of the AAMI Stadium site and surrounds is soon to be commenced.

2.1.8 Seaton Park Station Environs

This area (400 metre radius of the Seaton Park Railway Station) is contained within the Residential Zone - Policy Area 16 (Mid Suburban); Industry Zone; and Special Use Zone (i.e. Grange Golf Course). The area is also affected by the Airport Building Height limitations - Zone D (45 metre height limit) and Zone E (100 metre height limit).

Consideration would need to be given to changing the current Industry Zone designation of parts of the station catchment (subject to the assessment framework contained within the Metropolitan Adelaide Industrial Land Strategy (2007) and recommendations from City of Charles Sturt Industrial Land Study (2008).

The Local Centre Zone provisions do allow various forms and densities of residential development, subject to not compromising the primary intent of the zone.

A significant part of the station catchment is contained within the Mid Suburban Policy Area 16, which imposes density/site area limits of between 250 and 400 square metres per dwelling (for detached and attached housing forms). This will warrant a re-evaluation if higher residential densities are anticipated.

A scoping study for the Kilkenny and Seaton Park TODs has been undertaken.

2.1.9 Grange Road Corridor and Findon Shopping Centre Environs

This area extends approximately 400 metres either side of the length of Grange Road (including the Findon Shopping Centre) and includes land contained within the following Zones/Policy Areas (with estimated proportions):

Zone	Policy Area	Estimated Proportions
Residential Zone	Mid Suburban PA 16 Western Edge PA 17 Integrated Medium Density PA 20	75%
Residential Character Zone		5%
Local Centre Zone	Local Shopping PA 7	<5%
Mixed Use Zone	Urban Village Findon 9 Mixed Use PA 47	10%
Industry Zone		5%
Neighbourhood Centre Zone	Findon PA 10	<5%

The area is also affected by the Airport Building Height limitations - Zone C (15 metre height limit).

The majority of this area is contained within the Mid Suburban Policy Area 16, which imposes density/site area limits of between 250 and 400 square metres per dwelling (for detached and attached housing forms). This will warrant a re-evaluation if higher residential densities are anticipated.

Two relatively small pockets, adjacent to the Findon Shopping Centre and in West Hindmarsh are contained within the Integrated Medium Density Policy Area 20. This imposes no housing density limitations but does limit buildings heights to 2 - 3 storeys. This will require re evaluation if higher forms are to be encouraged.

2.2 Areas Outside Targeted Growth Areas

As outlined in Section 7 of Report 2 and in the preceding Section 2.1, in order to achieve the residential targets outlined in the *30 Year Plan for Greater Adelaide*, a significant proportion of the expected future residential growth within the Council area will occur in targeted growth areas (e.g. corridors, TODs and other infill sites). In order to achieve these targets, rezoning will be required of much of the lower density Residential Zones in the Council area (other than the Character Area Zones which are proposed to remain intact).

The State Government, through the *30 Year Plan for Greater Adelaide*, has put forward the proposal that 80% of the existing metropolitan area will remain largely unchanged as a result of the Plan (page 72). This is reinforced by Policy 3 on page 71 of the Plan which states that new growth should be concentrated ... "so that the urban character of the majority of neighbourhoods remains largely unchanged." The targeted growth applies to the remaining 20%. Importantly, the Plan has not yet been made clear whether keeping the character of those areas "largely unchanged" is intended to mean that existing densities will be retained or the existing zoning regime will be retained.

There are therefore two main policy approaches that could be applied within the Council area that are not part of the targeted growth areas:

1. *Retain the Existing Policy Intent of these Areas*

The main existing Policy Areas within the Residential Zone that will not be affected by the targeted growth areas are the Mid Suburban, Western Edge and West Lakes General Policy Areas. These Policy Areas provide for limited growth, which is currently generally taking place in the form of demolitions and replacement with one house for two or sometimes one house for three (semi-detached and group dwellings). This is generally seeing replacement of a medium size house on a large block with two large houses on two smaller blocks.

The policy implication of this is that, over the long term, the vast majority of the Council area, apart from the Residential Character Area Zones, will be replaced by new homes on generally small (or smaller) allotments. The Character Area Zones will provide for generally slightly larger allotments (family housing), while high densities will be located in all of the growth areas.

2. *Restrict Increasing Densities in Areas Outside the Growth Areas*

An alternative policy approach would see a further restriction of urban infill in the areas outside of the growth areas (or part thereof), largely affecting parts of the Mid Suburban and West Lakes General Policy Areas. It is suggested that the Western Edge Policy Area provisions could be retained given that this Policy Area is promoting new housing in areas close to the coast.



In order to protect family housing, apart from family homes in the Character Area Zones, new policies could be developed that, for example, require infill housing sites to be of a larger size in order that more comprehensive and better designed new housing can result. This would largely require site amalgamation (other than for existing larger sites), and would therefore dampen redevelopment activity in these areas. However, it would result in both the protection of family housing and limited higher quality infill development on larger sites.

In the context that so much of the Council area lies within the growth areas (due to the number of corridors, TOD sites and other infill development sites within the Council area), such a policy approach could be justified and would be more consistent with the 30 Year Plan for Greater Adelaide policy that the neighbourhood character of 80% of the metropolitan area will remain unchanged.

Once a new policy approach has been determined, changes to Policy Areas and Desired Character Statements would be required to reflect such a change.

3 Policy Recommendations

3.1 Zone Boundaries for Targeted Residential Growth Areas

A broad desktop assessment (supported by some limited field work that has not covered every location) has been made to identify potential rezoning of residential growth areas. The purpose of identifying these areas is to:

- Inform the scope of a future Residential DPA. It is understood that further local analysis will be undertaken during the Residential DPA to fine tune the zoning boundaries. The recommended zone boundary changes have been determined at a strategic scale and generally do not reflect detailed local circumstances such as streetscapes, land uses, character, vegetation and so forth.
- Facilitate residential growth opportunities as identified in the previous Report 4

The potential rezoning as shown in the following figures.

3.1.1 Assumptions Made Influencing Recommended Zone Boundaries

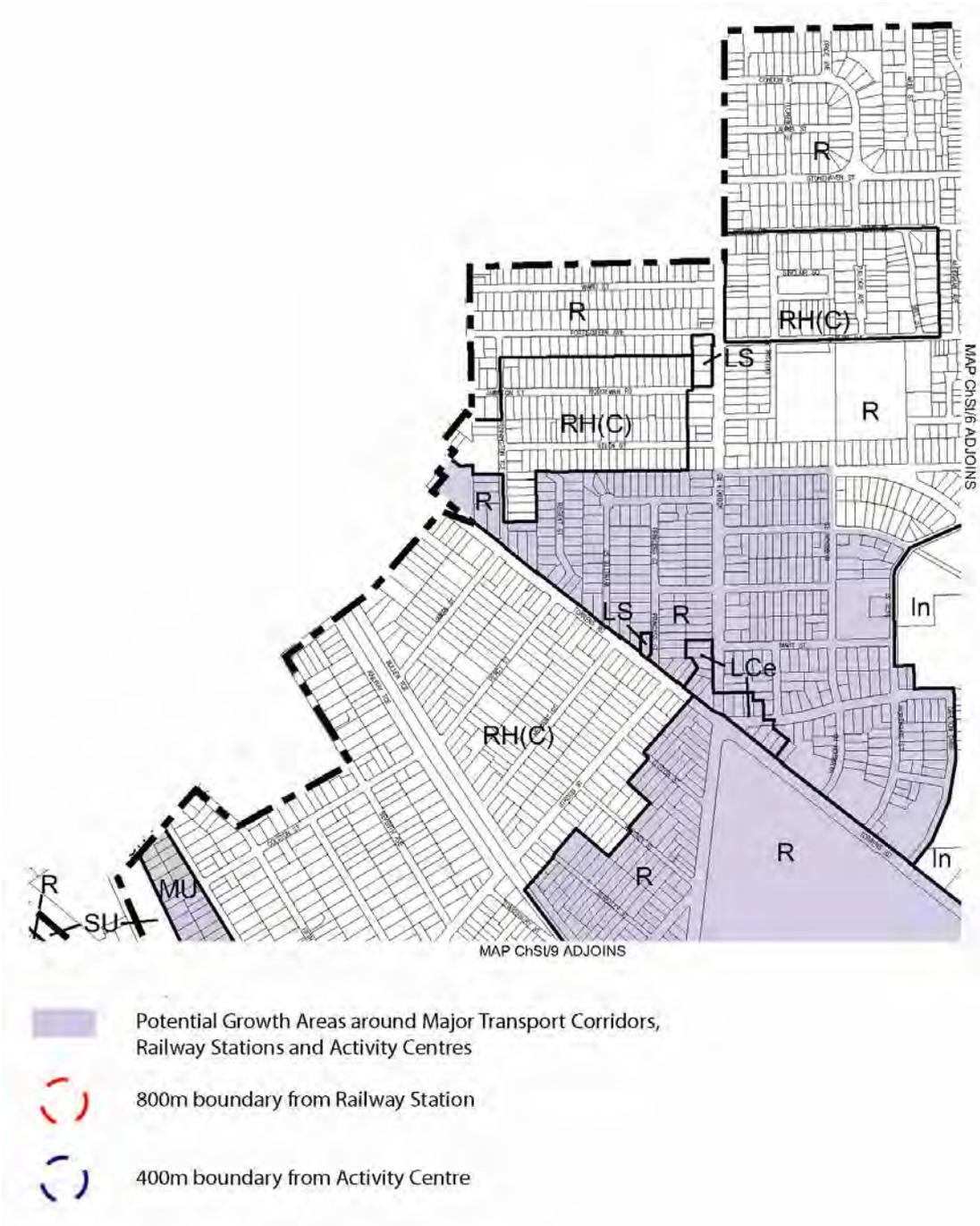
In determining recommended zone boundaries, a number of broad assumptions have been made so that the zoning boundaries reflect local circumstances and development potential. These assumptions are:

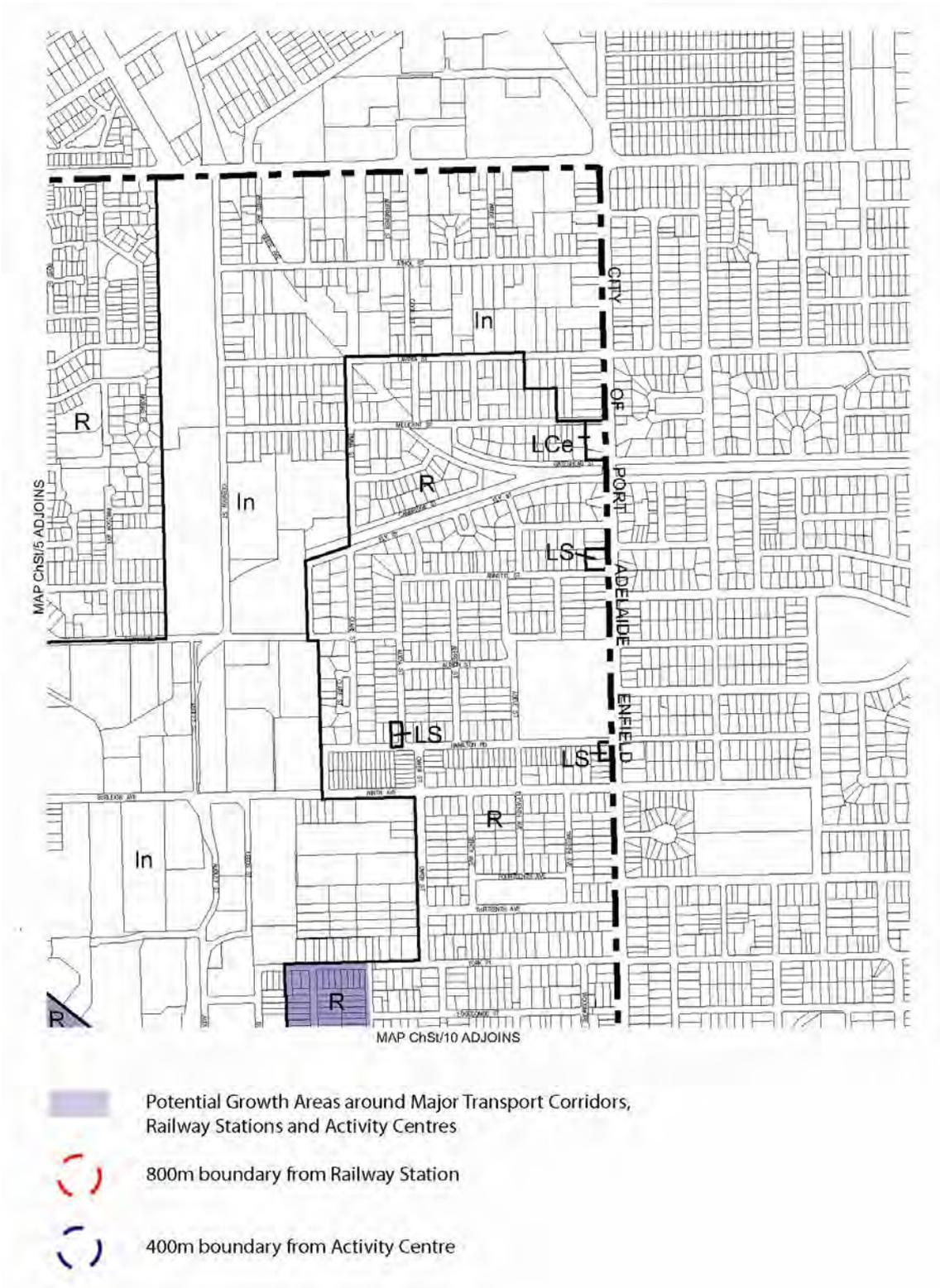
- Historic Conservation Areas are retained. With significant growth opportunities throughout much of the City of Charles Sturt, it is considered that there is no justification for requiring highly valued historic conservation areas to be nominated as growth areas.
- Industry Zoning is retained, except for industry zoning relating to the nominated growth areas (Kilkenny, Bowden/Clipsal, West Lakes SANFL land, Devon Park, Seaton Park). The retention of land for industry is important in order to provide continued opportunities for employment areas closer to residential regions.
- Local Shopping or Local Commercial Areas have generally been included in the general growth areas as these provide excellent opportunities for mixed use development close to areas of activity
- Growth areas broadly include 400m either side of the main road corridors, and an 800m radius around train stations. Instead of a generic straight line or circle, the zone boundary generally follows a more logical boundary around roads.
- In some areas, there is evidence of more recent development (e.g. high capital to site value ratios, cul de sac street pattern, minimal residential infill opportunity). In these areas an assumption has been made that new residential development will be unlikely and the zoning boundary has been adjusted to exclude these areas.

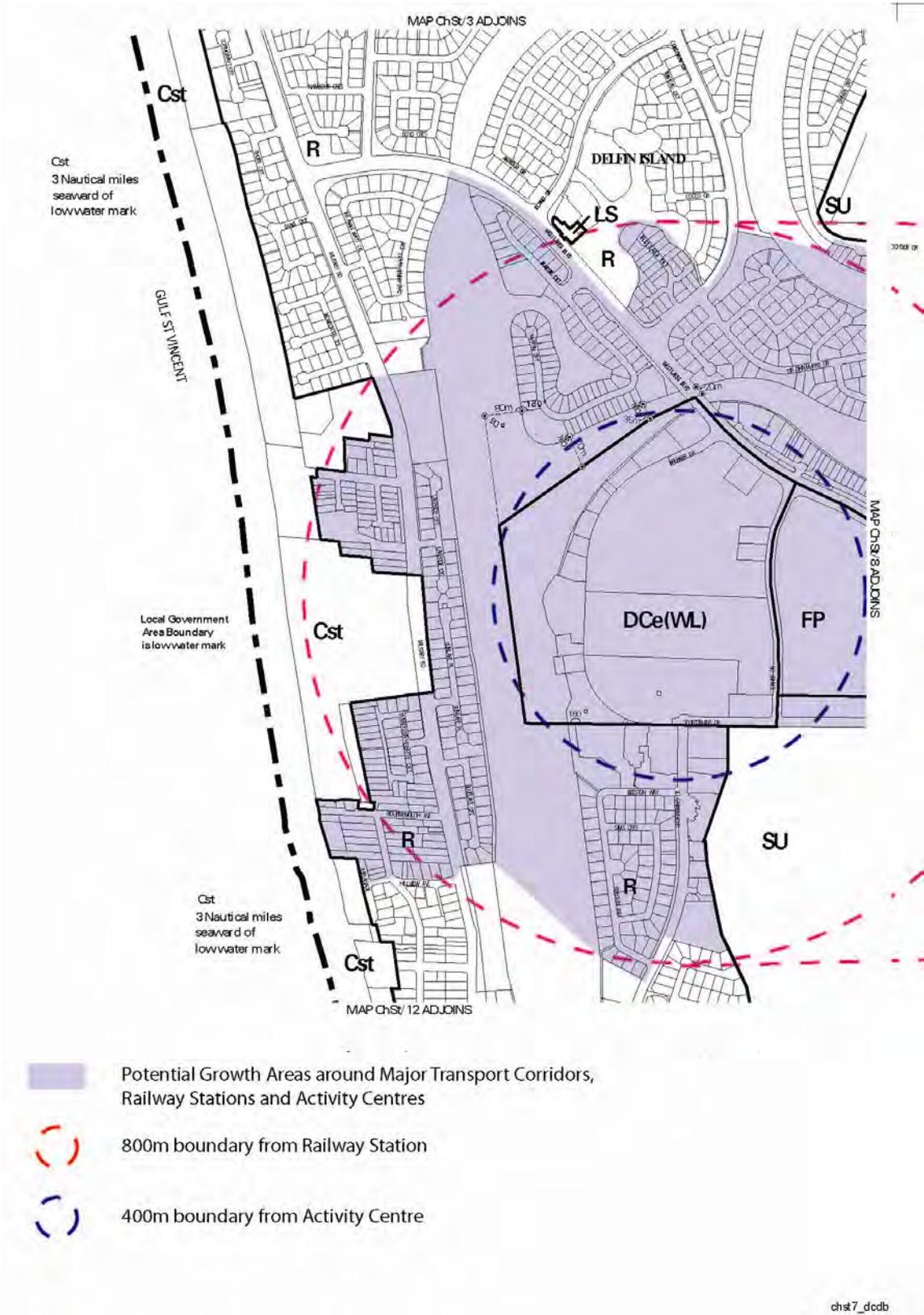
3.1.2 Zone Names

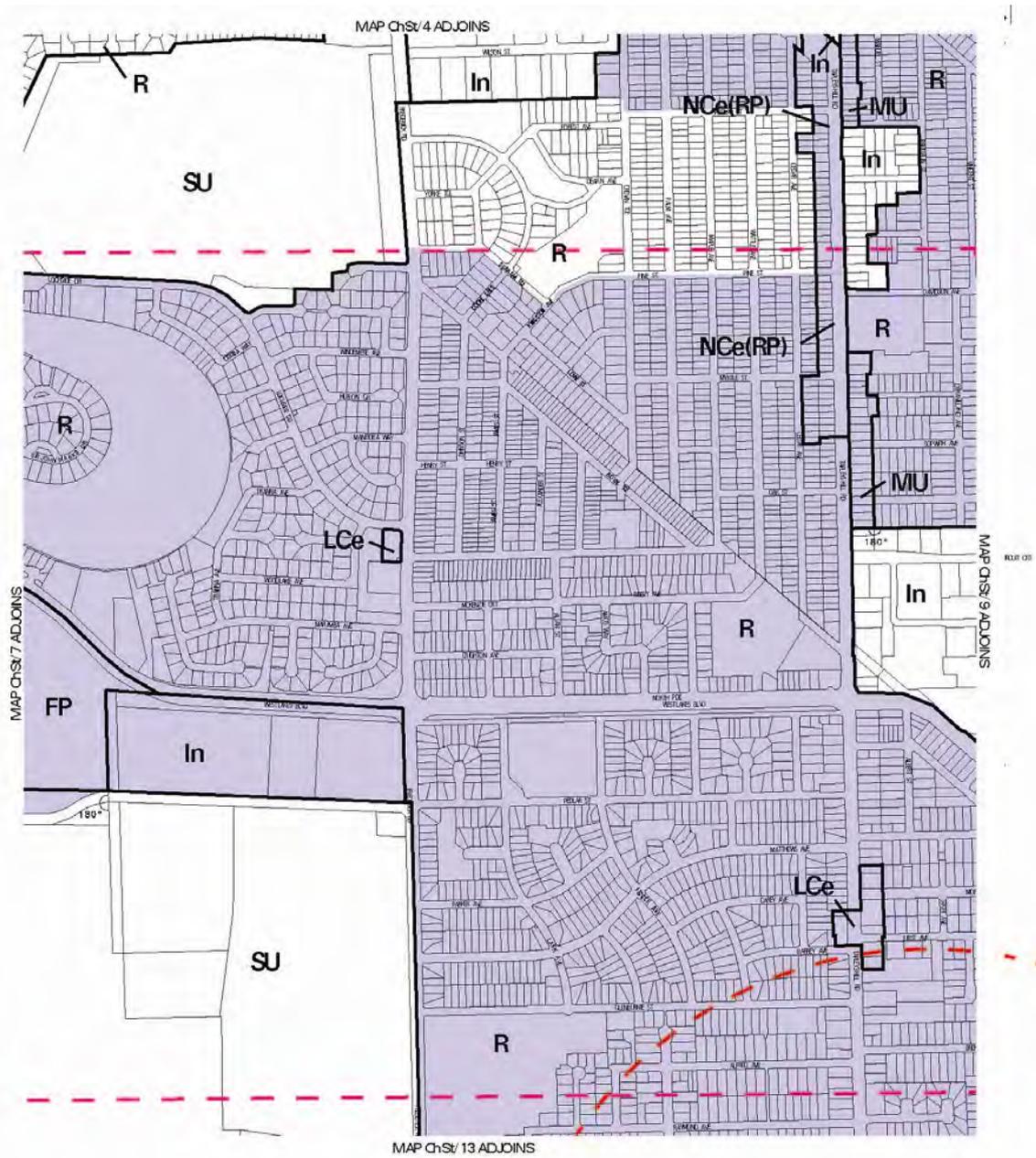
No recommendation has been made as to the name or content of the areas nominated for rezoning. Broadly, they are residential and mixed use growth areas. The zoning description and policy coverage relevant to these areas have been provided by DPLG in their new suite of BDP policy modules that cover TOD's, nominated activity areas and nominated growth corridors.





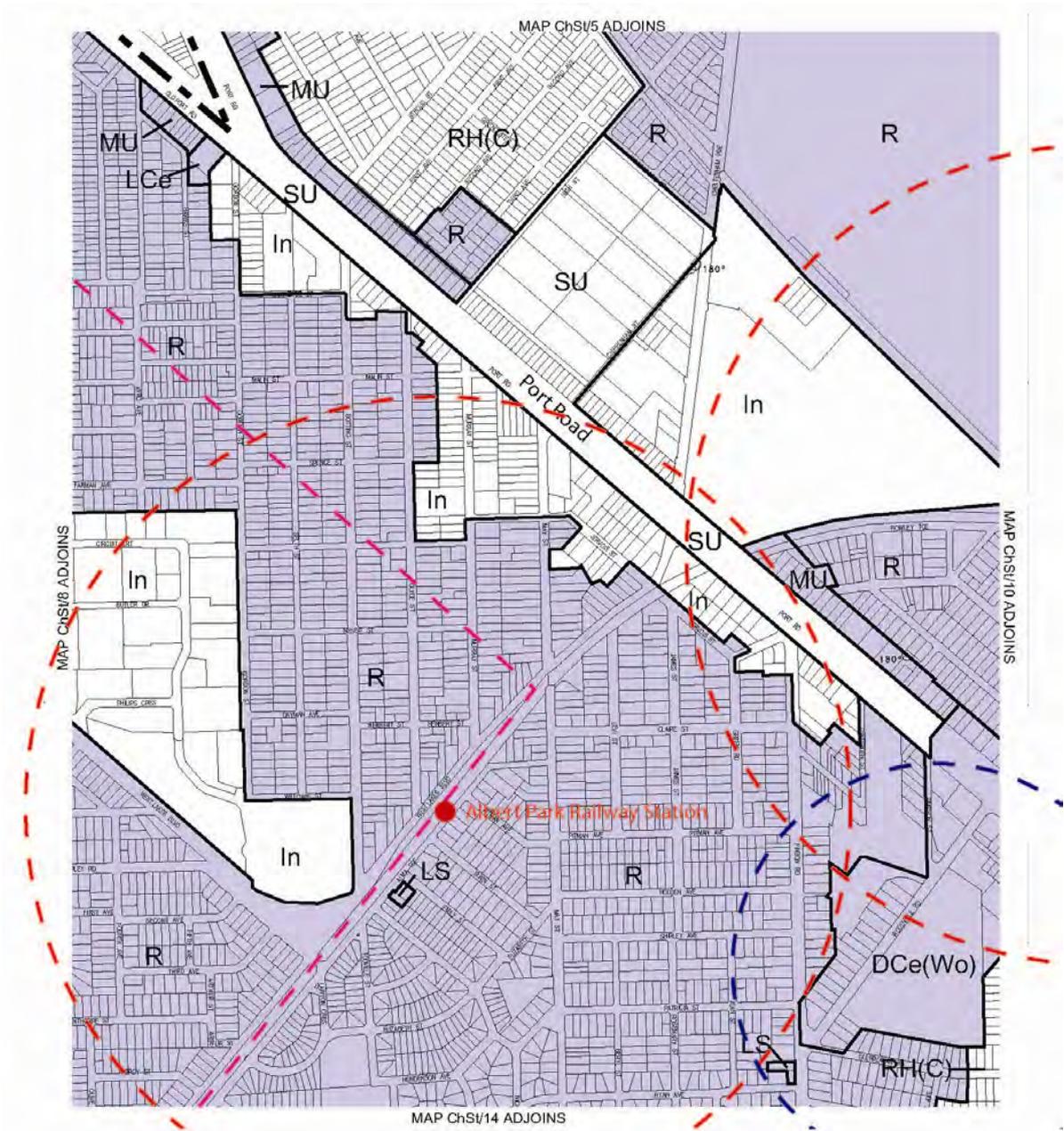




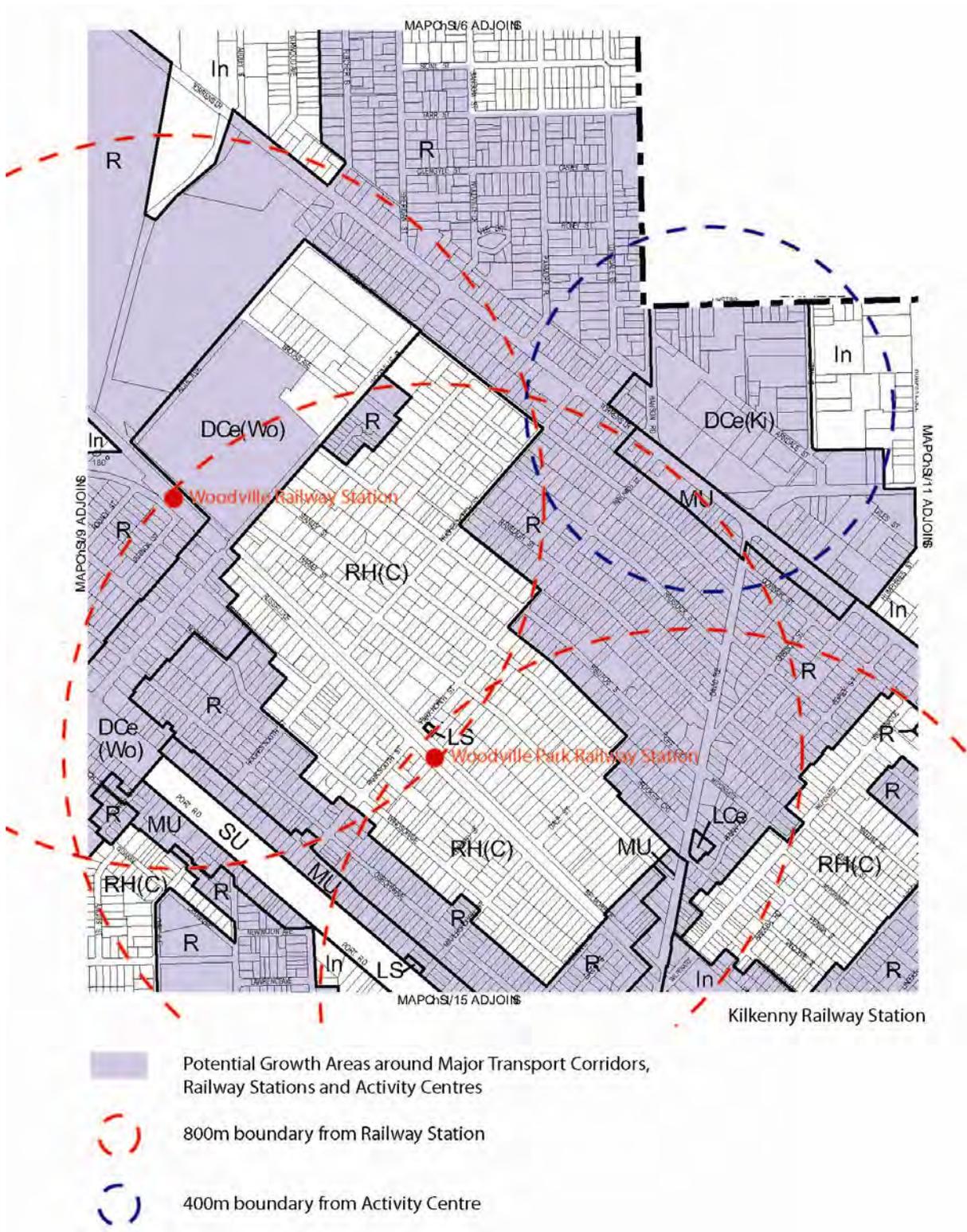


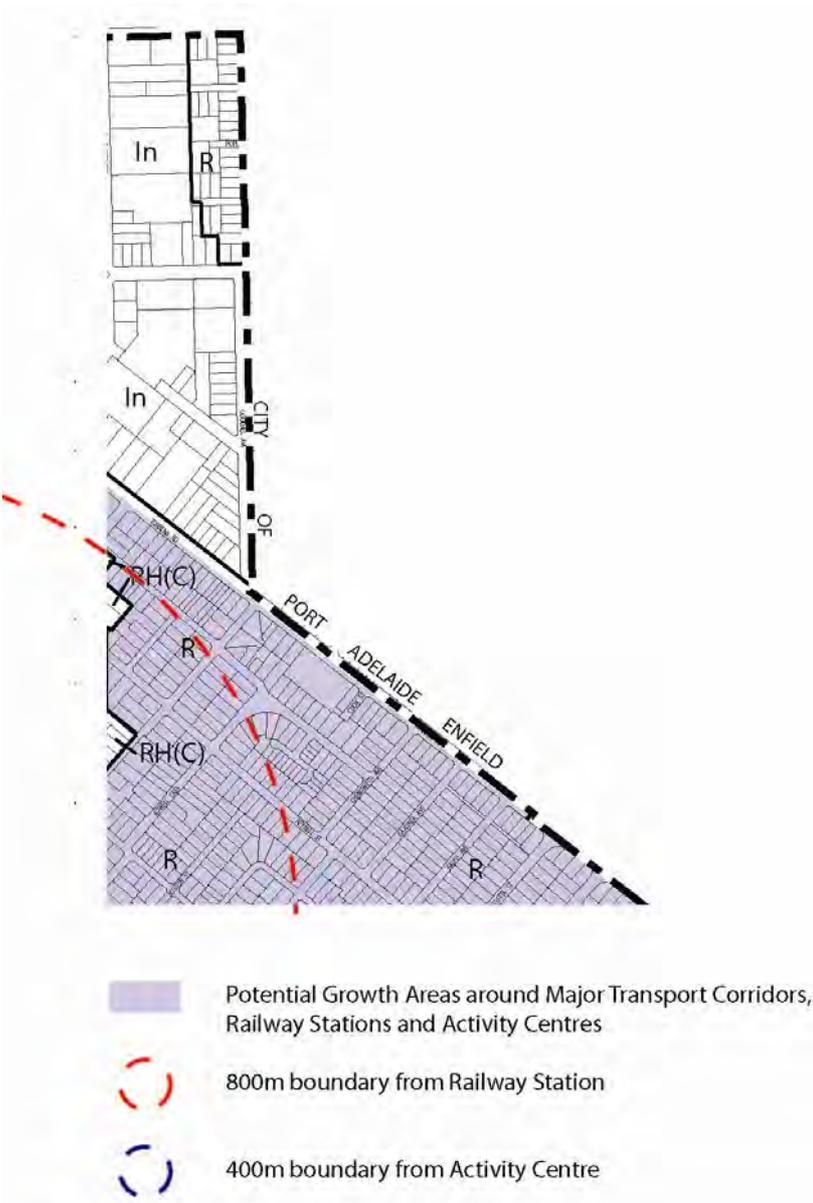
- Potential Growth Areas around Major Transport Corridors, Railway Stations and Activity Centres
- 800m boundary from Railway Station
- 400m boundary from Activity Centre

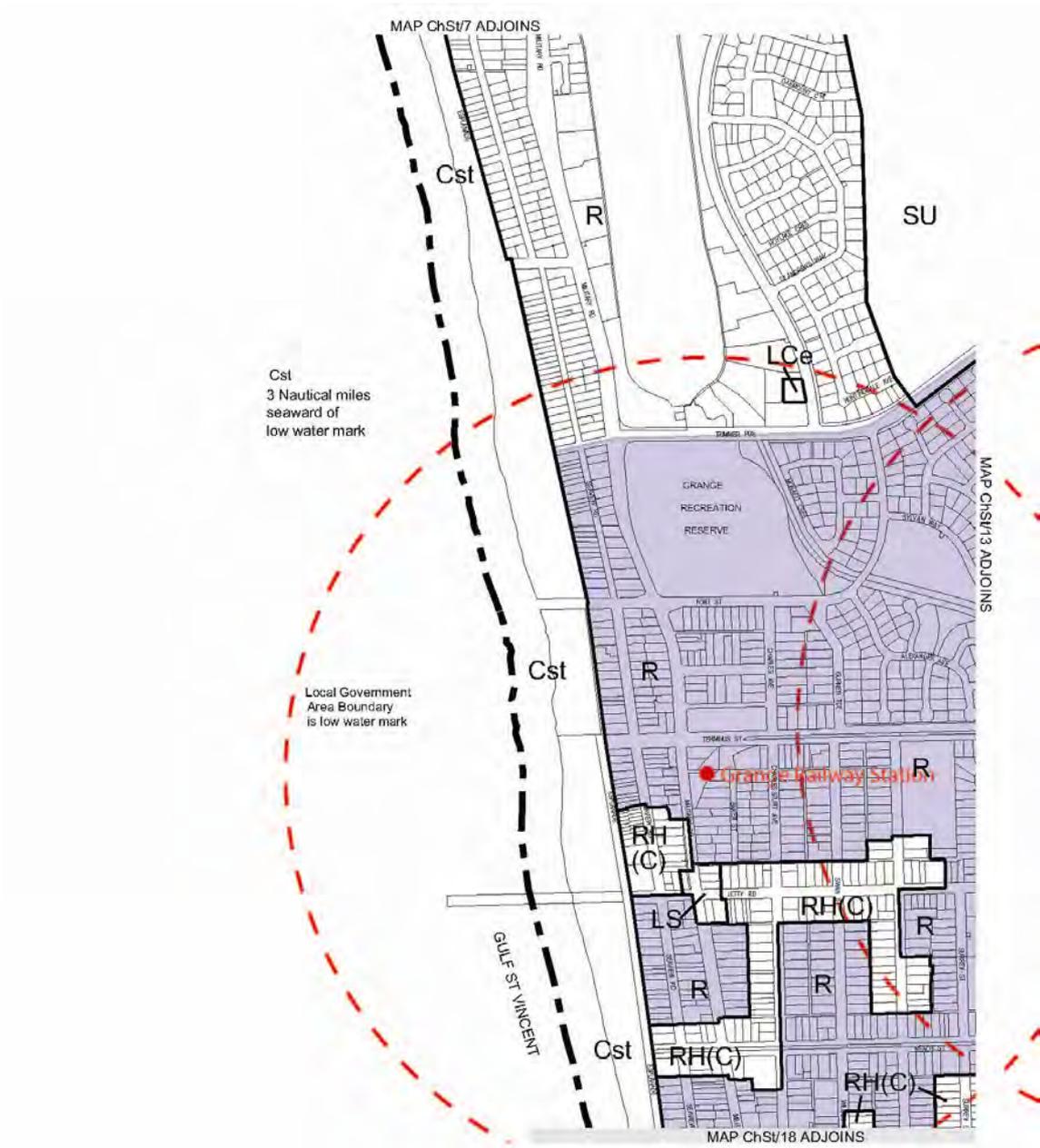
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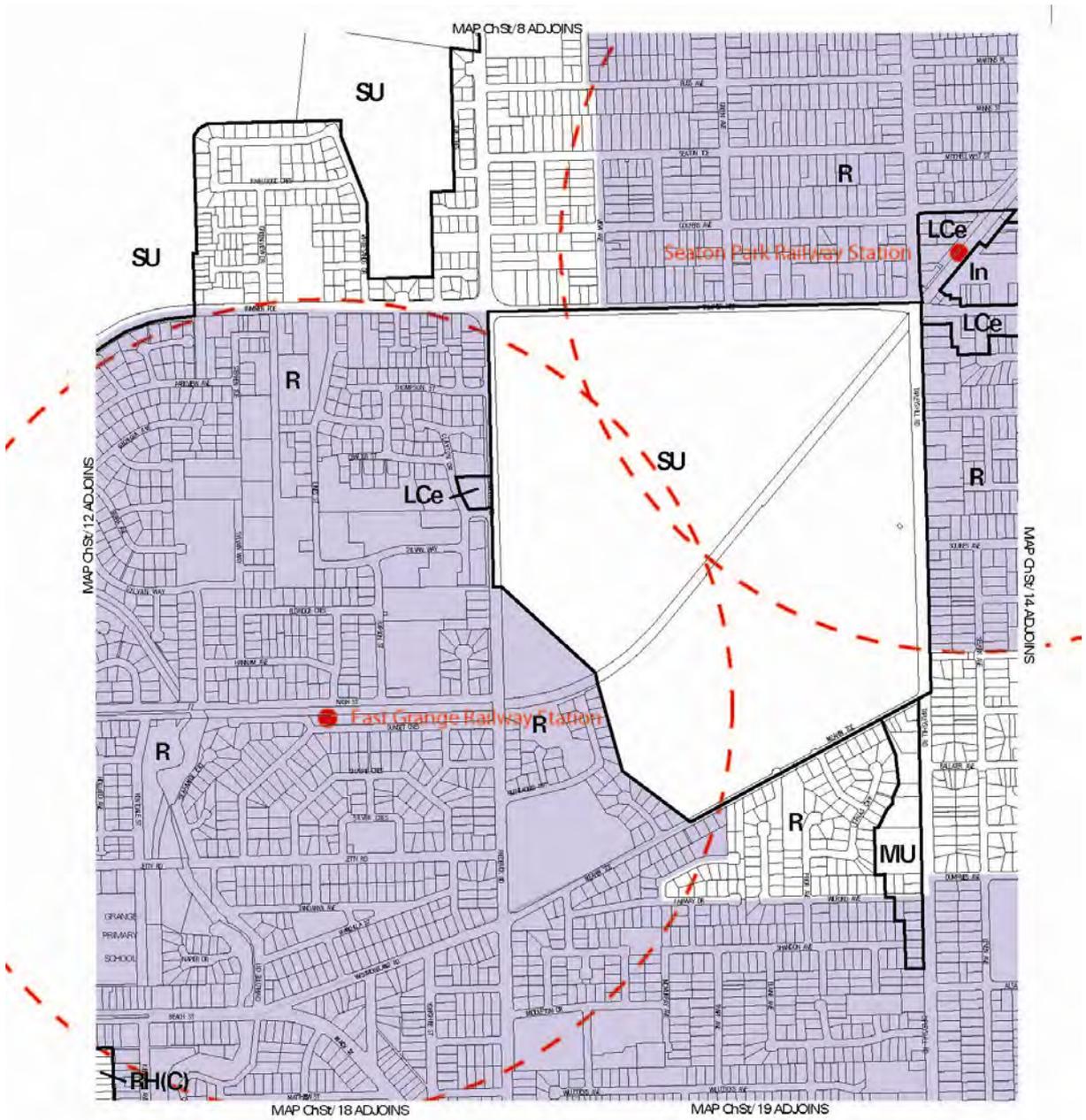
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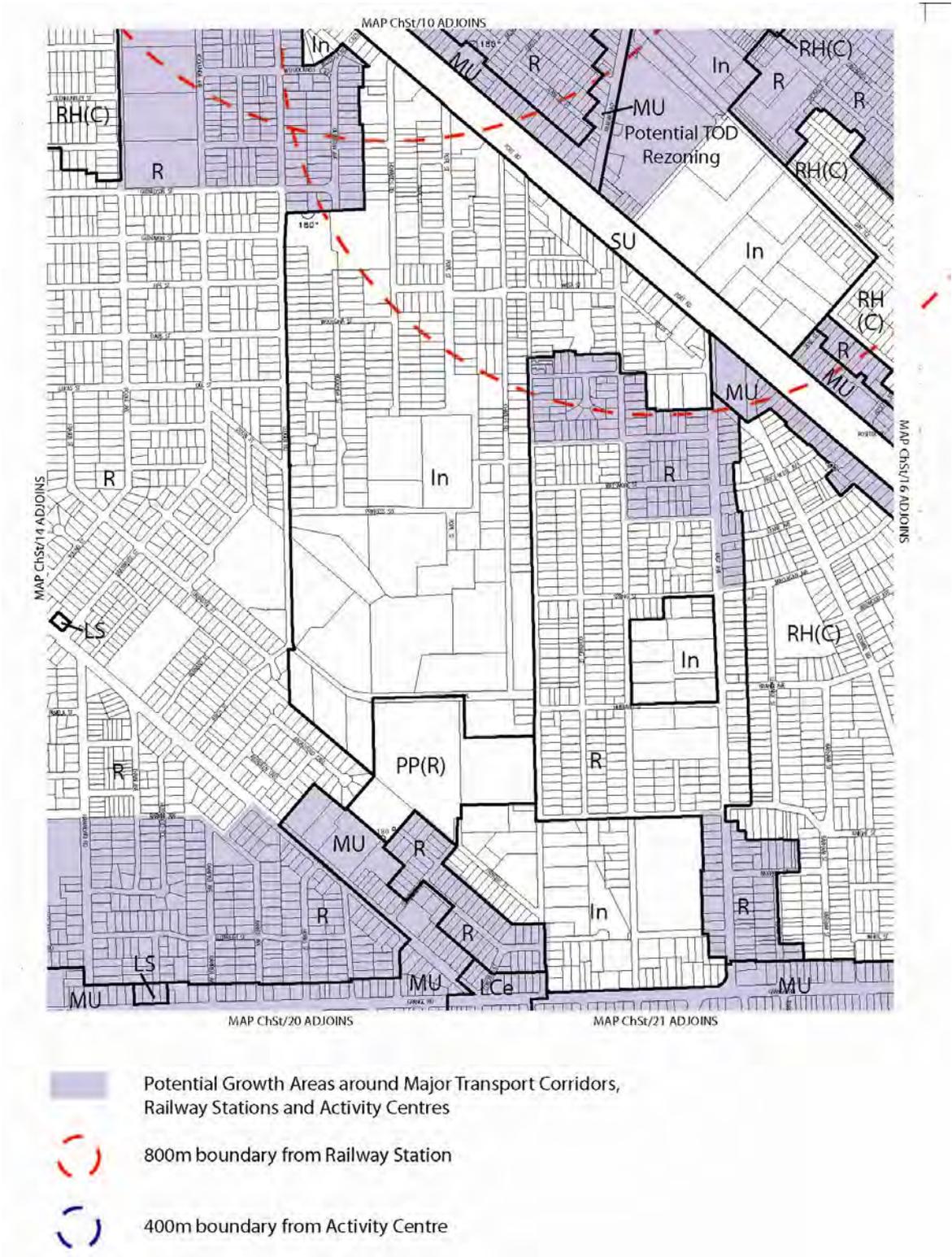


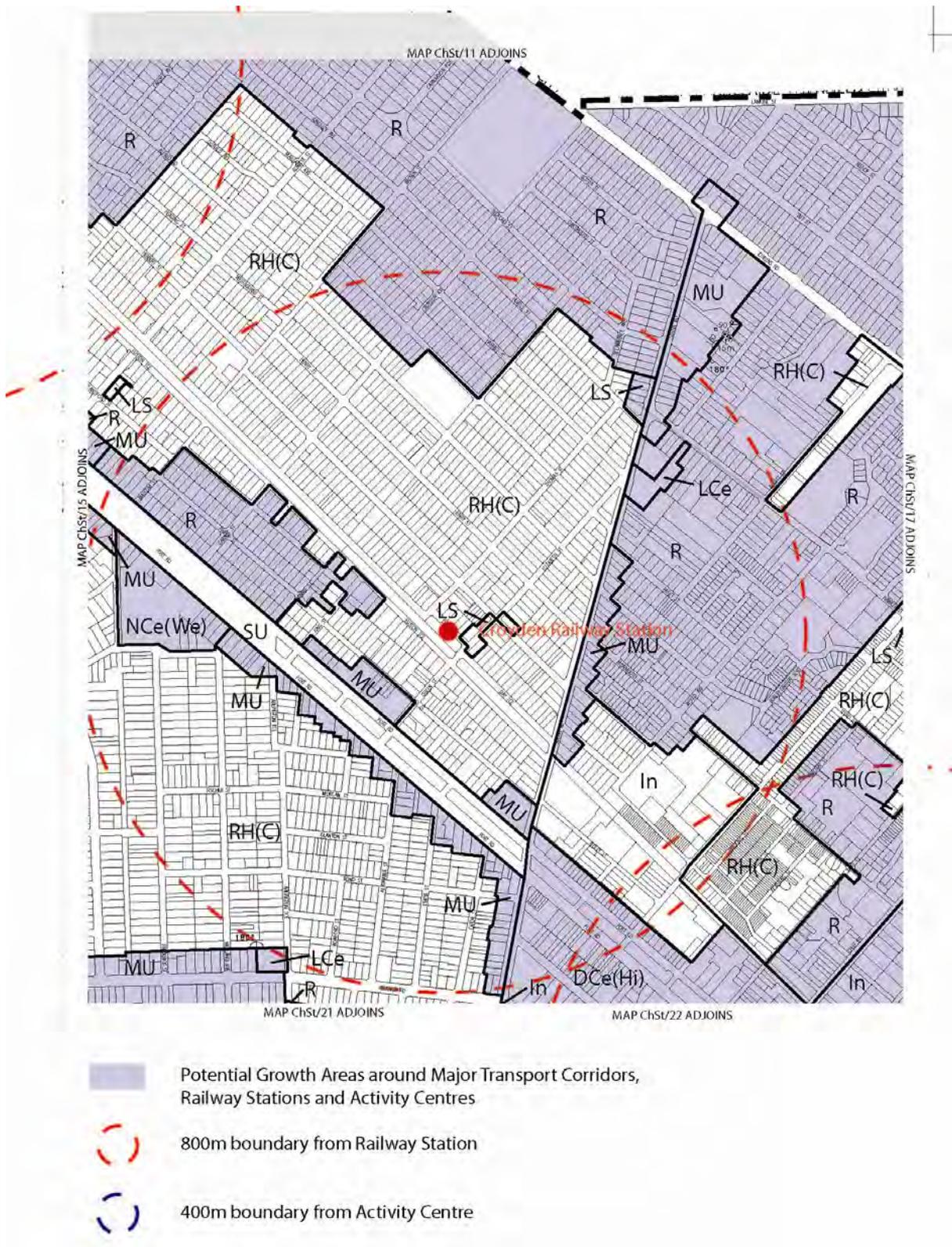
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-  800m boundary from Railway Station
-  400m boundary from Activity Centre

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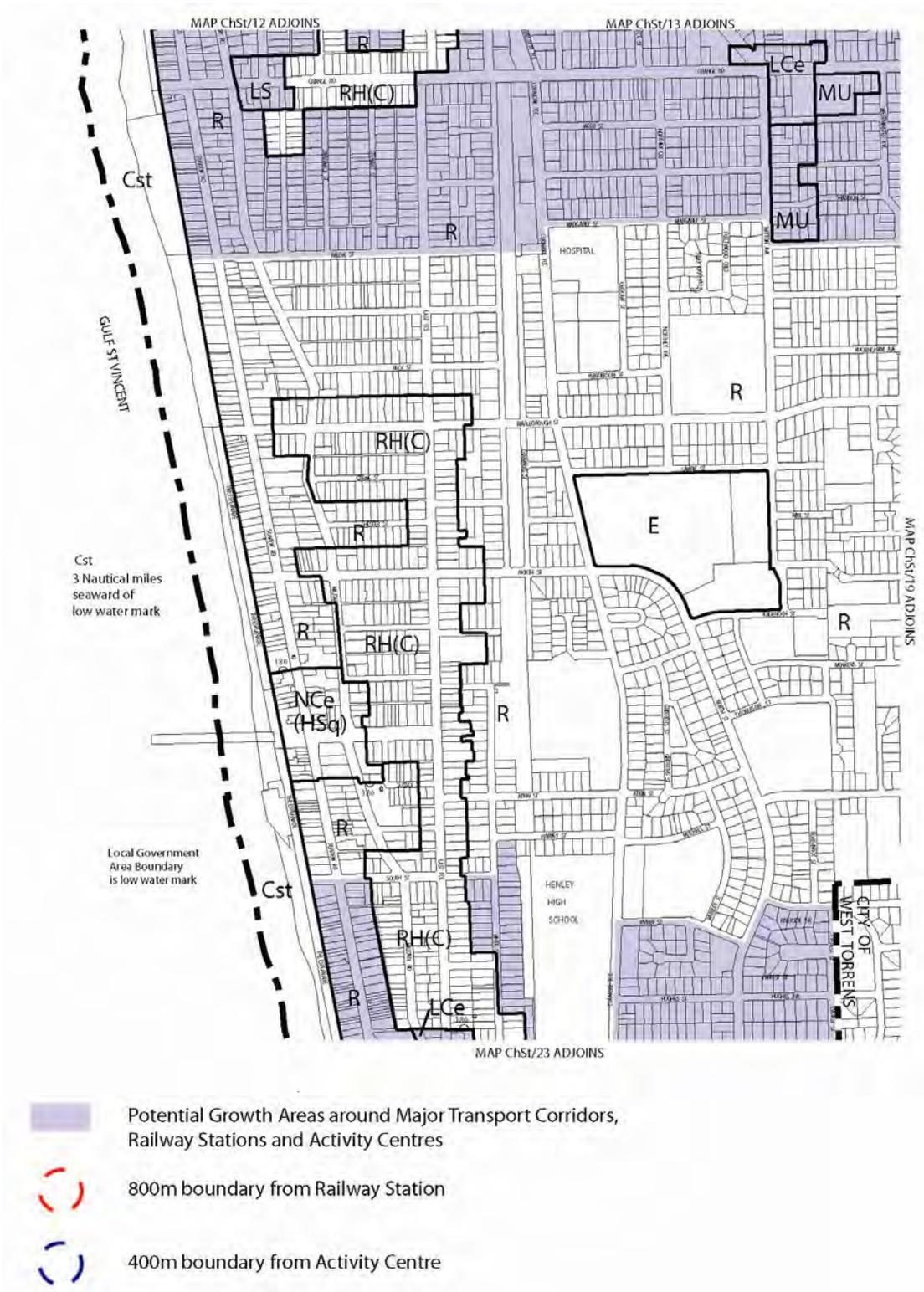
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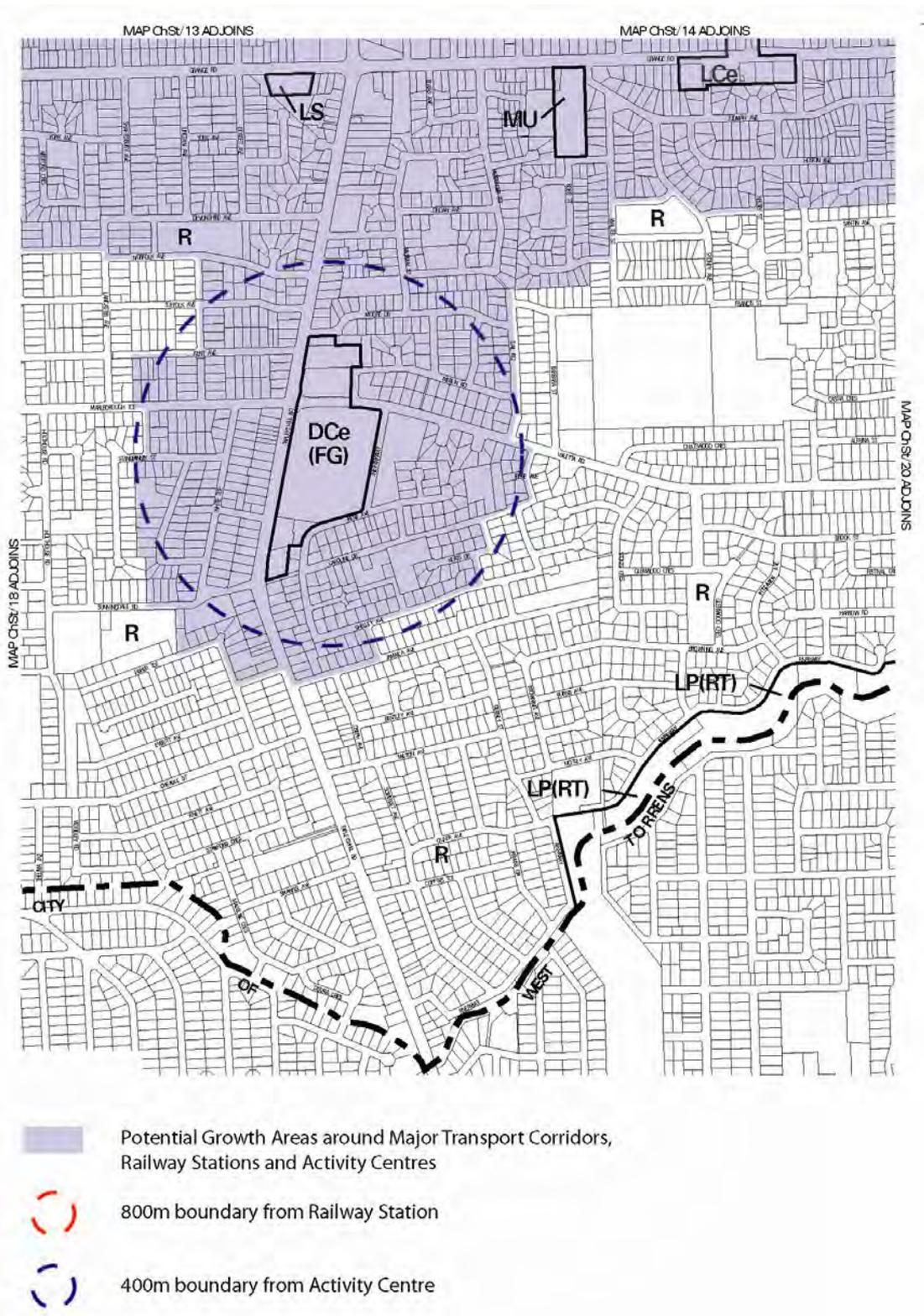






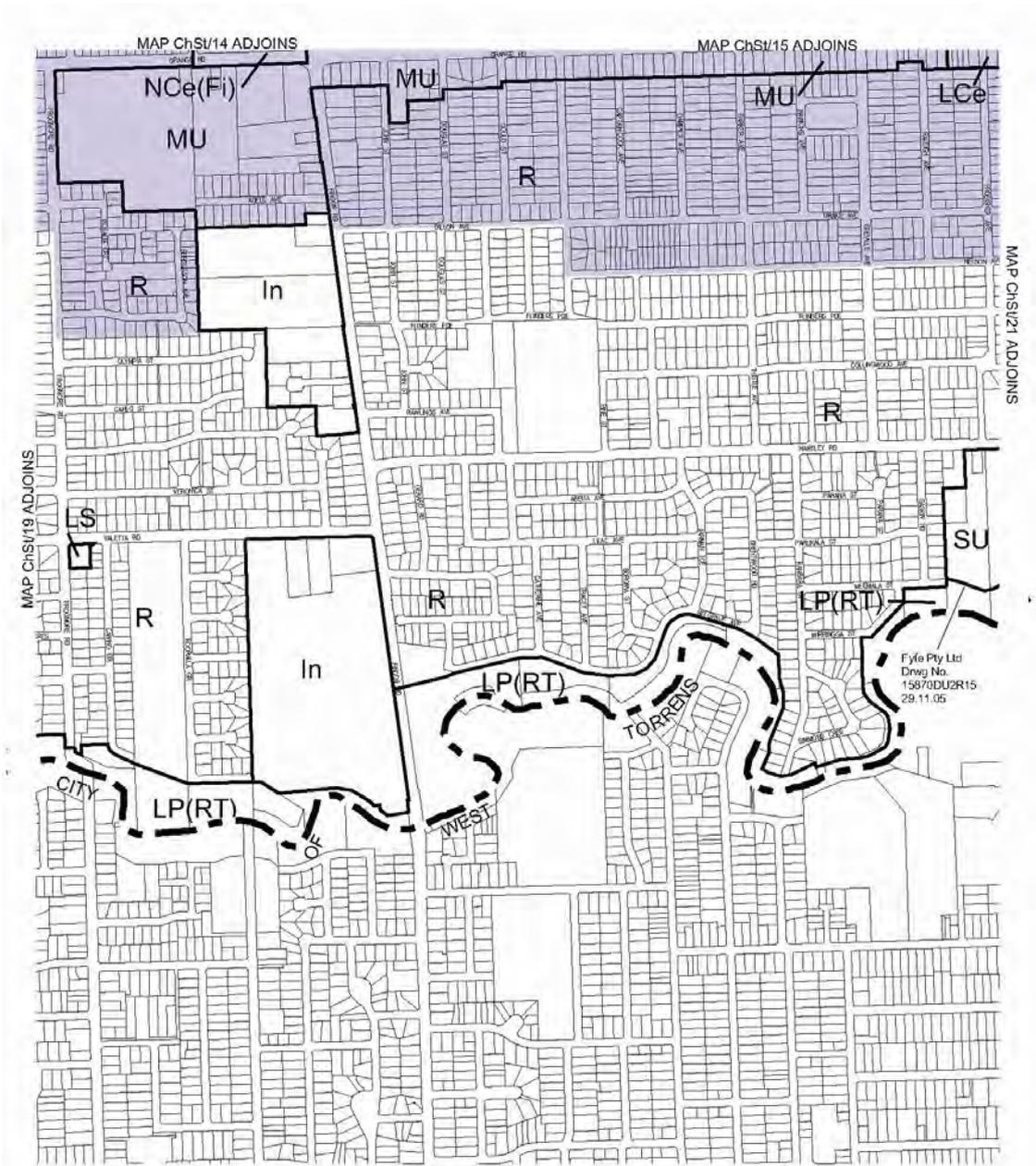
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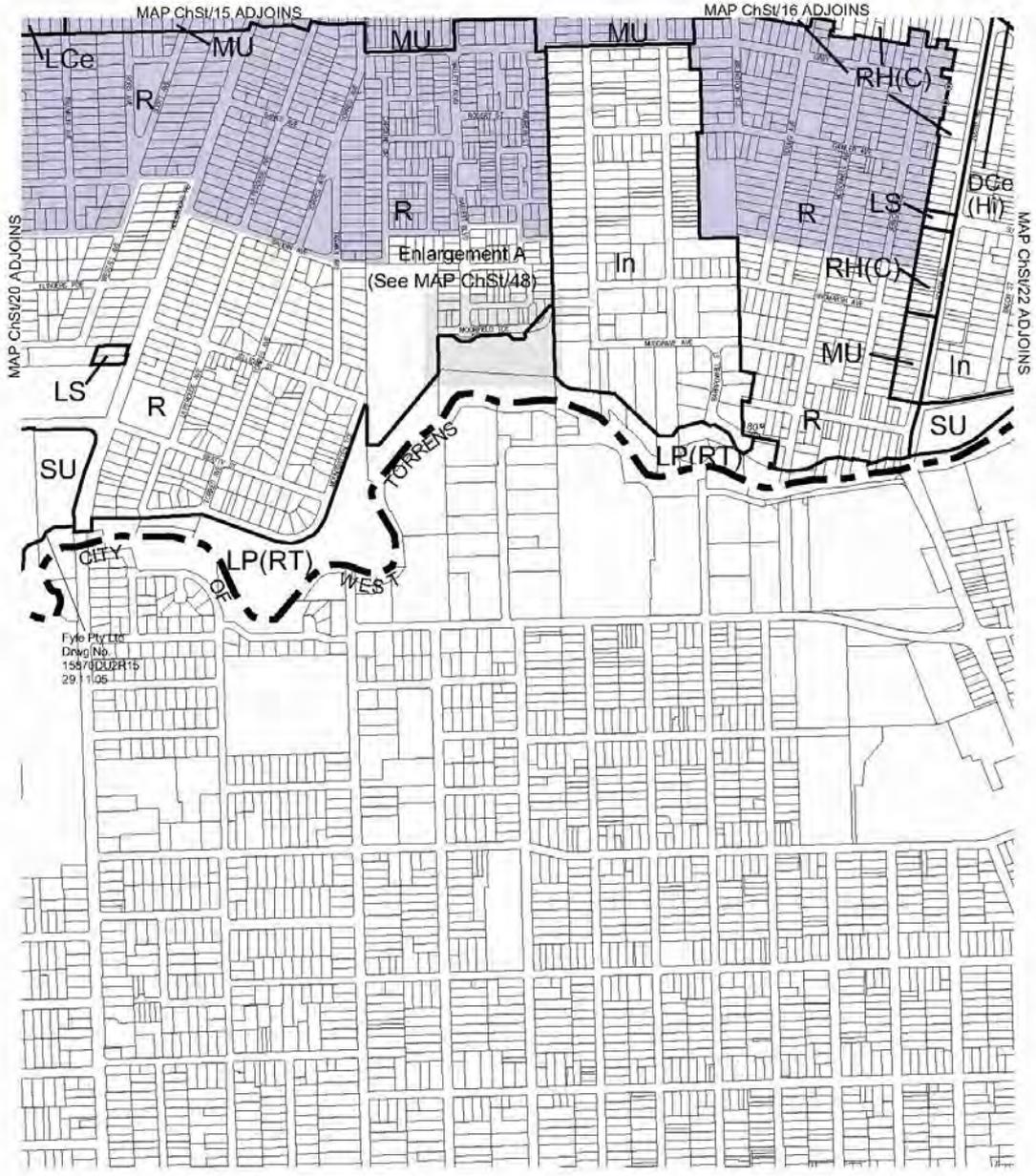


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- 800m boundary from Railway Station
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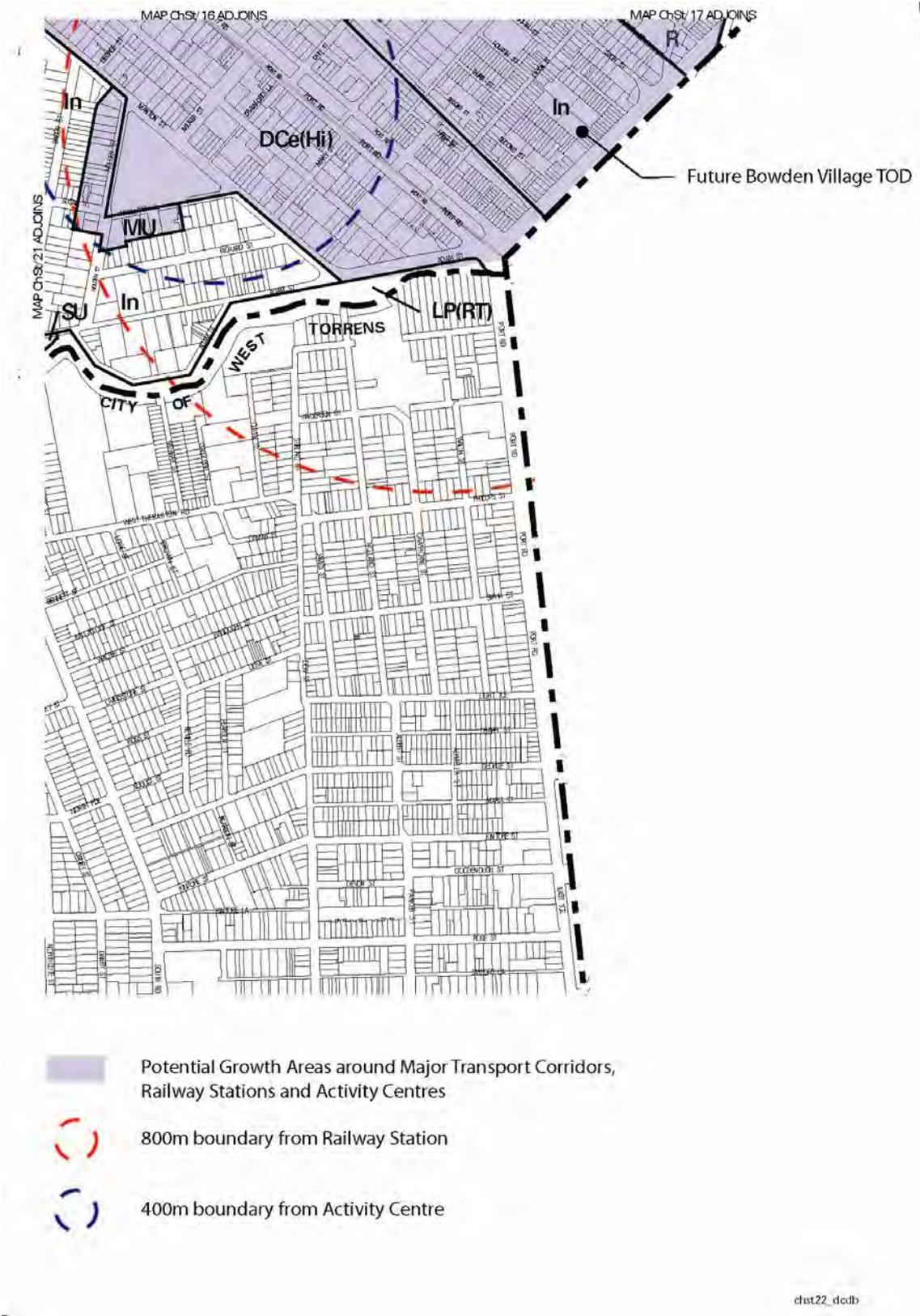
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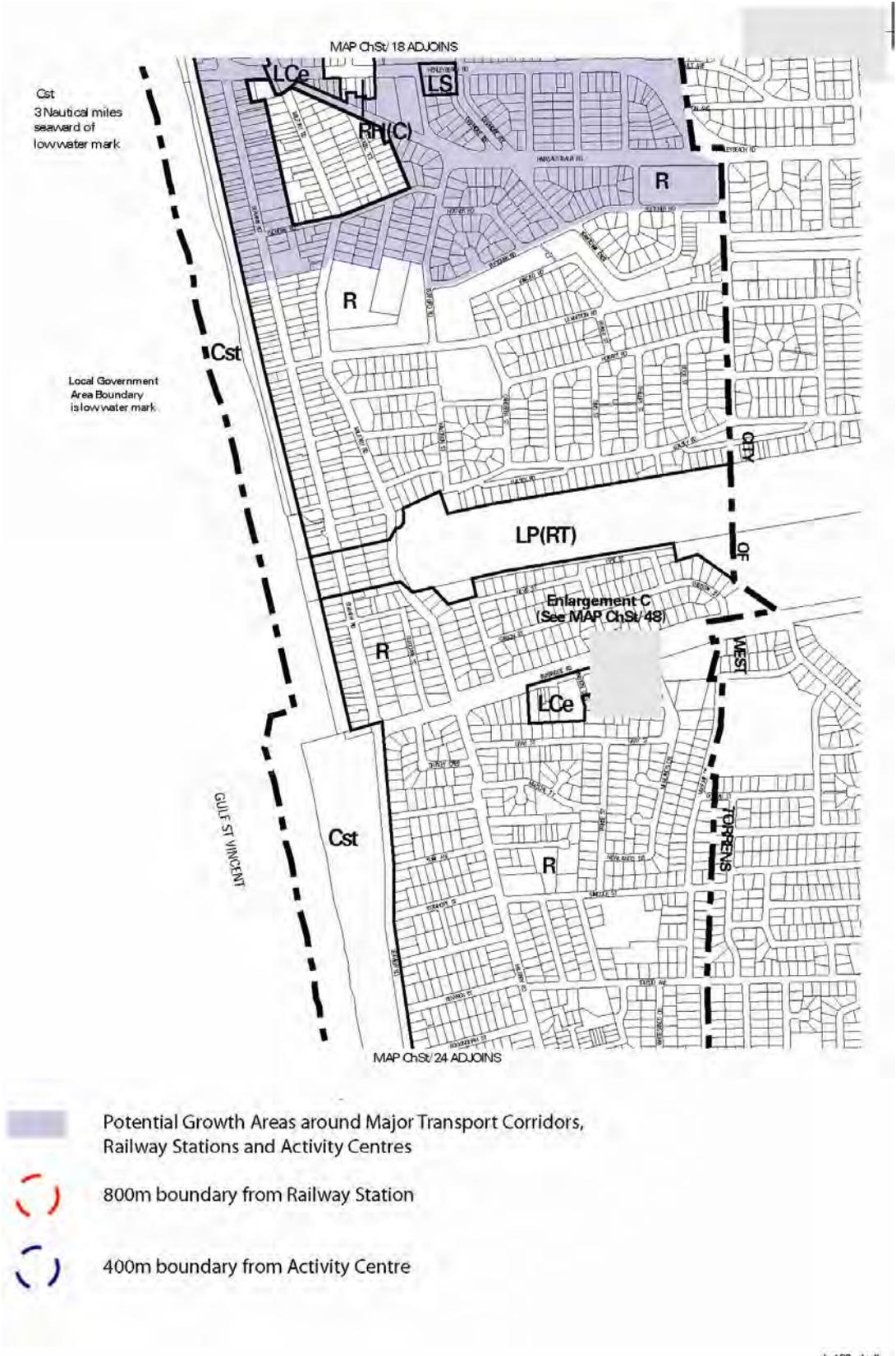


-  Potential Growth Areas around Major Transport Corridors, Railway Stations and Activity Centres
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-  400m boundary from Activity Centre



- Potential Growth Areas around Major Transport Corridors, Railway Stations and Activity Centres
- 800m boundary from Railway Station
- 400m boundary from Activity Centre





3.2 Residential Design Policy Coverage

The following recommendations relate to a variety of issues that have been identified that currently inhibit, or are at odds with, the general objectives for residential growth, form and character that have been described in this study and detailed in the previous Report 4 *Character and Form of Potential Growth Opportunities*.

These issues have been identified through:

- Desktop review of current zoning and policy
- Desktop review of BDP zoning options
- Research into the residential market relating to current and predicted supply and demand trends
- State Government and Local Government policy directions (i.e. 30 Year Plan, City of Charles Sturt Strategic Planning documents)
- A workshop held with Development Assessment, Policy and Strategy staff to identify current Development Plan constraints and opportunities

These recommended design approaches specifically relate to:

- Parking
- Open Space
- Aircraft
- Interface
- Fencing
- Sustainability
- Dwelling Sites in Residential Character Zones with Historic Conservation Area Overlay
- Hammerhead Development
- Multistorey Housing
- Affordable Housing
- WSUD
- Walking and Cycling
- Coastal Development
- Flooding

The purpose of these recommendations relating to policy coverage is to provide general direction for the investigations and policy development stages of a future Residential DPA which will address issues of form and character in the residential growth areas. Most of these recommendations relate to Council wide provisions and some will also be applicable to local policy area context. They should be further explored during the DPA process.

3.2.1 Parking

Concerns have been raised about the impact of an increased number of driveways created by semi-detached and row-dwellings in particular, and the consequent loss of on-street parking. It would appear that in some cases Council is depending on available on-street spaces across the road from new semi-detached and row-dwelling developments, which means that if development occurs on the other side of the road in the future these spaces will be lost.

The intention is that visitor parking is available on the same side of the street and either directly in front of dwellings or immediately adjacent, and this would need to be enforced. Typically, driveways for row dwellings in Charles Sturt should be via rear lanes or rear shared driveways only. In the case of semi-detached dwellings, there should be sufficient space between the two driveways to ensure one on-street vehicle space. It is not considered sound practice to assume visitors will park in the driveways of the people they are visiting (as often these areas are used by residents), and therefore visitor spaces for Torrens Title lots should be on-street.

For group dwellings and residential flat buildings, visitor spaces should be on-site in separately marked spaces, not in front of the garages of individual dwellings. The only time spaces in front of individual garages should be counted for visitors is where a double garage exists (ie, residents have 2 undercover spaces). Street spaces in front of group dwellings and residential flat building sites can also be counted, particularly where there is a dwelling or dwellings facing that street.

3.2.2 Open Space

Council staff members have suggested that the Development Plan provisions for private open space should be reduced to be consistent with the Residential Code Standards. This raises the whole issue of whether all Residential Code Standards should now be reflected as consent use standards in the Development Plan. The problem with the Residential Code Standards is that they are in effect "complying use" standards, which traditionally were more conservative than those in the Development Plan for consent use applications. That is, the open space requirement for complying development might be, for example 80m² per dwelling, but for consent use applications the number might be 60m². The Residential Code Standards have reversed this, as it has introduced lower numbers than the consent use provisions.

Council's existing policies in PDC 25 in the Residential Development section are appropriate, although it is not recommended to go above 20% of site area. The requirements for group dwellings and residential flat buildings are considered too high.

3.2.3 Aircraft

Council should identify, amend and incorporate appropriate policy provisions from West Torrens Council's Adelaide Airport Zone.

3.2.4 Interface

The targeted growth areas will be located such that there will be interfaces between lower density Residential Zones and Residential Character Zones. As outlined earlier in this Report, it is intended to ensure that residential development decreases in height / scale as it approaches the interface with lower density zones. Generally this reduction in height should be such that the height at the boundary should be similar to or only slightly above (maximum 3 metres) the maximum height permissible within the adjoining lower density zone.

Apart from height of buildings there are a number of other design techniques available to improve compatibility between higher density and lower density zones, including location of landscaping / tree planting, building articulation, selection of building materials and compatibility of roof form.

Council's existing Plan has a section called "Interface Between Land Uses" in the General Council Wide section.

With respect to the residential development adjacent to noise sources such as arterial roads / rail lines, it is recommended that PDCs be incorporated that link Design Standards to the Australian Standards which are included in several other Council Development Plans as well as in the Good Residential Design Guide originally produced by the government.

With respect to interface between residential and non-residential within the same building or in developments that are adjacent non-residential uses, a standard set of Council Conditions of Approval can be developed and used to control impacts, including limiting hours of operation, licensing, etc.

3.2.5 Sustainability

There were no issues raised by Council officers with respect to this matter that were able to be incorporated into Council's Development Plan, other than where, in lower density areas in particular, the focus could be placed on ensuring that gardens are sized to have scope for tree planting as well as other vegetation. With higher densities, great emphasis is placed on street tree planting and that this should be dealt with during evaluation of streetscape impacts of new development and in Council's Engineering Standards for street design.

Building orientation and noise issues are already adequately dealt with.

3.2.6 Dwelling Sites in Residential Character Zones with Historic Conservation Area Overlay

The intent of policy is to ensure retention of all contributory places / heritage places within the area.



The issue is that semi-detached / detached dwellings are allowed, as well as group dwellings and residential flat buildings. However, staff believed that the minimum lot frontages encourage demolition and subdivision into detached / semi-detached (apart from the policies that discourage demolition of contributory places).

Because the policies state a requirement for an 18m frontage before one can develop a battle-axe lot (refer PDC 10 of Character Zone), on lots with less than an 18m frontage, applicants seek to increase density through other means (i.e. via semi-detached development). However, staff agree that semi-detached dwellings are a form of development that is inconsistent with the character that is being sought.

The policy is clear that contributory places are to be kept (Historic Conservation Area Objectives and PDC 3 and 4). The confusion arises because the policies do "allow" for detached, semi-detached and row dwellings on narrow allotments.

This is further exacerbated by PDC 4(c) in the Historic Conservation Area, which suggests that a contributory item can be demolished or removed if a replacement development is erected (*which doesn't diminish the level of contribution to this historic character*), and the replacement building is approved at the same time as the demolition. PDC 4(c) basically means that contributory items may be demolished and replaced with new development provided that it does not diminish the level of contribution to the historic character. However, this is often considered impossible to administer, as it is asking the planning authority to assess whether a new building diminishes the level of contribution of the existing building to the historic character of the locality. This difficulty is exacerbated elsewhere in the Plan by the Policy which states that *"it is not intended to create new buildings which look old in the Historic Conservation Area. New building design should be complementary to the heritage character of adjoining buildings and the surrounding area by relating sympathetically to the established character of the street."*

The key issue here is the **cumulative impact of demolitions of contributory items over time**. If the policy intent is to retain the contributory items, then the grounds for demolition should be restricted to only PDCs 4(a) and (b) of the Historic Conservation Area. Where an applicant seeks to pursue the use of PDC 4(c), an independent report from a heritage architect that assesses the level of contribution and supports the development should be provided.

In terms of new development which includes new development behind contributory places or redevelopment of non-contributory items, it is suggested that policy should not encourage higher densities than those consistent with the predominant built form character. For example, if the existing typical allotment frontages are 12 metres, then new Torrens Title allotments facing the street should have frontages of 12 metres. This would mean that if a contributory item was in an unsound condition, then it could be replaced with another dwelling. If the allotment frontage was greater than 18 metres and there was sufficient driveway width, etc (refer to existing PDC 10 in the Residential Character Zone), then it could also have a new dwelling to the rear.

The context for this policy approach is that a very large part of the Council area is identified for urban infill / growth areas. In this context it is considered reasonable to assume that future development outside of these growth areas should focus on the retention of lower densities with family accommodation, larger gardens, increased opportunities for vegetation, etc. This is

particularly the case given the Residential Character Zone Objectives and those of the Historic Conservation Area, where it is reasonable to expect that, over time, the general built form is retained, with new development limited and in character with the older buildings. It is futile having policy that results, over time, in the replacement of many or most of the existing older buildings in the Residential Character Zone that it seeks to protect.

Yet, there should be potential to develop some additional dwellings in these areas, provided that the main parts of contributory items are retained as part of the process and that garaging / driveways do not dominate the streetscape.

3.2.7 Fencing

The main issue with fencing controls lies in West Lakes Policy Area 18. The original encumbrances were transferred into Council's Development Plan and now need to be simplified.

The key policy intentions still required are:

- (a) Maintain control of fencing between:
 - homes and the lake
 - homes and streets

That is, Council doesn't need to deal with fences:

- along the sides of homes
- to the rear of homes where homes don't back (or front) the lake

- (b) Define the meaning of "front" fencing for homes that abut the lake so that it is clear if it is fencing between the home and the street, or the home and the lake.
- (c) Ensure no front fencing is constructed on street boundaries (i.e. only courtyard walls set back from street boundary, screened with landscaping, and no longer than 50% of the allotment frontage (or 6 metres, whichever is the lesser) are allowed).

3.2.8 Hammerhead Development

Council needs to decide whether it wants to allow hammerhead allotments in the lower density (non-"growth area" parts of Council) and the character areas (HCA) given so much of the Council area may be rezoned to higher densities.

One option is to only allow them in growth areas in order to better protect future "family housing" areas (i.e. over time there will be a smaller proportion of homes with larger gardens left in City of Charles Sturt given the extensive areas identified for growth).

Recommendations for development on the rear hammerhead allotments:

- (a) in low density and character areas:
 - only single storey dwellings should be allowed
- (b) In growth areas:

- two storey dwellings allowed subject to design controls (overlooking, overshadowing, design and articulation to improve character, screen landscaping, etc)
- Category 1A (neighbours notified)

(c) In all situations:

- driveway ("handle" of the battleaxe allotment) excluded from area calculation
- minimum driveway width of 3m for driveway and 1m each side for landscaping
- limit the site coverage of rear dwellings to encourage smaller, more affordable homes in rear with increased opportunities for separation from neighbours, protection of privacy and landscaping
- provide for increased side and rear boundary setbacks to avoid visual impact on neighbours and complement site coverage controls

3.2.9 Multi Storey Apartments

Issues to be addressed in new policies:

- (a) Investigate how best to introduce waste servicing guidelines into the Development Plan (review ACC controls).
- (b) Need to insert a control that the minimum apartment floor area is 50m², excluding any balcony area.
- (c) Identify design principles relating to mixed use issues, in particular noise and odour (review ACC Development Plan and ACC Guidelines).

Overall, the BDP provisions in the existing Library plus new modules dealing with Activity Areas, TOD's etc will need to be followed.

3.2.10 Affordable Housing

One of the main factors governing the cost of new housing is the size of the dwelling. The average house size has grown considerably over the past 50 years, notwithstanding the fact that the average household size has decreased. Concurrently, the average size of a residential allotment has decreased, resulting in a much greater average site coverage for new dwelling construction. This has two outcomes, one of which greatly affects housing affordability. The other outcome is that less space on a residential allotment is available for landscaping and tree planting, as well as less space being provided between buildings. This has been a common complaint by many residents, particularly the change in residential landscape resulting.

However, there are planning controls that can be put in place to limit both site coverage and floor space of new dwelling construction. Such Development Plan policies were incorporated into the City of Marion's Development Plan some years ago, with the dual purpose of increasing housing

affordability by ensuring that when a single dwelling was replaced by more than one dwelling, the new dwellings were generally smaller in floor space and provided opportunities for significantly more site landscaping (although this is more difficult to ensure).

While such policies do deliver more affordable housing, they do somewhat go against the market trend for new homes to be larger, and may result in some developer / market resistance. However, it is fair to say that, if a purchaser is looking for a larger home, there are many alternatives in the form of larger homes on larger allotments or larger existing homes on smaller allotments, thereby leaving the opportunity for new medium density housing to be constructed utilising smaller dwellings.

3.2.11 Walking and Cycling

One of the Council officers indicated that it would be important to include separate pedestrian paths in laneways if there are houses that directly front on to the laneway. This is considered unnecessary as these laneways are designed as "shared spaces" with slow moving traffic. As long as they are appropriately designed with street trees to break up the streetscape and provide shade and visual amenity, even if some houses face on to these laneways (e.g. mews houses), pedestrians should be able to walk along the laneway itself. If separate footpaths are provided then the width of the laneway becomes similar to a street and the purpose of having laneways is dissipated.

There is a BDP Module on Transportation and Access that incorporates a section on Walking and Cycling that can be incorporated into Council's Development Plan during the DPA.

3.2.12 Water Sensitive Urban Design (WSUD)

There is a BDP Module on Natural Resources including a section on Water Sensitive Design that can be incorporated into Council's Development Plan. There is also a wealth of material available, including a new Guide / Code prepared by DPLG, that can be used as the basis for preparing material for inclusion in the Development Plan.

This can be done as part of the DPA.

3.2.13 Coastal Development

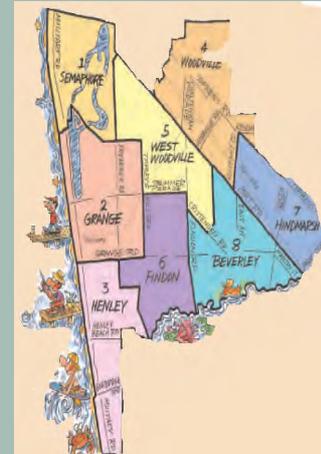
Western Edge Policy Area 17 covers the coastal areas and includes the Desired Character Statement promoting a "seaside" character. However, there is limited guidance about what such a "seaside" character comprises, other than words such as "*interesting roof forms and parapets, building articulation, use of light colours and coloured materials*".

It is considered that, if desirable, more detailed guidance could be provided as to what a "seaside" character comprises in the context of suburban Adelaide and this coastal location in particular. The guidance should not only be in the form of words. Sketches will be required if this approach is to be undertaken. However, the value of such an approach is questionable given the extent and variety

of coastal development in recent years. This additional work should be undertaken as part of the DPA.

3.2.14 Flooding

Flooding is a critical area that needs addressing within the Development Plan in order to protect the communities assets and people's well-being, and prevent potential litigation. Flooding is covered in various sections of the BDP modules including Coastal Areas and Hazards. Given the intensification of housing in growth areas and the consequent potential increase in impermeable surfaces, policy provisions covering a suite of matters will be necessary. These include stormwater management requirements such as rainwater tanks, development controls over minimum unpaved private open space areas (difficult to control / administer over time), finished floor levels for buildings, etc. This additional work should also be undertaken as part of the DPA.



City of Charles Sturt Residential Growth + Character Study

Report 6
Review of Identified Residential
Historic Conservation Areas
May 2011

This report has been prepared by:
Jensen Planning + Design

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1 Executive Summary

This report is the sixth report prepared for the Residential Growth and Character Study. This Study has been undertaken by Jensen Planning + Design for the City of Charles Sturt. The study is examining future residential growth and character issues across the City of Charles Sturt. This report reviews the zone boundaries and policies for a number of existing Residential Character Zones (Historic Conservation Areas). It identifies opportunities for the refinement of the zone boundaries.

Report 1 - the *Strategic Context Report*, analyses population trends and policy approaches within the State Government and the City of Charles Sturt.

Report 2 - *Opportunities and Constraints*, examines potential opportunities and constraints for future residential growth in the City of Charles Sturt. It summarises future population and housing projections specific to Charles Sturt based on a range of population scenarios and suggests how many additional dwellings will be required in the City of Charles Sturt to 2031 to meet the 30 Year-Plan for Greater Adelaide Growth targets.

Report 3 - *Future Social Infrastructure Requirements*, provides a broad overview of the context and supply requirements of future social infrastructure needs across Charles Sturt.

Report 4 - *Form and Character of Potential Residential Growth Opportunities*, provides recommendations about the future character, form and extent of residential growth areas in the City of Charles Sturt.

Report 5 - *Development Plan Policy Analysis for Growth Areas* assesses current Development Policy relating to the identified residential growth areas. It proposes new residential design policy and zoning changes for the identified residential growth areas that will inform a forthcoming Residential Development Plan Amendment.

2 Overview

A requirement of the City of Charles Sturt Residential Growth Strategy and Character Study Brief was to review a number of existing Residential Character Zone (RCZ) Historic, Conservation Areas (HCA). Council introduced the current RCZs in September 2003 based on extensive investigations undertaken on behalf of Council by Mark Butcher Architects (1994) and McDougall & Vines (1997). Since the introduction of these zones and accompanying policies there have been some concerns expressed regarding the legitimacy of some of the zone boundaries and the onerous nature of some of the policies.

Council officers identified the following areas for review:

- Bowden/Brompton Precinct 66 (encompasses parts of Ovingham, Bowden and Brompton);
- Brompton Park Precinct 67;
- Early SA Housing Trust Precinct 68 (located in Pennington)
- Pre World War One Precinct 71 (located in Pennington);
- Kilkenny Precinct 74;
- Cheltenham East Precinct 77;
- Cheltenham West Precinct 78;
- Henley Beach Precinct 79; and
- Grange Precinct 80.

The purpose of the review was to identify opportunities for the refinement of the zone boundaries and whether some consideration should be given to removing the RCZ HCA in particular locations. It did not include an analysis of the effectiveness or otherwise of the current policies.

The review consisted of a desk-top analysis of the existing zones, the extent of contributory items, the era and housing style of adjacent areas, and site visits to each area. The analysis included the consideration of the following:

- Identification of the extent of 'non-conforming' items, either comprising residential development which did not contribute to the historic character of the locality, principally because of the age of the development, or non-residential forms of development, which similarly did not contribute to the

historic character of the locality (typically more recent industrial, warehouse or other non-residential development);

- Identification of the extent of change that has occurred since the inception of the RCZ, HCA provisions (i.e. whether a significant number of contributory places have been demolished since September 2003);
- The identification of other changes in circumstances (e.g. significant more recent infill development which changed the character of a particular area), which would warrant a reappraisal of the justification for a RCZ, HCA; and
- Whether there was some justification in expanding the extent of the RCZ to encompass adjacent areas considered to be of sufficient historic character and quality to warrant some form of policy protection.

Each of the following assessments for each of the areas reviewed, commences with extracts of the Character Statement from the existing Development Plan (as of the date of this review which was undertaken in 2008).

Figure 1 and Figure 2 at the end of this report detail the overall summary of the key recommendations.

3 Bowden/Brompton Precinct 66

Existing Character Statement

The Bowden Brompton Precinct accommodates some of the City of Charles Sturt's oldest houses and buildings, dating to the earliest years of European Settlement in the region. The subdivision pattern, dating from 1839 in Bowden and 1849 in Brompton, is one of small, narrow allotments designed for typically early inner-city residential living. The existing significant buildings are primarily small, single-storey, detached and attached, single and double fronted workers' cottages dating from the 1850's-1900 period. They are characterised by red brick and bluestone walls, gable and hipped corrugated iron roofs and small setbacks from the street. The predominant urban character remains that of the Victorian era, with an intimate and small-scale character which has considerable charm and interest.

Ovingham is unique in that it incorporates strongly sloping sites and retains many dominating stone and iron front walls. Some 1930s - 40s bungalows and austerity houses, together with more recent SA Housing Trust 1970s-1980s townhouses are also located in Ovingham.

This precinct also includes a significant proportion of more recent commercial and industrial premises which detract from the older Victorian character of the area.

This area consists of two major parts:

- The area bound by Torrens road to the north and Park Terrace to the west, and which straddles the Adelaide - Gawler Railway line and Hawker Street (referred to below as **Bowden/Brompton East**); and
- The area encompassing parts of Coglein, Green and West Streets and extending approximately from Torrens Road to Second Street (referred to below as **Bowden/Brompton West**).

Bowden/Brompton East

The Development Plan indicates the existence of a significant number of Contributory Places and four State Heritage Places within this area.

The analysis confirmed the existence of a significant number of non-conforming places (i.e. buildings which were generally built in more recent times and do not necessarily contribute to the historic character of the area). The analysis suggests that approximately 40-50% of the existing building stock is non-conforming. However, it is also evident that only a small number of contributory places have been demolished since the introduction of the RCZ policies in 2003 (i.e. the majority of the non-contributory items existed at the time of the establishment of the HCA).

It was also evident that an adjacent area to the west, extending approximately either side of Chief and East Streets, between Fifth and Hawker Streets, contained a significant number of quality pre 1940's housing to warrant some consideration of its inclusion within a RCZ HCA.

One pockets of the HCA located to the north (south of the junction of the railway line and Torrens Road), was dominated by non-contributory items and land uses. There would appear to be some justification in rationalising the RCZ HCA to exclude this area.

Bowden/Brompton West

Similar to the Bowden/Brompton East area, this area also contains a significant number of non-conforming places. However, it is also evident that little change has occurred since the establishment of the RCZ HCA Zone and that the significant number of non-conforming places was in existence at that time.

It would appear that a decision was made during the formulation of this RCZ HCA Zone to include significant areas of 'vacant' land (former pugholes) at the southern end of Green Street with a view to bringing a group of contributory buildings located along West Street into the RCZ HCA. The former pughole land has since either been developed or is in the process of being developed for housing.

Removing this recently redeveloped area from the ambit of the RCZ HCA would appear to be a reasonable strategy. However, this will result in a relatively small 'island' of contributory places located along the north-western side of West Street. The quality and upkeep of these houses, some of which are attached single storey row houses, is relatively good and it is considered unlikely that they would necessarily be demolished and redeveloped if they were not included within a RCZ HCA.

Recommendations

Bowden/Brompton East

1 That Council considers the exclusion of one area from the Residential Character Zone Historic Conservation Area - Precinct 66 (see Figure 1). The area recommended for removal is located near the Ovingham Station and is considered to warrant further attention for its potential to accommodate higher density residential development (along with other adjacent sites) as part of this Strategy.

2 Should the above recommendation be adopted, policies should be formulated to ensure that any infill development within this area is respectful of the historic character of adjoining areas.

3 That Council considers the inclusion of the area around Chief and East Streets, north of Hawker Street within the existing Residential Character Zone - Precinct 66 (see Figure 1).

Bowden/Brompton West

4 That Council considers the exclusion of the area indicated in Figure 1 from the Residential Character Zone Historic Conservation Area- Precinct 66 and that policies be formulated to encourage the retention of the existing contributory places located within West Street upon their removal from the Residential Character Zone Historic Conservation Area.

4 Brompton Park Precinct 67

Existing Character Statement

The Brompton Park precinct accommodates some of the City of Charles Sturt's oldest houses and buildings, dating to the earliest years of European Settlement in the region. The Brompton Park subdivision pattern, dating from 1876, is one of very small, narrow allotments designed for typically early inner-city residential living. The existing significant buildings are primarily small, single-storey, detached and attached, single and double fronted workers' cottages dating from the 1870's-1890's period. They are characterised by red brick and bluestone walls, gable and hipped corrugated iron roofs and small setbacks from the street. The predominant urban character remains that of the Victorian era, with an intimate and small-scale character which has considerable charm and interest.

This precinct also includes more recent commercial and industrial premises which detract from the older Victorian character of the area.

It is estimated that over 60% of this area does not contain buildings which contribute to the historic character of the area. It contains a former pughole, north of the Brompton Park Hotel, which is also earmarked for residential development, as well as a number of commercial premises along Coglin, Hocking and Taylor Streets, and significant more recent infill residential development (e.g. SAHT, Housing Co-op), and special needs housing.

The extent of contributory places indicated within the Development Plan along Coglin Street does not accurately represent the current circumstances (this may be an error rather than indicate changed circumstances since the establishment of the RCZ HCA given that the commercial properties have existed for a considerable period of time).

Notwithstanding the unique pattern of subdivision within this area, as referred to in the Existing Character Statement, it is considered that the area has undergone significant transformation and that this process will continue with the forthcoming infill development of the former pughole site. Furthermore, the quality of some of the remaining contributory places is poor and the amenity of the area continues to be compromised by some of the existing non-conforming land uses.

Accordingly, it is considered that there is justification in further reviewing the legitimacy of retaining all or parts of this area within the RCZ HCA.

Recommendation

5 That Council engages heritage consultants to undertake an assessment of Brompton Park Precinct 67 in conjunction with planning advice to determine whether parts or all of Precinct 67 should be removed from the Residential Character Zone Historic Conservation Area (see Figure 1).

5 Early SA Housing Trust Precinct 68

Existing Character Statement

Bell Street, Pennington

This area accommodates some very early SAHT housing dating from early 1938. The original layout and subdivision reflects "Garden Suburb" urban design concepts popular at the time. This layout still exists and provides strong urban focal points in Sinclair Square and Tulloch Avenue. The housing consists of semi-detached single-storey dwellings constructed of red brick with hipped and gable corrugated iron roofs.

The housing in Bell Street has terracotta tile roofing, indicating a refinement of the original design. Some brickwork has protruding courses to give a horizontal-banded effect.

The styling is austere, with late-modern overtones, as seen in the occasional horizontal banding and in the concrete entrance porch canopies. Overall, the area has a very uniform and austere character with little planting or street trees.

The analysis confirmed that this area remains 'intact' with very few non-conforming or vacant sites. The Development Plan identifies the vast majority of dwellings as being contributory places.

The land ownership data also suggests that the majority of houses/sites remain in the ownership of Housing SA. A small number of dwellings have been demolished and the sites are currently being redeveloped by Housing SA.

The overall appearance and level of maintenance of the area is poor. Generally the allotments are not well maintained, and streetscaping is minimal. The internal layout of the housing stock and the large rear yards do not generally meet current public housing client's needs or good residential design objectives.

Overall improvement of the area is required to meet the needs of public housing clients, as well as to meet state and federal government objectives relating to increasing diversity of demographics, tenure and residential built form within a local area.

Whilst the original layout and Garden Design principles should be maintained and protected, it is the areas of Bell Street, some parts of Tulloch Street and Sinclair Square that are considered to be most worthy of retention in their existing form. The other areas are not considered worthy of retaining RCZ HCA status.

Recommendation

6 That the boundary of the SA Housing Trust Precinct 68 changes to incorporate the areas considered to be most worthy of retention in their existing form as a Residential Character Zone Historic Conservation Area. The areas to be retained are generally Sinclair Reserve, the properties fronting on to Sinclair Reserve, and the Northern ends of Tulloch Avenue and Bell Street as shown in Figure 2. This recommendation should inform a Development Plan Amendment however further consideration of this area by a Heritage Consultant, and in conjunction with Housing SA, is advised.

6 Pre World War One Precinct 71

Existing Character Statement

Pennington West

This area accommodates a mixture of 1900s–1920s housing, comprising typically detached single storey Edwardian/Federation/early bungalow houses, together with some 1940s–1950s houses on the eastern side. The housing is characterised by red brick, sandstone and render walling, terracotta tile and corrugated iron roofing and verandahs, and hipped, gable and Dutch-gable roof forms. Some of the villas in this area are particularly fine examples of Edwardian houses, with pressed-metal wall cladding on the fronts, corrugated iron or small-fluted iron cladding on the sides and corrugated iron roofs.

The housing is of good quality and this, together with the uniform allotment size and street layout, gives the area an interesting character. Pennington Terrace is the dominant street in the area with the school and church providing key civic focal points.

The analysis indicates that this area continues to contain a high proportion (90%+) of contributory places. There is no evidence to suggest that the original reasons for including this area within a RCZ HCA have changed.

Recommendation

7 That Pre World War One Precinct 71 remains as a Residential Character Zone Historic Conservation Area.

7 Kilkenny Precinct 74

Existing Character Statement

This area accommodates a wide range of single-storey detached houses dating from the 1850s through to the 1950s. However, the predominant era is 1920–1930 in the north of the area and 1910–1920 in the south. Edwardian and post-Edwardian cottages and houses are found in the south, while Federation and bungalow houses, together with a number of 1940s and 1950s houses are found in the north. Housing is characterised by freestone front walls, red brick side walls and corrugated iron and terracotta tile roofs. There is a small proportion of more recent residential development in the area.

A small group of Victorian commercial premises is located at the southern end of Wilpena Terrace which, together with the older housing at this end, give it a strong Victorian character reflecting the original village of Kilkenny. Of note are a number of large, high-quality 1930s houses on large allotments at the northern end of the area. The area as a whole is focused on Wilpena Terrace.

The analysis indicates that this area continues to contain a high proportion (80%+) of contributory places. The site survey revealed that a small number (around 20) of formerly identified contributory places have been demolished and replaced with non-conforming buildings (note that this may in fact be over enumerated if the Atlas South Australia data, which identifies contributory places, is not entirely accurate). Notwithstanding this change, the area is still characterised by a majority of buildings which contribute to the historic character of the area.

Recommendation

8 That the Kilkenny Precinct 74 remains as a Residential Character Zone Historic Conservation Area.

8 Cheltenham East Precinct 77

Existing Character Statement

The housing in this area is similar in style to that in the Cheltenham West Precinct, but is of a slightly smaller scale. This reflects the smaller allotment sizes which creates a more intimate character in this area. The subdivision here is also slightly earlier than in the Cheltenham West Precinct, with part being divided in 1880.

The current Development Plan indicates that approximately 80 -90% of the existing housing stock within this Precinct comprises contributory places. The analysis revealed little change with the vast majority of allotments still accommodating dwellings that make a positive contribution to the historic character of this area. Accordingly, there is considered to be little justification in changing the current Precinct boundaries.

Recommendation

9 That Cheltenham East Precinct 77 remains as a Residential Character Zone Historic Conservation Area.

9 Cheltenham West Precinct 78

Existing Character Statement

This large residential area accommodates a range of housing, particularly historic north of the railway line where there are areas of sandstone and brick villas. West of Stroud Street are 1910-1930 era detached houses, styled in the Post-Edwardian/Federation/Bungalow manner with an occasional Tudor or 1940s dwelling. Housing close to Torrens Road and south of the railway line tends to be more 'mixed' in character, including a number of non-contributory buildings.

The area contains a significant number of dwellings with pressed metal, "stone" front walls and corrugated iron clad side walls. However, houses are generally characterised by red brick and sandstone walls, corrugated iron and terracotta tiled roofs, hipped, gable, Dutch-gable roof forms and verandahs. Overall, the area has a fairly uniform character. The main streets in the area are Stroud Street (north and south), with its residual shops and community facilities centred around the station, Buller Terrace and Railway Terrace. Street trees are generally limited, with little advantage taken of the wide streets for avenue plantings.

The circumstances for this Precinct are similar to those for the adjoining Cheltenham East Precinct 77 - approximately 80-90% of existing contributory places designated within the Development Plan and very little change over the intervening period. Accordingly, there is considered to be little justification in changing the current Precinct boundaries.

Recommendation

10 That Cheltenham West Precinct 78 remains as a Residential Character Zone Historic Conservation Area.

10 Henley Beach Precinct 79

Existing Character Statement

The area around Marlborough Street and Crewe Street, south to Clarence Street/Durham Street generally features smaller villas and bungalows in the narrower streets. This is also the case south of the Bowling Club to Atkin Street, where small setbacks of 2 to 4 metres (with the exception of Main Street), add to the intimate nature of the area. Larger, grand villas, cottages and bungalows characterise Marlborough Street and East Terrace.

South of Atkin Street, bungalows and Tudor homes of more recent vintage feature and allotments tend to be larger, incorporating setbacks of 5-8 metres. The presence of mature Norfolk Island pines along most of East Terrace contributes to the streetscape. This also serves to link the East Terrace to other tree lined streets to the west.

The circumstances for this Precinct are similar to those described for the preceding two Precincts - approximately 80-90% of existing contributory places designated within the Development Plan and very little change over the intervening period. There is one cluster of non-contributory places on the southern side of Marlborough Street and northern side of Crewe Street, west and east of Military Road. However, contributory places are located opposite these sites and there is considered to be little benefit in removing this small area from the RCZ HCA.

Recommendation

11 That Henley Beach Precinct 79 remains as a Residential Character Zone Historic Conservation Area.

11 Grange Precinct 80

Existing Character Statement

Grange Road

The area along Grange Road from Military Road in the west to Surrey Street in the east is comprised of mainly bungalow and Tudor homes of moderate size, dating from 1920 to 1940. Allotments in this area range from about 600 square metres to 800 square metres. Setbacks of 4 to 6 metres makes development more intimate and dense than surrounding areas.

Beach Street

This area extends from Grange Uniting Church and Charles Sturt Avenue, westward to the foreshore at the Esplanade. The area is characterised by single storey Victorian houses and Federation bungalows. The Grange Institute, Grange Uniting Church and an early corner store form what would have been a focal point for social and community activity in Grange. A group of houses opposite the Uniting Church display consistent styling and use of materials, with gabled roofs clad with corrugated sheeting, use of bricks and similar verandah detailing with masonry piers and balustrades. The two largest houses in the area are located on the Esplanade and represent the development of Grange as a seaside resort.

Setbacks on the south side of Beach Street are consistent, while set-backs on the northern side are more variable. Beach Street rises gradually toward the west and the houses set above the street. Small retaining walls border the footpath, forming the fence line. Elsewhere, fencing is kept simple and low, and is constructed either of masonry or iron sheeting. Norfolk Island Pines comprise part of the streetscape in the area.

Jetty Street

This area comprises bungalows, cottages, Tudor and villas, dating from the late 1800s in the west, to the 1920s in the east. Jetty Street itself features Norfolk Island Pines which act as a connecting feature to Grange Esplanade in the west. Allotments range in size from 600 - 800 square metres. A significant concentration of Tudor homes on Jetty Street (from Charles Sturt Avenue to High Street), forms the most consistent character of the area.

Grange Esplanade

This area is bounded by the Esplanade, Jetty Street and the houses on the eastern side of Seaview Road up to and including The Marines. The Marines is an imposing group of eight, three-storeyed attached terrace houses which are an example of some of the few remaining three-storey terraces in South Australia. The dominant building type in the area is multi-storey, characterised by the three storey Marines terrace houses and the two-storey Grange Hotel, both of which are built to the footpath. Detached dwellings of consistent scale and style occupy the east side of Seaview Road. The use of stone and brick is common to the majority of the buildings in the area with corrugated iron and terra cotta tiles as roofing material.

The Esplanade and Seaview Road run parallel through the area giving it a strong linear character. The line of Seaview Road is emphasised by the Norfolk Island Pines, which also appear on other streets in the area. Building set-backs from the Esplanade and Seaview Road are reasonably consistent, being approximately three to four metres. Given that many houses are also set up from the road, Seaview Road is dominated by rendered retaining walls of varying heights between one to two metres, topped by a variety of fencing styles or remaining unfenced. Garages are of a mixed age and construction.

The Grange Esplanade area should primarily accommodate residential development, the Grange Hotel and a small group of shops. Development on the Esplanade should have a maximum height of three storeys, be built to the street frontage to reflect The Marines and comprise attached dwellings to create a strong continuous built form element along the frontage. Development to the rear of these properties, on the western frontage to Seaview Road should have a maximum height of two storeys where compatible with adjacent development with regard to scale and siting. To the east of Seaview Road, given the retaining wall in this location, low or no fencing is appropriate. A maximum height of two stories along Seaview Road is appropriate where compatible with adjacent development with regard to scale, siting and character.

Again, similar circumstances to the preceding Precincts - the majority of allotments are designated as contributory places within the Development Plan and very little change during the intervening period. No opportunities for rationalisation of the Precinct boundaries were identified.

Accordingly, there is considered to be little justification in changing the current Precinct boundaries.

Recommendation

12 That Grange Policy Area 21 remains as a Residential Character Zone Historic Conservation Area.

12 Figure 1 and Figure 2: Conservation Zone Recommendations

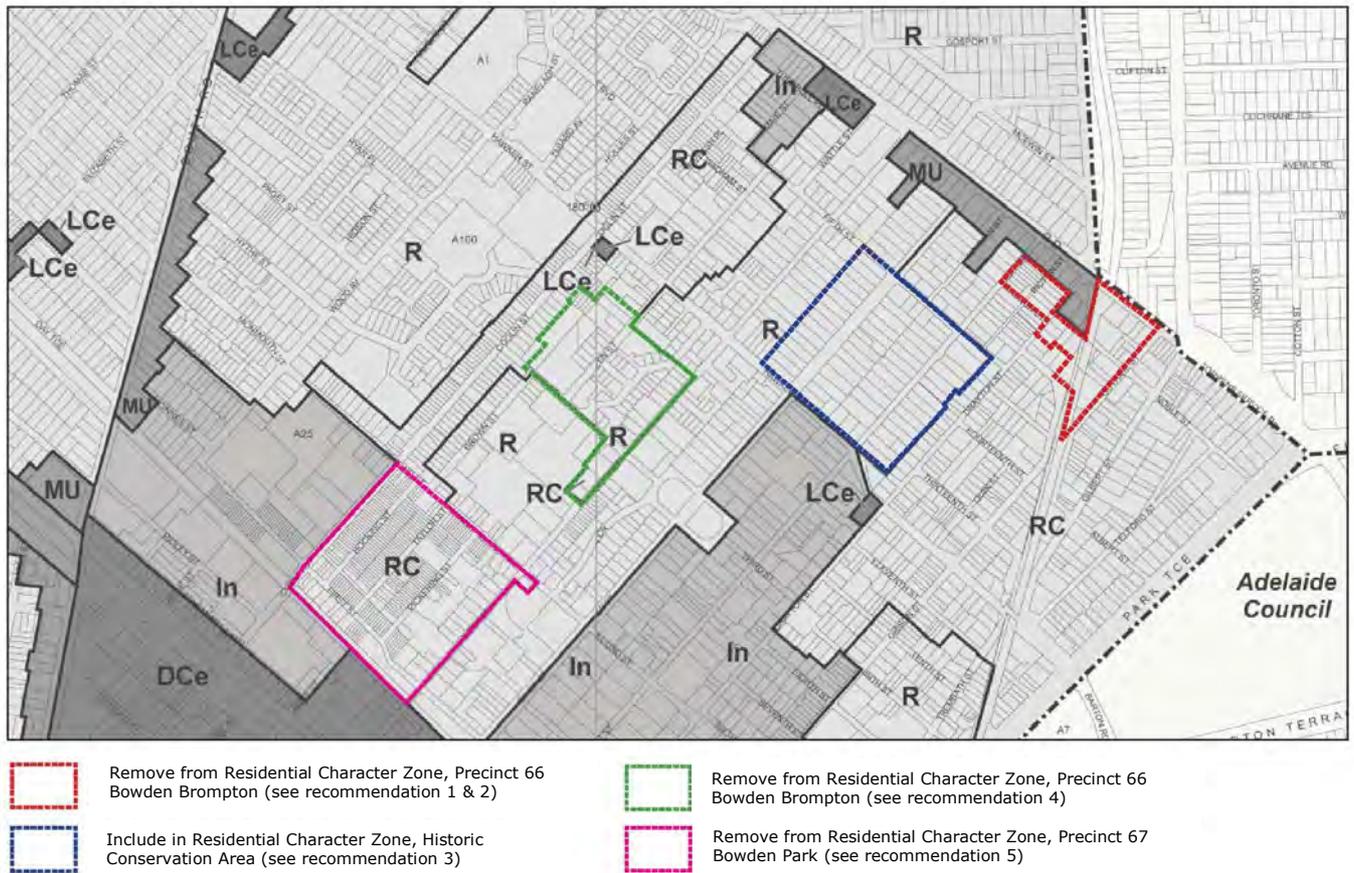


FIGURE 1: CONSERVATION ZONE RECOMMENDATIONS

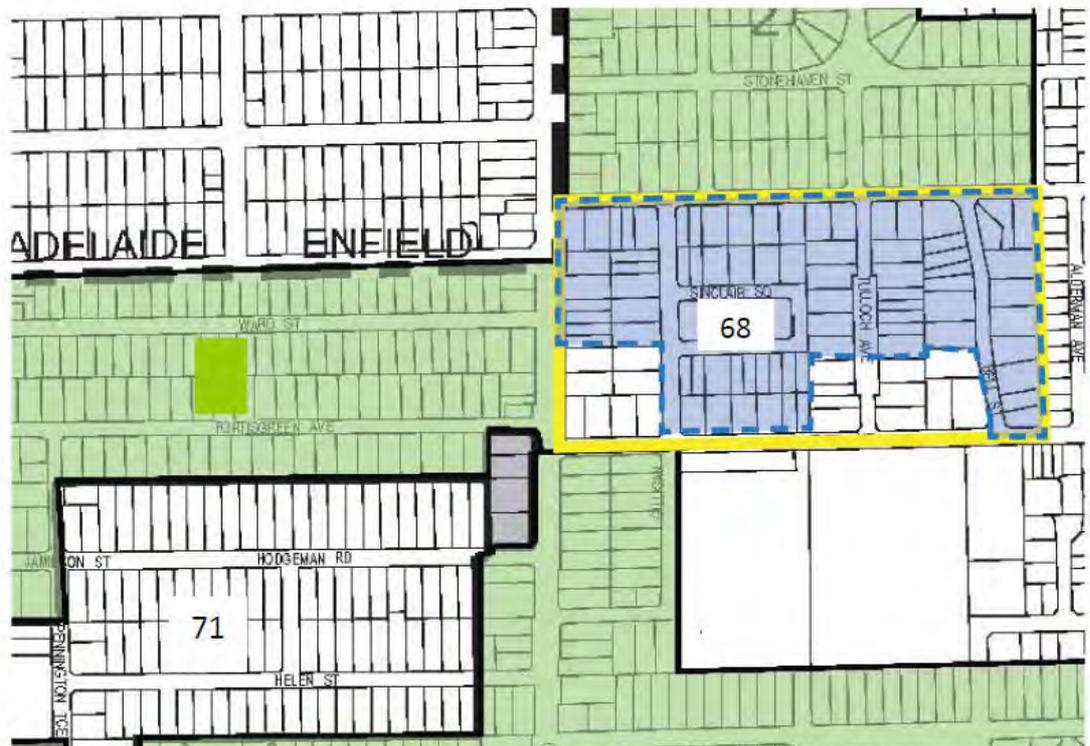


FIGURE 2: CONSERVATION ZONE RECOMMENDATIONS

- Precinct**
- 38** Woodville North
 - 47** Mixed Use
 - 68** Early SA Housing Trust
 - 71** Pre World War One
 - 77** Cheltenham East
 - 78** Cheltenham West

-  Existing Residential Character Zone Precinct 68
Early SA Housing Trust
-  Proposed new Residential Character Zone Precinct
68 Early SA Housing Trust