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Charles Sturt Council Residential Land Supply Study, 2023

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Contents

1. Executive Summary	4
2. Introduction.....	5
3. Background.....	6
4. City of Charles Sturt Principles Governing City Wide Growth	8
5. Key Trends and Demographic Analysis – City of Charles Sturt.....	9
5.3 Population Growth and Dwelling Growth	10
5.4 Average Household Size by City	10
5.5 Change in Household Size 2016-2021 - Australia.....	11
5.6 Population Distribution by Age – 2021.....	12
5.7 Percentage of Population in One Person Dwellings – 2006-2021.....	14
5.8 Diversity of Housing.....	14
5.9 Housing Suitability.....	15
5.10 Population by Landlord Type.....	15
6. 2021-2051 - City of Charles Sturt Population and Dwelling Projections – August 2023	16
7. Infrastructure Assessment	18
7.1 Essential Infrastructure	18
7.1.1 Water Assets.....	18
7.1.2 Roads And Traffic.....	18
7.1.3 Public Transport.....	20
7.1.4 Essential Utilities	22
7.1.5 Green Infrastructure.....	22
7.1.6 Social and economic infrastructure.....	25
7.1.7 Activity Centres - The Neighbourhood Heart	26
7.1.8 Economic Development and Employment Precincts	26
8. Existing and Future Potential Residential Growth Opportunities	29
8.1 General infill	31
8.2 Strategic Infill.....	34
8.2.1 Current Strategic Infill Site Assessment	34
8.2.2 Future Strategic Infill site uplift.....	35
8.3 Retail Centres	37
8.3.1 Current Centres assessment.....	37
8.3.2 Future Potential Centres Uplift (refer Appendix 1 Map 18 for these locations)....	38
8.4 Transit Corridors.....	38
8.4.1 Current Corridors assessment.....	38
8.4.2 Future Potential Corridor Uplift	40

9.Summary of future Residential Growth Opportunities	43
10.Investigation Priorities	44
11. Conclusion	46
Appendix 1.....	47
Map 1 - Stormwater and Flood management	48
Map 2- travel time delay	49
Map 3 – Key intersections of interest	50
Map 4 - Black Length, Black Spot Locations	51
Map 5 - Public Transport Frequency and Accessibility.....	52
Map 6 – Urban Heat Island.....	53
Map 7 - Distance to Reserve- Regional, District Local and Neighbourhood	54
Map 8 - Street Tree Planting Program to 2025	55
Map 9 – Social infrastructure	56
Map 10- Social Infrastructure – Education.....	57
Map 11 – Local Activity Centres	58
Map 12- Urban Employment.....	59
Map 13 – General Infill	60
Map 14 - Strategic Infill	61
Map 15- Retail and commercial Zones.....	62
Map 16 –Your Neighbourhood Plan - Central Area.....	63
Map 17 –General Infill Hotspots.....	64
Map 18 –Potential Growth Corridors.....	65

1. Executive Summary

- A review of the previous 2011 Growth and Character Study demonstrates Council has delivered 12 Code Amendments and master planned sites since 2011 generating a potential yield of 8848 dwellings of which 2896 dwellings are now completed.
- On average over the last ten years 690 new dwellings have been created in Charles Sturt annually. This rate of growth will accommodate future high growth targets identified by the State government.
- On average over the last ten years almost two thirds of new dwellings have been generated through General Infill development
- Council has 22,000 housing allotments capable of being subdivided based on current Planning and Design Code policies and market forces.
- Based on allotments with capital to site ratios close to 1 (i.e. lots which are essentially land value only) and independent analysis of development ready allotments, 7348 dwellings could be generated over the next 15 years through General Infill.
- Based on (high) projected population growth and no development control policy changes Council has housing supply for the next 25 years based upon general infill (including conservative estimates of new infill sites becoming market ready over this time period) strategic infill, centres and corridor development. The estimate of a 25-year supply horizon is based on a high growth scenario of 700 dwellings per annum.
- Guiding principles that reinforce Councils leadership role in supporting affordable and diverse housing options.
- Council's short-term focus needs to be on preserving and enhancing the liveability of our communities in areas most impacted through general infill.
- Council's medium-term focus should be on investigating future housing, recreation and employment growth within the urban Activity Centre Zones in Kilkenny, West Lakes, Westfield and the Suburban Activity Centre Zone of Port Road Hindmarsh and to investigate the long-term viability of Strategic Employment and Employment Zoned land through a comprehensive City-wide review of all Employment and Strategic Employment Zoned areas.
- Longer term investigations, subject to state investment in improved rapid public transport, will focus on residential growth and uplift for the transit corridors of Grange Road, Port Road and Torrens Road. Investigations will consider the appropriate land-use mix including additional retail and commercial to support the growing population.
- These short-term, medium-term and long-term focused actions provide housing supply out to 2057, meeting State Government high population projections for the City of Charles Sturt.

2. Introduction

With the release of the State Government Greater Adelaide Regional Plan (GARP) Discussion Paper, 2023 an opportunity exists to reflect on the last 10 years of residential growth and consider what current housing supply this has generated for our city and what might need to be done to continue to provide a further 30-year housing supply.

As such this report represents a review of progress to date, current population and housing supply projections, where changes need to be made to improve development outcomes whilst still creating some pathways for growth consistent with local community needs and State Government expectations.

3. Background

3.1 Residential Growth and Character Study, 2011

The Residential Growth and Character Study, 2011 prepared by Jensen Planning and Design for the City of Charles Sturt was a comprehensive study that aligned to the then 30-Year Plan for Greater Adelaide and had a shelf life to 2039.

The study identified housing supply of 21,000 dwellings to 2039 or on average 750 new additional dwellings per annum. The aim was to ensure approximately 14,000 dwellings, or 66% of new dwellings to be within an 800-metre radius along corridors and around Centres. This would reduce the need for rezoning in neighbourhoods outside of these growth corridors.

The proposed growth areas were focused on transit orientated development, centres and corridors and included:

- Bowden (High Order TOD)
- Cheltenham/ Woodville (St Clair) (High Order TOD)
- West Lakes (West Development) (High Order TOD)
- Seaton Railway station (Nodal Centre)
- Albert Park (Nodal Centre)
- Kilkenny (Bianco Site) (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." *2011 Residential Growth and Character strategy.*

These comments regarding the complexity of Corridor and Centre development remain relevant with previous corridor rezoning processes that occurred within the City of Prospect (Churchill Road) resulted in community criticism to the point that the State Government proposed DPA program within Charles Sturt was abandoned. The Ministerial DPA (code amendment) of Henley Beach Road has yielded only 1 development outcome in 8 years despite supportive policy being introduced. Since the 2011 Residential Growth

and Character Study was endorsed the following rezonings have been completed with Council support;

- Bowden (High Order TOD)
- Cheltenham/ Woodville (High Order TOD)
- Woodville Station
- West Lakes (High Order TOD)
- Seaton (Nodal Centre)
- Albert Park (Nodal Centre)
- Kilkenny (Nodal Centre)
- Kidman Park (former Metcash site)
- Kidman Park (former industrial land)
- SA Water Site West Lakes (currently under consideration)

Only the centres and corridors remain and this would appear to have far more to do with the commercial realities and inherent constraints than the lack of supportive planning policy.

Projects from the 2011 Study yet to be completed include;

- Fulham Gardens (Centre)
- QEH (Specialist Centre)
- Hindmarsh (Centre)
- Armada (Arndale Centre)
- Grange Road (Corridor)
- Henley Beach Road (Corridor)
- Woodville Road (Corridor)
- Port Road (Corridor)
- Torrens Road (Corridor)

3.2 State Context

3.2.1 The Greater Adelaide Regional Plan

The State Government has recently release the Greater Adelaide Regional Plan ("GARP") Discussion Paper, 2023, which is the beginning of an 18 month process aimed at establishing a renewed plan for long term housing supply (30 years) with associated infrastructure across the greater Adelaide region (see link here [Greater Adelaide Regional Plan Discussion paper](#))

The Greater Adelaide region is home to more than 1.5 million people. It covers almost 11,000km², from Cape Jervis in the south, to Murray Bridge in the east and the Barossa in the north. The region comprises the lands and waters of four First Nations peoples: Kaurna, Ngarrindjeri, Ngadjuri and Peramangk. It includes 27 local government areas ,has 84% of the state population and 80% of the states economy with a population in 2021 of 1.515 mil people.

Over the next 30 years it is anticipated Greater Adelaide could grow by up to 670,000 people which represents a 46% increase on today population,

The GARP proposes four key outcomes to guide the discussion on how we should grow.

- 1) A **greener** , wilder and climate resilient environment.

- 2) A more **equitable** and socially cohesive place.
- 3) A **strong economy** built on a smarter, cleaner, regeneration future.
- 4) A greater choice of **housing** in the right places

Importantly it recognises transport as a major contributor to greenhouse emissions and also impacting on liveability advocating a more walkable urban form with better access to public transport and by supporting low emissions transport technology.

The City of Charles Sturt despite the extensive strategic and general infill growth it has delivered over the past 10 years has in many respects been abandoned by the state government when it comes to innovative public transport solutions. It would appear the only investment made relates to supporting a further increase in car dependency through the south Road Motorway and Torrens Road level crossing reducing some congestion and therefore reducing take up rates of public transport. In earlier 30 year plans a tram extension to West Lakes was envisaged at the time the land was rezoned. Post rezoning the tram extension was removed from future planning without any discussion on what alternative rapid transport system could be deployed in this growing part of our city. This continues to remain a significant concern, the disconnect at the state level between growth and infrastructure provision.

It recognises greenfields development along 4 major road transport spines as far east as Murray Bridge and to the south Victor Harbor and Goolwa, to the Northwest to two Wells Dublin and Mallala and North east towards Roseworthy and Kapunda.

The GARP also highlights the issues with general infill and the need to identify further strategic infill sites which it believes can deliver better housing choice, infrastructure and open space.

The GARP recognises Charles Sturt can continue its leading role providing further housing supply opportunities subject to more detailed investigations in areas including the City's transit corridors, employment areas of Hindmarsh and Woodville North and housing regeneration areas predominantly occupied the South Australian Housing Authority.

4. City of Charles Sturt Principles Governing City Wide Growth

1. Provide a regular supply and diversity of housing in Charles Sturt to enable families to stay connected, meet the needs of changing demographics and assist in meeting a growing metropolitan population.
2. Centres are more suitable for growth as they can be more effectively master planned when compared to existing residential neighbourhoods where general infill occurs.
3. There needs to be clear understanding of the current and future demand for employment lands in determining if any land use planning changes are warranted.
4. State Government commitment to enhance rapid public transport must accompany future growth.
5. Growth needs to be environmentally sustainable with better public realm outcomes including improved public open space, streetscape enhancement, and longer-term reliance on renewable energy to service new housing.

6. Costs associated with provision and augmentation of infrastructure need to be met by the developer wherever possible.

5. Key Trends and Demographic Analysis – City of Charles Sturt

Charles Sturt has consistently accommodated a significant portion of Greater Adelaide infill over many years. Some 690 new dwellings per annum have been constructed in past recent years, accommodating approximately 1,650 people each year. High dwelling demolition rates and a significant number of strategic infill developments have generated these numbers as well as offering better housing diversity in Charles Sturt than many other council areas. The age of housing stock in older and middle ring locations within Council and the substantial number of properties with closely aligned capital and site values indicates that general infill will continue to provide for some two thirds of the increase in population and dwellings although annual growth rates may slow in coming years.

Ageing population trends will impact Charles Sturt with smaller household sizes and a greater requirement for domestic and institutional dwellings suited to this cohort. The benefits of a heavy rail network covering much of Charles Sturt may diminish without a major integrated strategic State investment to leverage this infrastructure. Better and more frequent public transport is required if housing growth – including affordable housing - is to be sustained.

5.1 Affordable Housing

Current commitments by the State government to retain all SAHA dwellings should be extended to build more low-rise medium density affordable and social housing in the areas zoned for this purpose. Within the City of Charles Sturt there are 24 Housing Diversity Neighbourhood Zoned areas totalling approximately 331ha. Thirteen (13) of these zoned areas have a high mix of South Australian Housing Authority homes totalling approximately 108ha. There are approximately 2,880 SAHA dwellings in Charles Sturt¹. The benefits of redeveloping these areas with improved amenity and well-designed medium density housing should be encouraged to provide greater housing choices for a diversity of household types.

¹Source: South Australia's contribution to Public Housing and State-Owned Housing data collection, SA Housing Authority, 2021

5.2 Intergenerational Report 2023

The 2023 Intergenerational Report (IGR) was released on 24 August, 2023 and is the fifth of its kind. The reports examines factors impacting the workforce and productivity and make projections about the next 40 years. In summary these include:

- *The five main spending pressures – health, aged care, NDIS, defence and interest payments on debt are projected to grow from one-third to one-half of total Commonwealth government spending. Health spending is expected to increase the most.*
- *The IGR will show life expectancy is forecast to reach 87 for men and 89.5 for women. The number of people 65 and over is projected to more than double, while the number 85 and over is projected to more than triple.*
- *Australia's population will be older and smaller than predicted post- COVID. While net overseas migration is bouncing back after COVID-19, cumulative net overseas*

migration won't catch up to pre-pandemic levels until 2029/30, based on current forecasts.

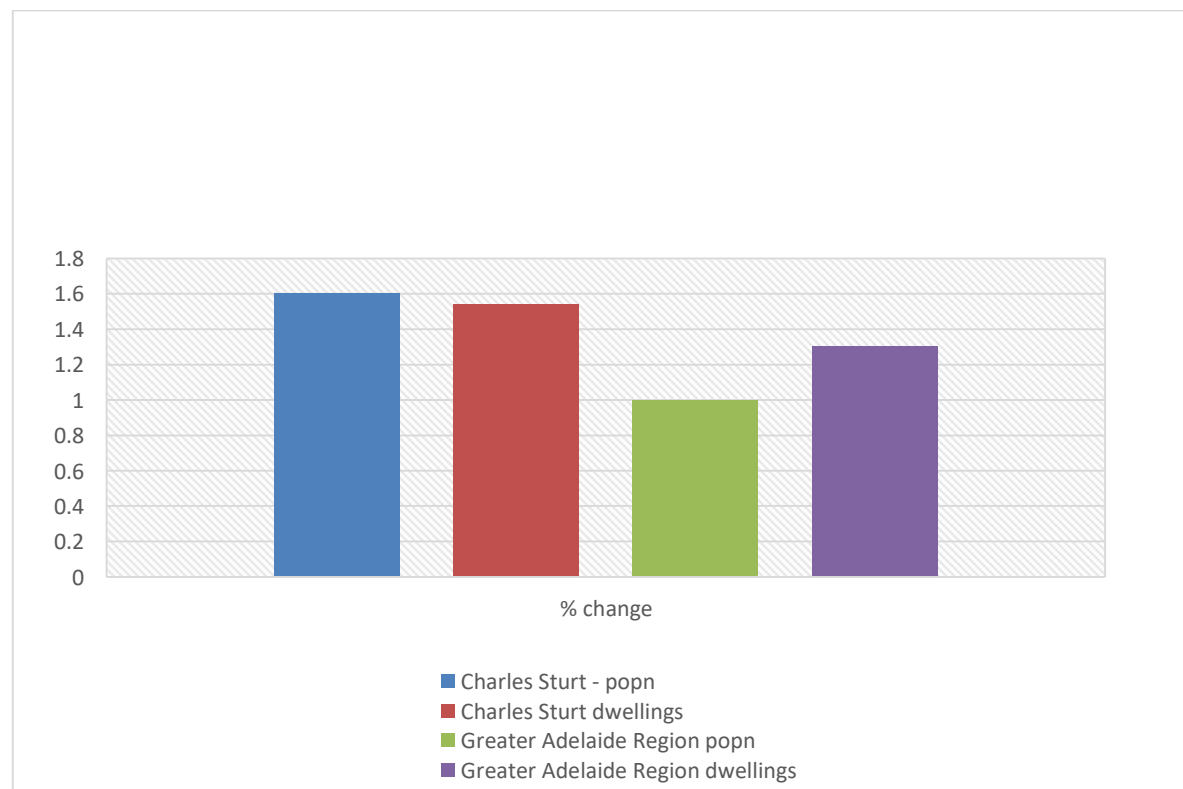
These trends will impact on residential land supply and infrastructure specifically by increasing the need for:

- dwellings suitable for more older people to 'age in place' ie smaller units/apartments
- nursing homes and retirement villages and disability institutions
- diverse (smaller, denser) dwellings which are affordable to single person households to rent or buy, and provide a sense of community, such as co-housing.
- dwellings close to major defence and health precincts.

The following key demographic graphs for the City of Charles Sturt relate to population and housing. Most Council data is compared with like data for Greater Adelaide (Greater Capital City South Australia GCCSA), not Greater Adelaide Region (GAR) for context.

5.3 Population Growth and Dwelling Growth

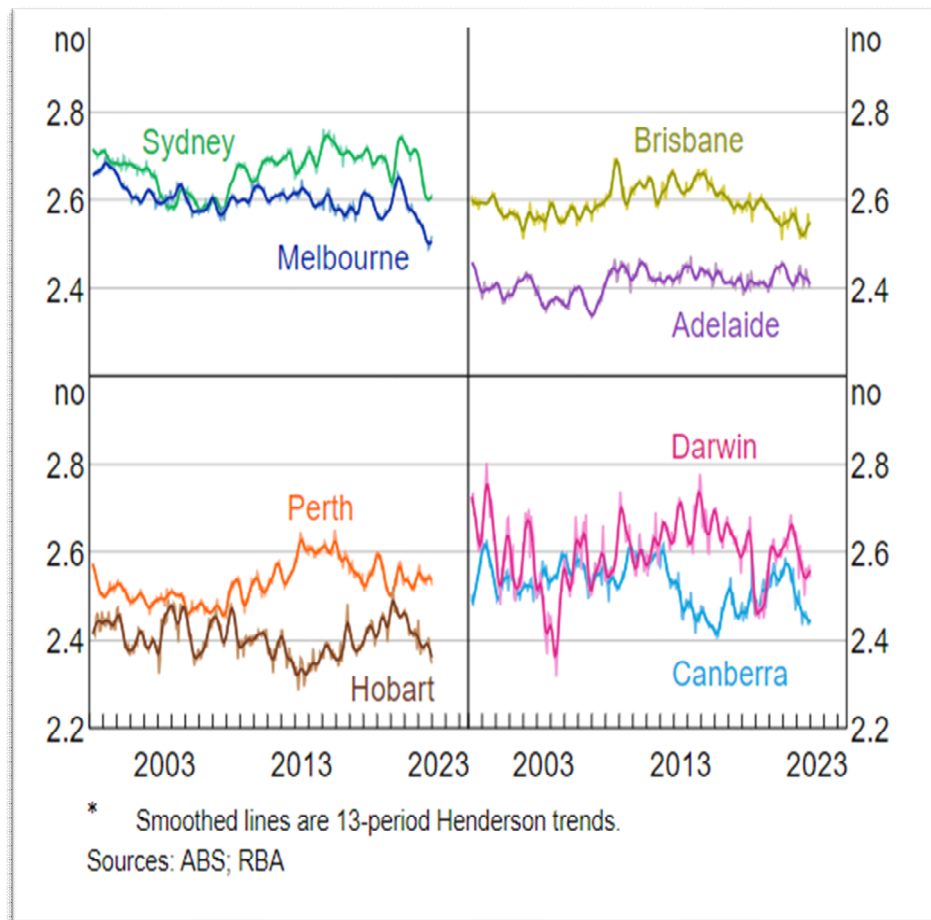
This graph shows the higher percentage rates of population growth in Charles Sturt, highlighting the crucial role Charles Sturt has played in accommodating GAR growth. The graph also shows the greater balance between population and dwelling increase in Charles Sturt, compared to the imbalance in the CCSA, perhaps due to holiday homes and second dwellings in the outer areas of the GCCSA.



Source: ABS Census, 2011-2021 and GARP Discussion Paper, 2023

5.4 Average Household Size by City

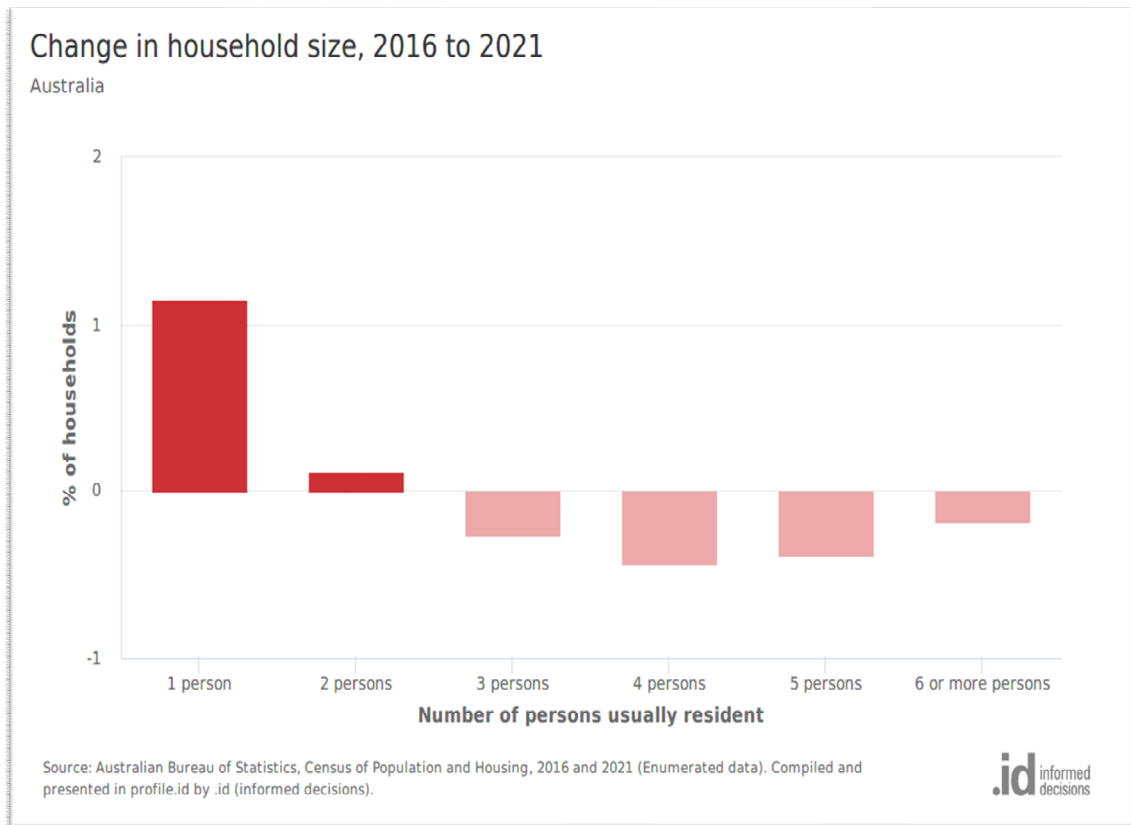
This graph shows Adelaide's Average Household Size (AHS) at around 2.4 people per dwelling, one of the lowest in the nation. ABS 2021 Greater Adelaide shows AHS as 2.5 ppd. ABS 2021 City of Charles Sturt AHS is 2.4, perhaps reflecting our greater diversity of dwellings more suited to smaller households. GARP Discussion Paper, 2023 projections indicate AHS will drop by some 8% to 2.24 persons per dwelling (ppd) by 2051, based on trends of increases in single person households (78% since 1991), couples with no children (52% since 1991) and average annual housing growth exceeding population growth in the past 10 years.



Source: ABS Census and RBA

5.5 Change in Household Size 2016-2021 - Australia

This graph shows a trend, almost certainly dominated by east coast urban data, that may come to Adelaide in time if higher density urban neighbourhoods are promoted over low density sprawl. This trend is not evident in the ABS, 2021 for Greater Adelaide nor for the AHS for Charles Sturt for 2021 which remain at 2.5 ppd and 2.4 ppd respectively.

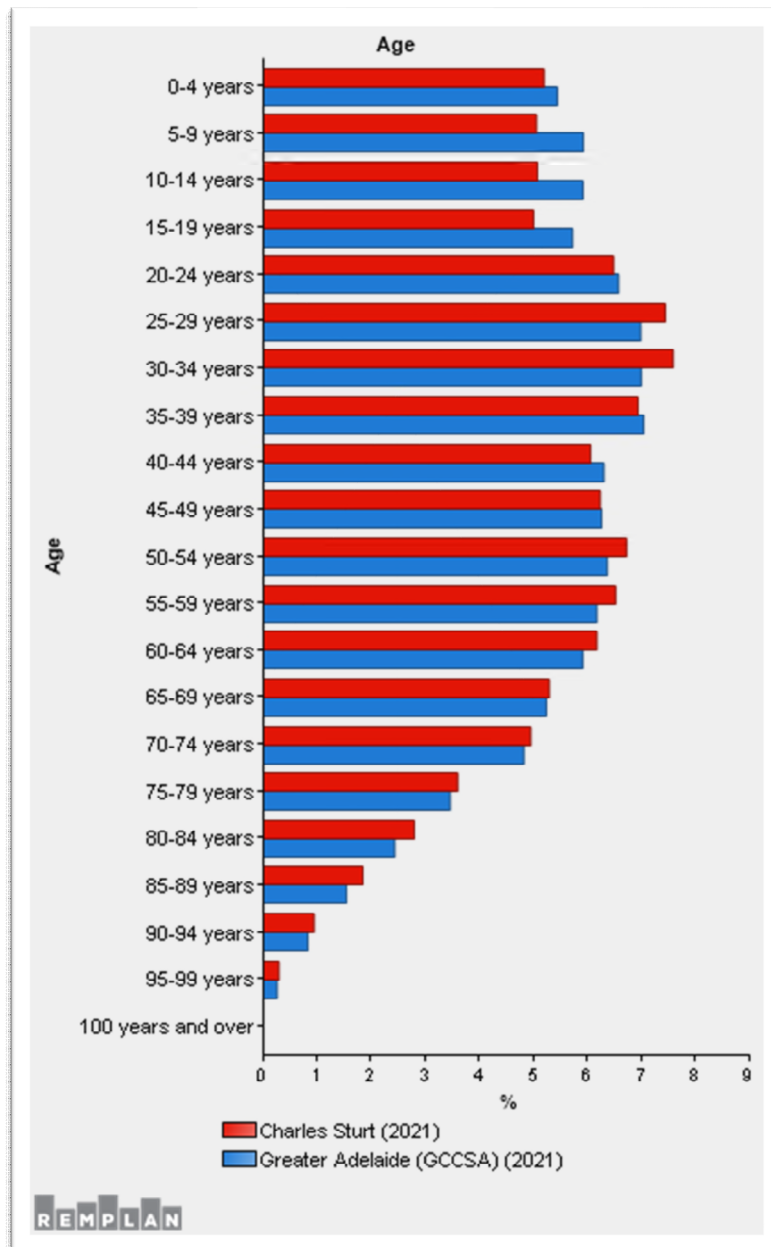


Source: ABS – 2016 and 2021 – Population and Housing

5.6 Population Distribution by Age – 2021

This graph shows:

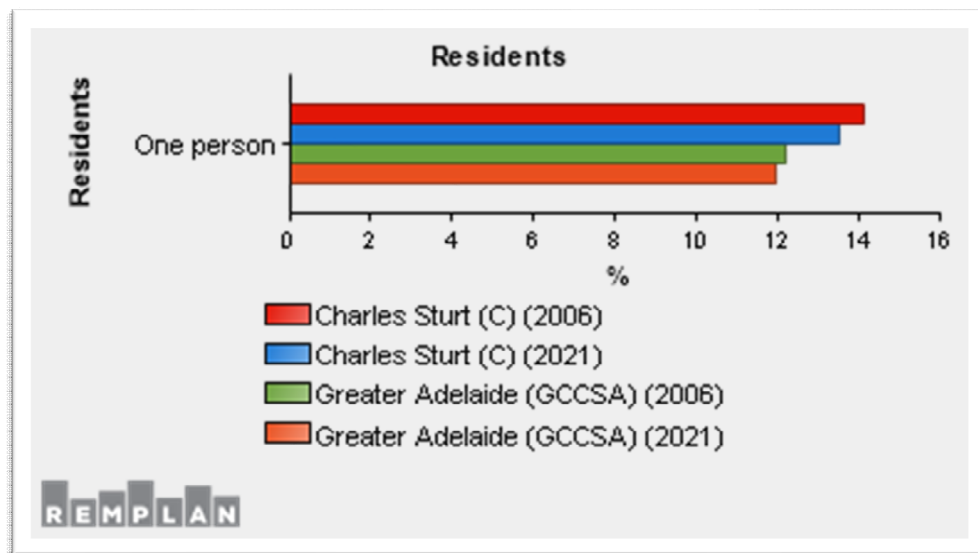
- The higher proportion of younger people in Charles Sturt in the 25-34 years old brackets and in 50 Plus brackets;
- The lower proportion of people in the 0-19 years brackets, indicating a faster ageing population in Charles Sturt in the future.



Source: REMPLAN

5.7 Percentage of Population in One Person Dwellings – 2006-2021

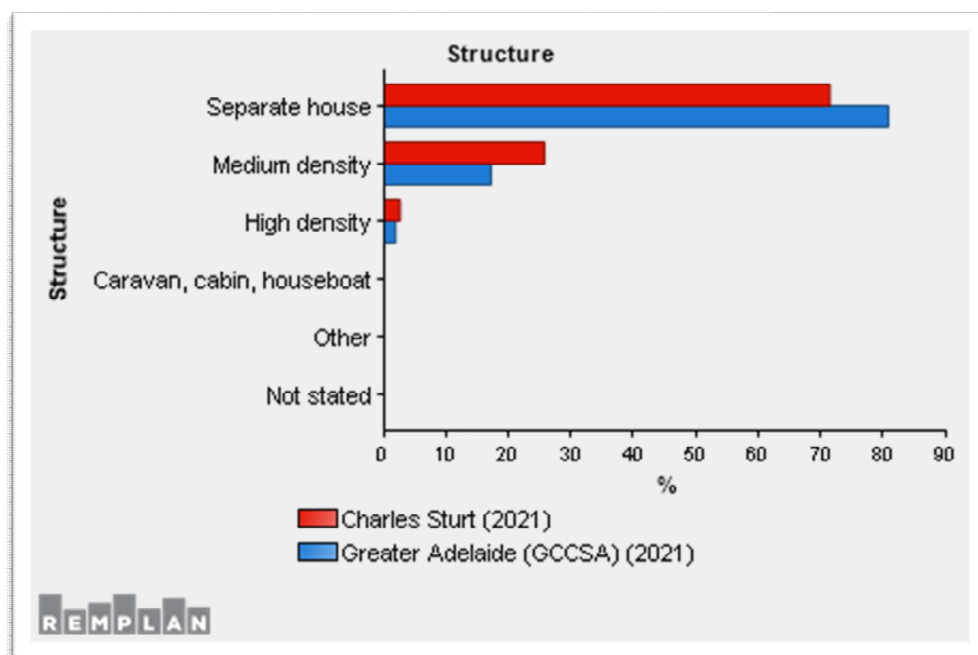
This graph shows City of Charles Sturt population has had a larger proportion of one person dwellings than Greater Adelaide population and that proportion has increased at a greater rate than of Greater Adelaide – 2006 – 2021.



Source: REMPLAN

5.8 Diversity of Housing

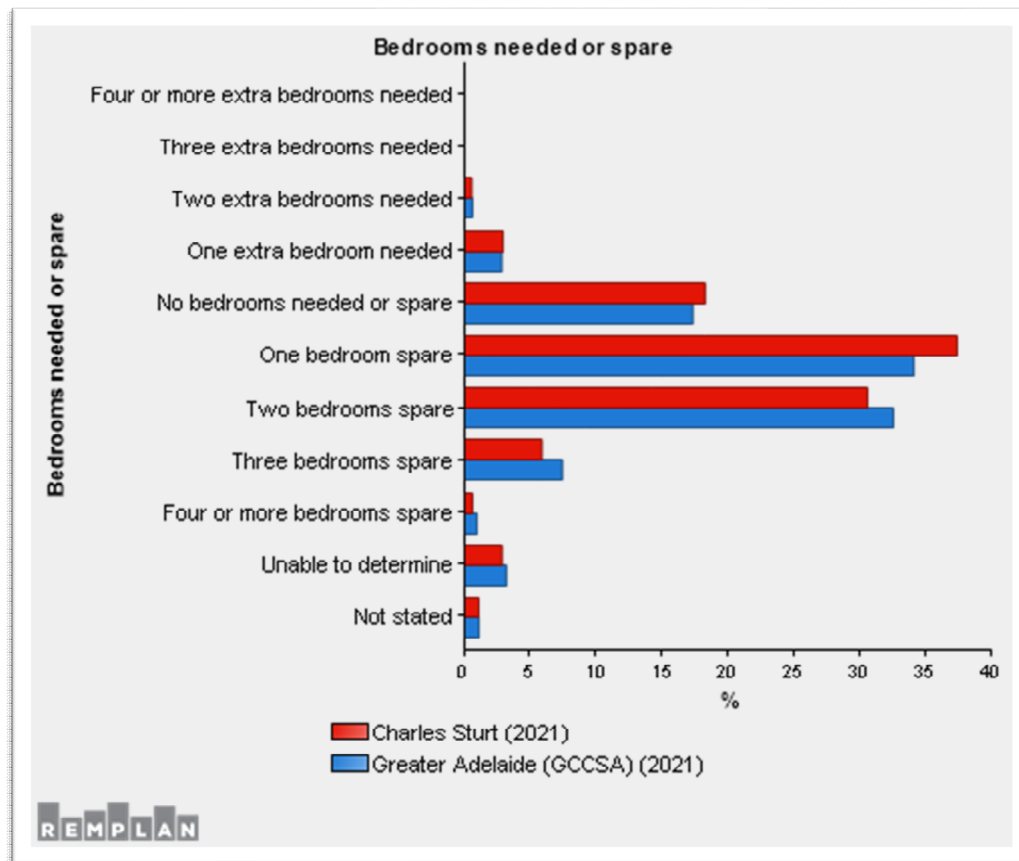
This graph shows that CCS is providing in percentage terms, more diversity in dwelling type, with less separate houses and more medium density housing than Greater Adelaide.



Source: REMPLAN

5.9 Housing Suitability

This graph shows Charles Sturt has a higher percentage of one bedroom spare (37.4 %) compared to Greater Adelaide (34.1%) and higher percentage of 'no bedrooms needed or spare'. This is showing there is better alignment between the current housing stock provided for the Charles Sturt community compared to Greater Adelaide. This aligns with the higher percentage of dwellings other than separate house shown above under Diversity of Housing.

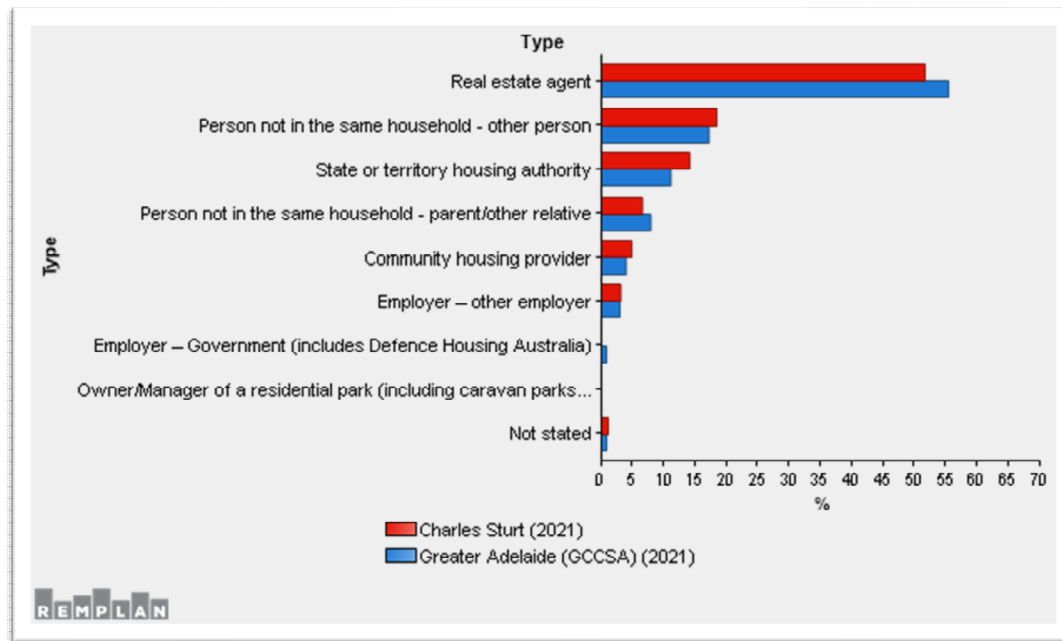


Source: REMPLAN

5.10 Population by Landlord Type

This graph shows the City of Charles Sturt has a higher proportional population in both public housing (mainly SAHA) and personal landlord categories than Greater Adelaide with 14.02% compared to Greater Adelaide 11.02%. In real terms Charles Sturt has 2880 public/social housing dwellings, the fifth highest in SA and Greater Adelaide. Most are older dwellings with 2-3 Bedrooms, unsuitable for future smaller and lone person households. 225 of these dwellings are unoccupied¹.

Source¹: Dwellings Public Housing 30 June 2021 data.sa.gov.au



Source: REMPLAN

6. 2021-2051 - City of Charles Sturt Population and Dwelling Projections – August 2023

Several scenarios are produced based on the different data sources and methodologies used to determine population and dwelling projections to 2051 for the City of Charles Sturt.

Scenario 1 in the table below is considered most plausible based on extrapolated PLUS (Planning and Land Use Services SA Government) high population projections for Adelaide West. Projections in black are sourced from PLUS and projections in blue are extrapolations by City of Charles Sturt staff in the absence of PLUS SA Government figures for specific Local Government Areas (LGAs). An average of 642 dwellings per annum will be required in Charles Sturt over the next 30 years in this scenario, less than the last ten years average of 690 dwellings per annum. (Residential Rateable Property Increases: Finance Section, City of Charles Sturt.

	2021	2041	2051
Adelaide West – Estimated Residential Population (ERP)	247,123 (source SA Govt.) ¹	305,161 (58,038 more people over 20 years; avg 2901.9 ppa. (source SA Govt) ¹	392,181 ² (87,020 more people over 30 years) /2.23 = 39,022 more dwellings over 30 years. ³
City of Charles Sturt	121,840 people - ABS 2021 (= 0.4930 of Adel West Region ERP)	28,612 ⁴ popn. increase (representing 1430.6 ppa)	42,918 ⁵ more people (1.174% growth pa) /2.23 = 19,245 dwellings/30 = 642 dwpa to 2051 ⁶ .

City of West Torrens	61,699 people – ABS 2021 (= 0.2496 of Adel West ERP)	14,486 increase (724.30 ppa)	21,729 more people
City of Port Ade. Enfield (part)	63,584 (.257 of Adel West ERP)	14,915 increase (745.75 ppa)	22,373 more people

Scenario 1 - Table 1: Population and Dwelling Projections for City of Charles Sturt 2051

Note: The above projections for Charles Sturt are based on internal apportioning State Government sourced Adelaide West Estimated Residential Population between the City of Charles Sturt, the City of West Torrens and the City of Port Adelaide Enfield for the period of 2021 – 2051, published June 2023. It is anticipated that the State Government will release local government area population projects later in 2023, which will enable a further refinement of the above projections.

Footnotes:

1. Plan SA – Population Projections for SA and Regions 2021-2051; Table 8 Projected Population Adelaide West Region 2021-2041.
2. This figure is an extrapolation of the 2021-2041 increase of 2,901.9 persons per annum for another ten years to 2051 (as no SA Govt figure is provided.)
3. This figure is the division of the number of people by the average household size (2.4) in Adelaide West to determine number of dwellings.
4. This figure is the portion of Adelaide West population increase of 305,161 to 2041 assigned to City of Charles Sturt
5. This figure is an extrapolation of the 2041 projection in 4. above for another 10 years to 2051.
6. These figures project the number of dwellings required in the City of Charles Sturt to 2051 and the projected average increase per annum to 2051.

Scenario 2 considers the PointData¹ general infill data that projects an average of 333 dwellings per annum over the next 15 years this figure excludes on average 300 per annum coming from strategic infill sites. During the next 5 years general infill will slow due to construction costs, higher interest rates and other factors however Council has significant strategic sites in market that will become more competitive and the ratios of supply between general infill and strategic sites may vary.

Note: ¹ PointData Pty Ltd is an independent property analysis consultancy based in Adelaide specializing in property analysis.

Scenario 3 considers rate data from the City of Charles Sturt (CCS) and ERP for City of Charles Sturt from ABS for August 2023. CCS Finance advises some 690 residential properties were created per annum in the 2011-2021 period. This number is reasonably consistent with Scenario 1.

Scenario 4 considers residential planning approval figures and apportions dwelling numbers to these. Quarterly approval figures in the last 12 months were averaged for the number of dwellings per application, producing annual dwelling numbers approved of some 700 dwellings. A small portion of these will not be built. This scenario is also reasonably consistent with Scenario 1.

The precautionary principle to growth has been applied, that is planning for the highest rate so as to ensure forward planning caters for unforeseen circumstances. As such growth of 700 dwellings per annum in Charles Sturt over the next 30 years will be applied. A balanced approach across the region should include consideration of the potential for additional residential growth in Western Adelaide outside of the City of Charles Sturt. Sites

like the recently State acquired Thebarton West End Brewery in the City of West Torrens presents opportunities to contribute to the regional housing target along with Housing SA regeneration sites and uplift around the Port Adelaide Centre in the City of Port Adelaide Enfield.

7. Infrastructure Assessment

7.1 Essential Infrastructure

7.1.1 Water Assets

Council owned water assets are categorised by the following four functions:

- Water Conveyance – Primary function of moving stormwater and assisting flood mitigation for homes, businesses and Council streets.
- Water Quality – Primary function of removing rubbish, debris and sedimentation from stormwater to clean the water before it reaches rivers, lakes and beaches.
- Water Capture and Re-use – Primary function of capturing treated stormwater and facilitating its re-use for irrigation of open spaces and for the third pipe (treated recycled water) network in our new developments.
- Water Amenity – Water bodies where the primary function is for public amenity and biodiversity.

An asset management plan and asset strategy has been developed and endorsed for our water assets. The strategy aims to keep all assets at a serviceable condition and where reasonably feasible, assets are upgraded and new assets installed in line with the objectives and actions of endorsed corporate documents.

In order to fulfil the current asset strategy an average spend of approximately \$11m per year on maintenance, renewal and upgrade of Water Assets is required over the next 10-year planning period. This allowance has been reflected in the Long-Term Financial Plan of Council.

Council has also developed and endorsed Stormwater Management Plans (SMPs) for the major stormwater catchments within the Council area in collaboration with neighbouring Councils (where applicable) and the State Government Stormwater Management Authority (SMA). These SMPs have been developed using detailed hydraulic modelling to forecast the likely flood risk now and into the future during different types of rain and storm events. The SMPs include recommendations for infrastructure and non-infrastructure works to ensure that Council is appropriately (refer Appendix 1 Map 1–Stormwater and Flood Management).

State owned water and sewer assets are considered sufficient – with augmentation to accommodate projected growth to 2051. A more detailed analysis will be undertaken on a project by project basis.

7.1.2 Roads And Traffic

Adelaide's dependence on car travel is one of the highest in the country with approximately 85% of daily trips made by motor vehicles. The majority of these trips are made to/from the

Adelaide CBD using the arterial road network. The arterial road network within the City of Charles Sturt has historically performed well but with urban infill continuing in the region the performance of the arterial road network and key intersections is diminishing with many intersections now at or approaching capacity.

Poor performance of the arterial road network can result in drivers choosing to use local streets to move through an area which can detract from residential amenity, liveability and present road safety risks. To control traffic using local streets often requires costly traffic controls which can also be divisive within communities.

The images below taken from the Infrastructure SA 20-Year State Infrastructure Strategy (May 2020) demonstrate the performance of the arterial road network and intersections within metropolitan Adelaide.

Key roads of interest within the City of Charles Sturt area include:

- Torrens Road (noting that recent improvements have been made at Ovingham to remove the rail level crossing)
- Grange Road
- Port Road
- Hanson Road
- Regency Road

Any plans to promote Grange Road, Port Road and Torrens Road as residential growth corridors will need to carefully balance the need for movement along these corridors and this is likely to require investment in road or public transport infrastructure (Refer Map 2 – Travel Time Delay Appendix 1).

Key intersections of interest within the City of Charles Sturt area that are already exceeding desired levels of service include:

- Old Port Road/Frederick Road
- West Lakes Boulevard/Tapleys Hill Road
- Port Road/Cheltenham Parade/West Lakes Boulevard (noting that recent improvements to this intersection were completed in 2020)
- Port Road/Woodville Road
- Grange Road/Holbrooks Road/East Avenue (we understand that works are planned for this intersection as part of the upcoming T2D works)
- David Terrace/Torrens Road/Regency Road
- Port Road/Park Terrace
- Findon Road/Hartley Road/Valetta Road (currently under DIT review)
- Tapleys Hill Road/Valetta Road
- Tapleys Hill Road/Trimmer Parade

Investigations and upgrade to these intersections should be prioritised by the Department of Infrastructure and Transport (DIT) to ensure that growth can occur without resulting in unreasonable travel time delays. The design for these intersection upgrades should also include provision for and prioritise public transport (**refer map 3 Appendix 1**).

Improving Road Safety is a priority of Council and we are committed to working with the State and Federal Governments to deliver on the identified actions and objectives to ensure that our roads are as safe as possible for our community.

The City of Charles Sturt has been a leader in introducing 40km/h speed limits on local streets with over 60% of local streets now contained in a 40 Area with the rollout to continue over coming years. In addition, Council has endorsed a Road Safety Assessment Procedure and committed to an ongoing traffic control infrastructure program to enable streets to be treated where the design presents a high risk to road user safety.

Local roads in areas subject to substantial general infill development are subject to on-street parking challenges and increased vehicle activity, as well as removal of street trees for wider/double driveways. In the absence of substantial State-led policy changes to address these impacts of infill, Council will consider measures to maintain liveability in these areas by increasing street tree/canopy cover and foot/cycle path quality in accord with asset management plan schedules.

Fortunately the City of Charles Sturt has experienced only a few fatal or casualty crashes on our local roads, however there are sections of the arterial road network which are considered a Black Length or Black Spot.

Sections of Port Road in Hindmarsh, Grange Road (between Crittenden Road and South Road) and Henley Beach Road (near Seaview Road) are considered Black Lengths and should be prioritised for improvements by DIT. If Port Road and Grange Road are to become a focus for further residential growth it will be imperative that these locations receive attention (**refer Appendix 1 Map 4 Black Length Black Spot Locations**).

7.1.3 Public Transport

The western region of metropolitan Adelaide has seen very little investment in the expansion of public transport services. Major train station upgrades have occurred at Bowden (as part of the Torrens Rail Junction project) and minor upgrades of stations have occurred along the Outer Harbor, Gawler and Grange lines. These upgrades have been welcomed by existing users however they have done little to attract new users to public transport.

A number of schemes have been proposed over the years for new mass transit services within Charles Sturt with the most recent proposal being the Adelink Tram proposal that was included in the recent State Government Infrastructure Transport and Land Use Plan July 2015). This proposal would have delivered expanded tram services along West Lakes Boulevard to service the new developed which is occurring along this corridor and also new tram services into Henley Beach to service the popular Henley Square precinct (see image below). Unfortunately, it appears that there is no commitment to deliver this, or any similar alternative scheme.



The City of Charles Sturt has access to either bus or rail services in many areas, with notable gaps in central western sections, however these services can be slow and infrequent. Access to high quality, faster and frequent public transport services is limited, requiring substantial investment to attract people back to the networks.

Map 5 at Appendix 1 - Public Transport Frequency and Accessibility demonstrates that there are many areas of the City where access to frequent public transport (i.e. running every 15mins or less during peak daytime periods) requires a long walk or would require someone to drive to the nearest service. In these areas the significant majority of people are likely to use a car and it is in many of these areas where the city is also experiencing rapid urban infill which is resulting in high numbers of vehicles parked in streets and impacting the liveability and amenity of the area.

Cycling Infrastructure

Data collected from the Outer Harbor Greenway and River Torrens Linear Park (RTLTP) demonstrates that where suitable infrastructure is in place, cycling can play a major role in reducing the reliance on private vehicles. Recent upgrades to infrastructure along the Outer Harbor Greenway has included:

- New underpass at Park Terrace
- Shared use path upgrades through Bowden

- New bridge over Chief St
- Shared use path upgrades between Chief Street and South Road
- New bridge over South Road
- On and off-road cycling upgrades through Croydon/West Croydon and Kilkenny
- Arterial road crossing upgrades at David Terrace and Woodville Road
- On and off-road cycling upgrades through Woodville Park/St Clair/Cheltenham

These infrastructure upgrades by Council and the State Government resulted in exponential growth in cycling activity along the corridor over the past 5 years demonstrating the impact that good quality infrastructure can have on cycling activity, often at a fraction of the cost of road investment.

Further investment in cycling infrastructure is required in partnership with the State Government to provide a real alternative option to the private vehicle. In addition to the continued deliver and completion of the CCS Strategic Cycling Network and local network upgrades the following major cycling initiatives should be explored to support the likely new and existing residential growth areas:

- DIT to commit to dedicated and separated on road bike network through centre of Council area
- DIT to commit to separated bike lanes on Trimmer Parade from Military Road to Findon Road
- DIT to commit to separated bike lanes on Crittenden Road to Grange Road.

7.1.4 Essential Utilities

Based on feedback from essential services providers of SAPN and SA Water during the 2011 and 2013 growth forecast reports and during the Code Amendment investigations for Kilkenny, Bowden, Findon, West Lakes, Kidman Park and, Albert Park minor augmentation for Water, Waste Water, Electricity and Gas will be required over time with costs borne by developers. General infill is able to be accommodated through augmentation charges borne by the subdivision. Further confirmation will be sought in partnership with PLUS as part of the CCS investigations and investigations as part of the GARP for Western Adelaide Region.

7.1.5 Green Infrastructure

Climate Change

The ongoing commitment in responding to and managing our climate risks is critical in our function as a Council and a State. Climate change is a high strategic risk and needs to be managed to ensure we lead our community towards a sustainable and climate ready future. The way in which our neighbourhoods, both in their built form and living landscapes; can provide refuge from extreme weather, green and biodiverse corridors, and ensure our preparedness and ongoing ability to live within a well-developed urban structure.

Greening within street and road corridors and ensuring all new residential development includes trees and open spaces, will significantly reduce the long-term impacts of heat within our urban environment. Appropriate species selection for our changing climate, space and opportunities for greening will also provide for improved biodiversity corridors and the associated wellbeing of our increasing residential population.

The reduction of emissions resulting from environmentally sustainable built form will also contribute to State government targets of Net Zero by 2050.

Appendix 1 Map 7 - Distance to Reserve- Regional, District Local and Neighbourhood shows the coverage of neighbourhood reserve we have across the city within 300 metres of residential properties and district and regional reserves (often sporting) within 400 metres of residential properties. This is an industry benchmark. Map overlay 7 shows good coverage across the city but doesn't tell the whole story.

[illegible]

Source: City of Charles Sturt Open Space Strategy 2025

The following Table and Precinct Character Considerations is taken from the current Open Space Strategy 2015-2025

Open Space in the Planning Precincts			
The provision of open space in each Planning Precinct is summarised in the chart below and further details are included in the Background Report.			
Planning Precinct	Open Space Provision *	Open Space Types	Hierarchy Focus
Precinct A	46.34 ha (3.3ha/1,000)	A mix of recreation parks, landscape parks, linear open space and fair amount of streetscapes	Quite a lot of local and neighbourhood open space, but also some district level
Precinct B	49.04ha (3.59ha/1,000)	A number of sportsgrounds and recreation parks as well as some linear open space and a fair amount of streetscapes	A mix of district, neighbourhood and local open spaces
Precinct C	63.89ha (4.62ha/1,000)	Considerable linear open space as well as a number of recreation parks and landscape parks, two sportsgrounds and some streetscapes	Regional open space through the RTLTP, otherwise mainly neighbourhood level and some district and local
Precinct D	54.59ha (1.67ha/1,000)	A number of sportsgrounds and recreation parks, as well as landscape parks and streetscapes	A lot of local open space, and some neighbourhood, district and regional open spaces
Precinct E	220.61ha (7.21ha/1000)	Considerable waterfront open space and natural areas, as well as a number of recreation parks, landscape parks, sportsgrounds and streetscapes	A lot of regional and district open space due to the coastline and West Lakes, as well as a number of neighbourhood and local open spaces
TOTAL	434.47ha (4.14ha/1,000)	A diversity of open space types is provided across the City	Higher level open space generally links to the coastline, RTLTP and West Lakes, as well as sportsgrounds and larger parks
*The hectares per 1,000 people figures are based on current open space provision including streetscapes and 2011 population figures			

Precinct Character Considerations

Whilst the Open Space Strategy 2025 aims to achieve equity, there are differences between the Planning Precincts that will justify a different focus. For example:

- Precinct A will have higher densities than the other Precincts and as such parks and reserves in this area could justify being a higher standard and the inner city character of the area could require a greater focus on creating open space connections and place making.
- Precinct B incorporates new open spaces linked to urban development around St Clair as well as some lower income areas that justify a good provision of well-developed and maintained open spaces.
- Precinct C incorporates the River Torrens Linear Park (RTLTP) which has State value and justifies enhancements and initiatives relating to biodiversity. The potential for biodiversity corridors and connections beyond the RTLTP could also be considered.
- Precinct D has considerably less open space than the other Precincts with only 1.67 hectares per 1,000 people in 2011 (including streetscapes). As such, opportunities for increasing the quality, function, usability and provision of open space should be considered, particularly in suburbs that have a low provision.
- Precinct E incorporates open space that has 'high destination value' due to its link to the coastline and West Lakes. As this open space is likely to benefit people from across and beyond the City, a greater focus on maintaining and enhancing open space in Precinct E is therefore likely to be justified.

Source: City of Charles Sturt Open Space Strategy 2025

Precinct D has the lowest amount of open space per 1000 persons when compared to the other 4 precincts. Precinct D with 1.67 hectares of Open Space with the next lowest being Precinct A which has benefited from additional open space as part of new housing growth at Bowden.

Further to this Precinct D is also experiencing the most general infill activity, the worst localised flooding, the largest impact of climate change due to heat island and the poorest transport options.

In areas that are under serviced by public open space, investigations into shared use agreements with public and private education providers could be investigated to provide access to ovals and green spaces outside of school hours.

Street Tree Planting Program

As one response to climate change Council undertook a heat island mapping exercise and in response developed a more comprehensive and concerted street tree planting program. Appendix 1 Map 8 Street Tree Planting Program to 2025 shows a good proportion of activity is within the heat island area and the precinct most undergoing general infill.

7.1.6 Social and economic infrastructure

Community Facilities

Social infrastructure creates opportunities for community connections and community resilience. Much research points to the ability of communities to manage the impacts of local disaster and climate change by working together and feeling connected. Council facilities, churches, schools, and centres are the cornerstone of the infrastructure that bring communities together. The City of Charles Sturt has a wealth of such assets as borne out by **Appendix 1 Map 9 Social Infrastructure**. Going forward ensuring these community development assets are maximised through a coordinated and collaborative approach will be important.

Recreational Facilities

Sport and recreational facilities are very much at the centre of local community life. The City of Charles Sturt is rich with such assets but also many are bursting at the seams. A much-encouraged increase in women's participation as borne in both soccer and AFL places increased stress on Council playing fields. Access to more playing fields will be fundamental as the city grows. This can in part be achieved through the State government considering open space, ovals and reserves as important as infill housing. 12.5 % open space in strategic sites is often inadequate to create ovals, something developers are not as motivated to provide by compared to passive open space adjacent medium density dwellings. Government continues to look to sell land such a SA Water Land and SASI at Kidman Park before first fully assessing the need for formal recreation. State schools make decisions about local community access independent of Government direction which substantially limits community access in part due to the need for individual site by site negotiations and this needs to be addressed more broadly. All of these matters will need to be vigorously

pursued and Council will need to consider acquiring land in areas where it remains affordable for expanded sports facilities if projected growth and current trends continue.

Childhood Education.

Childcare, preschools and schools play a fundamental role in the social cohesion of local communities. Partnerships with local government can facilitate access to important open space, meeting areas and recreation assets outside of schools primary usage. Appendix 1 Map 10 Educational assets shows their distribution across the City.

Ideally, primary schools and child-care centres should be within 5 to 10 minutes walking distance of nearly all dwellings, encouraging safe, healthy, comfortable walks for parents and children with opportunities for social interaction.

7.1.7 Activity Centres - The Neighbourhood Heart

Social contact is the essence of life and local centres/coffee shops/meeting venues are often the 'place' where this contact occurs safely and enjoyably. Centres are also critical to a walkable community, so everyday staples – milk, bread etc – are within walking distance, encouraging healthier, less car dependent communities. Map 11 at Appendix is derived from a 2023 Local Activity Centre Revitalisation strategy that identifies key local centres that can be improved to act as local destinations for neighbourhoods recognising the importance, they play in community life.

7.1.8 Economic Development and Employment Precincts

Council's *Urban Employment Land Review 2019* classified the remaining 17 precincts into Prime or Secondary Employment areas. Prime are considered strategically important and capable of continuing to attract commercial industrial investment. Council has always recognised the importance of employment land and the significant contribution that it makes to the local economy and providing employment opportunities for the community. This supply study helps guide council when approached by landowners who may be seeking a change in land use through a Code Amendment. Map 12 Appendix 1 shows their distribution across the city. Employment Areas are also often under pressure when located in inner city areas or near established residential areas; careful analysis is required to determine what the highest and best use of these lands are, taking into account social, environmental and economic considerations now and into the future.

The *City of Charles Sturt Economic Development Strategy (EDS) 2022-2026*, further recognises the strategic importance of employment lands and their significant contribution to the local economy. Defence and Advanced Manufacturing is identified as one of the key growth sectors along with Urban Development, Health and Tourism. Protecting our employment lands and encouraging commercial and industrial development is critical for future growth. These will drive investment and enable knowledge-based business service industries, creating local jobs and a more dynamic local economy.

The ongoing protection and regeneration of employment lands is important in providing the community with access to local jobs and services without the need to travel long distances. The protection of employment lands needs to be balanced with supporting residential growth in strategic locations to ensure that there is a diversity of affordable housing options and to assist local business to be able to employ local people with a range of skills.

The EDS includes a number of key actions to support the regeneration of Employment Lands including:

- Creation of investment attraction collateral for Employment Land precincts
- Promotion of business growth and innovation grants oriented towards innovation, diversity and transformation.
- Supporting the uptake of technology and building supply chain capability
- Encouraging and facilitating business to business connections through a calendar of events and workshops
- Promoting existing GigCity Precincts (Hendon and Welland) to grow and attract businesses and investigation of opportunities for new ones.

In the City of Charles Sturt Employment lands occupy 438.8 hectares, 8.4% of the total Charles Sturt Council area, 5 214 hectares.

- 2 432 businesses are located in the Employment Lands (Remplan ABR, 2023)
- Over 54 % of economic output is contributed from businesses in the employment lands areas \$7.43 b (54.1%). Council area \$13.73 b (Remplan)
- 47.8% of all jobs in Charles Sturt are located in the employment lands 22,722 (total jobs, 47,543) Remplan, 2022.

Prime Employment Areas

Precinct	Royal Park (1)	Athol Park (3)	Woodville North (4)	Woodville (7)	Hendon South (9)	Beverley (10)	West Croydon / Kilkenny Sth (14)	Hindmarsh (16)
Area (ha)	48.4	54.7	62.8	29.1	30	74.6	23.5	25.5
No of parcels	162	196	126	35	56	378	60	207
Av parcel size (m ²)	2987	2791	4984	8314	5357	1883	3917	1231
Av parcels per ha	3.3	3.6	2	1.2	1.8	5.1	2.6	8.1
Vacancy rate ₁	3.7 %	NA	NA	5.7 %	11 %	7.2 %	0	2.4 %
Jobs per ha ₂	10.6	11.1	7.5	14.7	15.5	20.9	7.4 *	60.7

Secondary Employment Areas

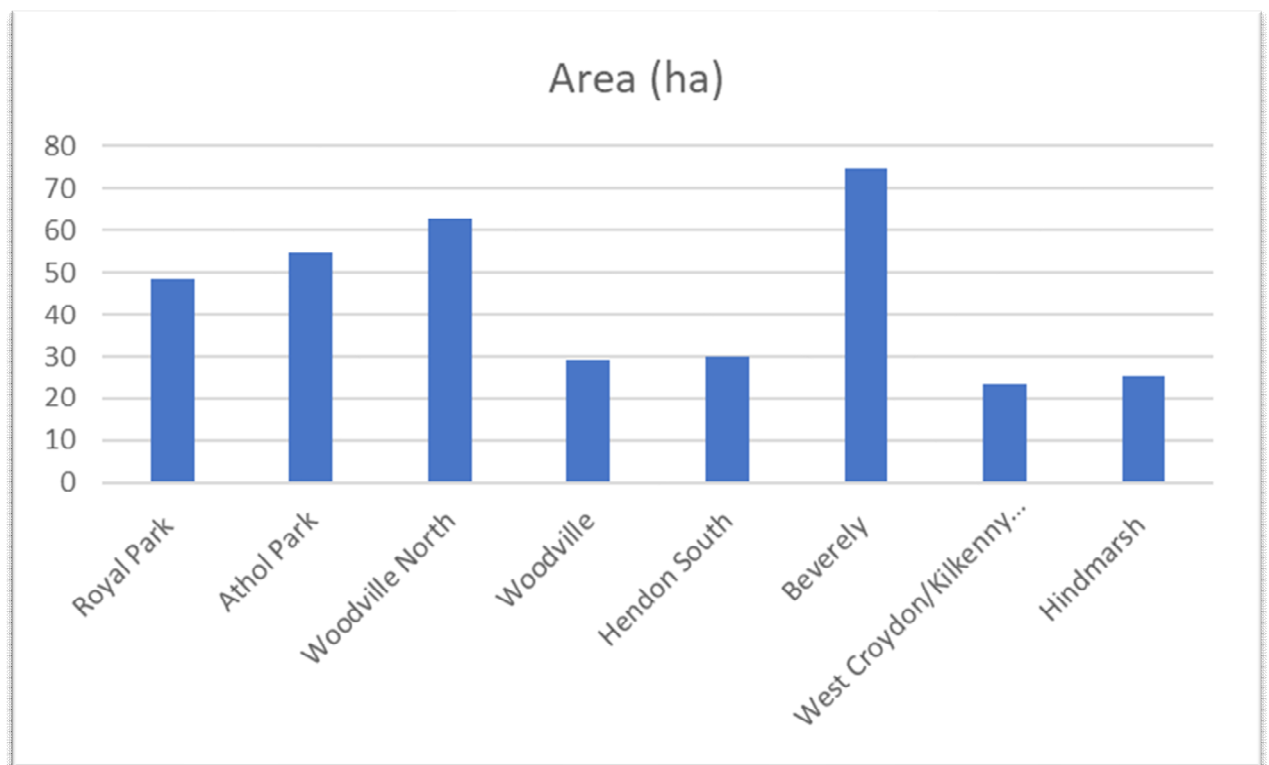
Precinct	Tapleys Hill Rd (2)	Kilkenny North (5)	Albert Park (6)	Hendon North (8)	Welland (11)	East Ave, Beverley (12)	Grange Rd, Beverley (13)	South Rd / Port Rd (15)	Torrens Road (17)
Area (ha)	0.5	24.3	20.2	3	20.5	3.8	16.7	14.8	1.6
No of parcels	8	93	89	34	163	12	115	121	19
Av parcel size (m ²)	625	2612	2269	882	1258	3146	1650	1223	842
Av parcels per ha	16	3.8	4.4	11.3	8	3.2	6.9	10.1	11.9
Vacancy rate ₁	0	NA	NA	2.9 %	3.1 %	NA	0.9 %	4.1%	0
Jobs per ha ₂	15.5 *	32.1	9 *	15.5 *	29	20.9	20.9	29.5 *	9.8 *

₁ Charles Sturt Urban Employment Land Review 2019 ₂ Remplan – Destination Zones data 2023

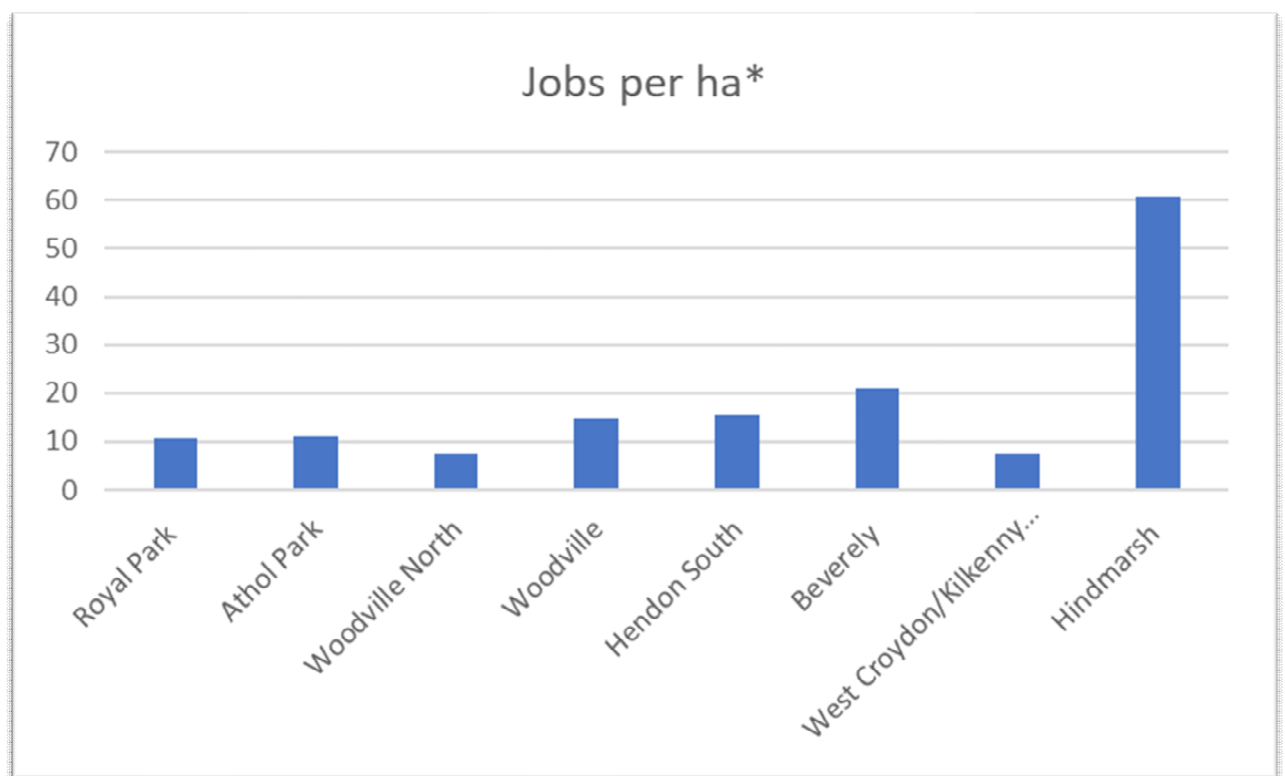
* note this includes a large portion of non -employment area in the broader Destination Zone, Remplan, 2023.

NA – Not available

Source: REMPLAN – Destination Zones data 2023



Source: Charles Sturt Urban Employment review, 2019



Source: Remplan Destination Zones Data, 2023

The above table and graphs highlight the following observations for the City's Prime Employment Areas:

- The City of Charles Sturt has considerable stock of Urban Employment Zoned land
- In physical size, the largest employment precincts in the City include Beverley, Woodville North, Athol Park and Royal Park, which reflect their current status as Prime Employment Areas which provides opportunities for future development
- The Beverley precinct contains the largest number of parcels reflective of the number of smaller residential sized allotments located in the precinct
- The largest average parcel sizes are in Woodville North, Hendon and Woodville
- The Precincts with the highest number of jobs per hectare are in Hindmarsh (60.7) and Beverley (20.9).

8. Existing and Future Potential Residential Growth Opportunities

On average 690 dwellings per year were built within the City of Charles Sturt from 2017-2022. On average 2/3rds of this growth comes from general infill with 1 third being developed from strategic sites.

Council projected growth population as discussed under chapter 6 directly correlate to new housing being built. If housing supply is slowed so will Council's projected population growth.

Council currently has zoned land capable of providing a further 7,348 general infill sites (Appendix 1 Map 13 - General Infill) and 5392 new dwellings in rezoned strategic sites (Appendix 1 Map 14 Strategic Infill).

Outside of general infill and strategic sites a further 1739 dwellings anticipated to be developed over the next 15 years without any policy changes. These additional dwellings will be constructed in centres and corridor providing a total housing supply for the next 20 years. Appendix 1 Map 15 Retail and Commercial zones show Councils retail and commercial land uses in centres and corridors.

Section 13.1 highlights dwellings that may derived from Centres and Section 14.1 highlights dwellings that can be derived from corridors.

Over this 15-to-20-year period further general infill sites will replenish the 7,348 as they a developed.

Likely general infill growth for Charles Sturt is based on State Planning and Land Use Services data. In recent months an increase in interest rates, construction and land costs has slowed demand within CCS. This might be a temporary slowing and could be offset through demand drivers such as government funding including shared equity schemes , first home buyers grants and institutional funding for build to rent options. Further to this master planned developments can deliver diversity of housing meeting the needs of smaller households.

General infill /location	Estimated dwelling yield 2021-2036
West Lakes	756
Royal Park /Hendon/Albert Park	418
Woodville Cheltenham	1002
Seston/Grange	723
Beverley	1116
Hindmarsh/Brompton	768
Flinders Park	1725
Henley Beach	687
West Beach	153
Sub Total	7348
Strategic Infill	Future anticipated yield. May 2023-
Bowden	1563
Kilkenny	300
St Clair (racecourse site)	200
Woodville	185
WEST	247
Woodville west	64
Kidman Park (former Metcash site)	300
Trident Site St Clair	140
Bowden Brompton	1409
Albert Park	250
Seaton	245
SA Water (CA in progress/subject to approval by Council and the Minister for Planning)	489
Sub total	5392
Centres	1162
Corridors	577
Total	14,479

Table 2 – Total housing supply

Based on the Projected Growth of 700 dwellings per annum Council has housing supply for the next years 20 years plus a further approximately 2,400 of general infill dwellings as capital to site value ratios converge .

Beyond this period, general infill will still play a role as will future strategic infill sites (refer Summary of Growth Opportunities out to 2057).

8.1 General infill

State Government, Planning and Land Use Service Department (PLUS) describes General Infill as development that:

- Occurs on residentially zoned land parcels within established urban areas of Greater Adelaide
- Typically involves the demolition of older dwellings although in some areas existing dwellings are retained and another dwelling is constructed (re subdivision).

PLUS provide a more detailed analysis on the availability and readiness of General infill development opportunities:

DEVELOPMENT STATUS	DEFINITION
Short Term	Land satisfies relevant zone requirements for land division and has a CV/SV Ratio of less than or equal to 1.3.
Medium Term	Land satisfies relevant zone requirements for land division and has a CV/SV Ratio greater than 1.3 and less than or equal to 1.8.
Long Term	Land satisfies relevant zone requirements for land division and has a CV/SV Ratio of greater than 1.8.

The City of Charles Sturt has 22,300 allotments capable of being subdivided. Many of those will not be subdivided for a number of reasons. Those include the ageing and character of the home, landowners preference for larger allotment or capital improvements made over time to the existing residence making demolition unviable. There are also a number of commercial realities including owners' appetite for risk and ever increasing subdivision and building costs.

In applying PLUS's capital to site value ratios of less than or equal to 1.3 and 1.8 Council has 7,348 allotments that are likely to be subdivided over the next 15 years taking into account several commercial factors. This number is not static but a point in time. As assets depreciate new houses will fall within the 1.3 capital to site ratio and be vulnerable to subdivision (refer to **Map 13 General Infill**).

Issues and Opportunities

General infill, whilst assisting in renewing housing, providing housing diversity and generating some revenue for Charles Sturt residents through subdivision is not well received by those surrounding the site.

General Infill does not contribute adequately to resolving the problems it generates. The problems include on street parking and road network congestion, loss of tree canopy, increase heat island effect, increase stormwater runoff, loss of streetscape and neighbourhood character and lack of open space.

The Planning Commission recently received a report on the impacts of general infill and whether minor amendments to the Planning and Design Code have had a positive impact on these issues. That report, plus the report from the Expert Panel reviewing the Planning and

Design Code have not yet been publicly released but should be reviewed within the context of any possible further reform.

Investment in Infrastructure

An integrated state government rapid transport service needs to be implemented in areas of general infill growth that reduces reliance on private car use.

An Expansion of existing neighbourhood parks in suburbs experience significant infill where population to open space benchmark ratios are not being met. Funding acquisition is difficult. A greater contribution should be derived from land divisions in these areas. Current contribution is less than 20% of true cost of the land equivalent. Compulsory acquisition powers for the purposes of public open space needs to be considered.

Streetscape enhancement program –accelerated investment in street quality to improve tree canopy, reduce traffic volumes , enhance on street car parking, reduce road widths in key collector streets, increase road closures and developed pocket parks. This requires extensive consultation and a clear vision for what streetscape topology will be developed where.

Planning and Design Code Reform

There are a number of potential Code policy reforms and legislative amendments which should be considered by the Government to improve the amenity of areas that are experiencing general infill. Such issues include but are not limited to:

Carparking and storage for dwellings – Carparking size in double garages need to be increased to allow for people to park and exit their vehicles within the garage space, reducing the impact of private vehicles parking on public streets.

Off-street car parking provisions - Consideration for off street car parking ratios to ensure two spaces are provided on-site for dwellings, regardless of the number of bedrooms.

Urban Tree Canopy Off-set Scheme – Specific Zones should not have the option to pay out in lieu of planting a tree where there are significant benefits in ensuring trees are planted.

Tree canopy – Amendments to policy to ensure sufficient setback to allow for a potential tree in the rear yard.

Public Realm Tree Planting – Improve criteria for greater consideration being given and demonstrated for alternative design solutions and the retention of street trees.

Private Open space – The provision of private open space based on $<301\text{m}^2 = 24\text{m}^2$ is not considered sufficient given 300m^2 is the maximum site area for most dwelling types in Council's General Neighbourhood Zone (the most common residential type of zone in the city). Amendments should be considered on policy based on a sliding scale depending on the size of the site.

Legislative considerations

Regulated trees – The broadening of the legislative definition for Regulated and Significant trees can capture a greater number of trees in a locality. Future tree damaging activities

triggering a development application are given the appropriate scrutiny before such actions are undertaken. This provides greater opportunity to maintain and improve on urban tree canopy in the metropolitan area.

Public open space contribution – The current legislative provision of 12.5% is not considered sufficient to address future higher density residential environments and should be increased. The opportunity exists for Council to adopt a policy of open space beyond 12.5% for medium density strategic sites where council leads the Code Amendment process.

The open space contribution per allotment in General Infill is also inadequate at just \$7,800 per allotment given the cost of land per m2 in these location that council must pay to expand existing reserves .

Code Amendment requirements

Council is in the process of undertaking a Character Area Code Amendment for the City of Charles Sturt. A Residential Streetscape Character Analysis was undertaken by Council in 2013 as a precursor to preparing a Development Plan Amendment (DPA) now known as a Code Amendment. The Study identified some 17 areas within a Streetscape Policy Area. The draft policies sought to encourage street fronting infill development which was respectful of the prevailing character but did not intend to introduce demolition controls. The Code contains a Character Area Overlay which provides Council with an opportunity to revisit the 2013 findings and undertake a Character Area Code Amendment in the short term.

In the short to medium term a broader Residential Strategy is warranted for future consideration within the areas of Charles Sturt that are undergoing significant general infill. To inform these future investigations a review of the Government's directions in its future Greater Adelaide Regional Plan is required to understand future growth considerations as well as identifying general infill issues which have been borne out of the Code since its implementation.

8.1.1 Integrated Precinct Planning (Your Neighbourhood Plan)

Given the scale of the area most adversely affected by General infill and the issues and challenges, a significant urban planning and infrastructure master plan needs to be developed in the central part of CCS. The proposed Your Neighbourhood Plan (As Per Precinct Map 16 at Appendix 1) needs to galvanise community and political support necessary for the changes to be implemented. Scope of the Plan is to address key infrastructure issues and required policy reform to offset the negative impacts of unmitigated general infill.

The focus area has a significant amount of infill growth, is most impacted by heat island, has the poorest access to rapid public transport, has the highest ratio of people per 1 hectare of public open space and is in one of Councils worst affected flood areas.

These impacts are most acute with the central part of the City as can be best understand by reviewing the maps in Appendix.

Recommendation

Seek Federal Government support for a \$75,000 Commonwealth Grant from the Urban Precincts and Partnerships Program to co-fund (\$75,000 from Council) a master plan of the City's central suburbs most affected by general infill (**refer Appendix 1 Map 16**).

8.2 Strategic Infill

8.2.1 Current Strategic Infill Site Assessment

Consistent with the 2011 City of Charles Sturt Residential Growth and Character Study and subsequent endorsed Section 30 reviews under previous legislation Council has progressively supported or led 12 DPA's/Code Amendments that have assisted in the delivery of master planned communities with an estimated yield of 8,848 dwellings. As at May 2023, 2,896 dwellings have been generated with a further 5,085 new dwellings anticipated to be generated over the coming 15 years.

Supply Location – Known Strategic Infill Sites in CCS	Originally assumed dwelling yields (du)	Current yield (constructed/under construction) (May 2023) approx.	Anticipated dwelling yield remaining (approx.)	Likelihood of completion by 2036 yield
Bowden (RSA and MAB) (commenced approx. 2013)	2400	837	1563	Yes
Kilkenny (not commenced)	300	0	300	Yes
St. Clair (AV Jennings) (commenced approx. 2010)	1310	1100	200	Yes
WEST (C&G) (commenced approx. 2014)	1300	503	247	Yes
Woodville West (commenced approx. 2011)	429	365	64	Yes
Trident Site (not commenced)	140	0	140	Unknown
Kidman Park (former Metcash site) (not commenced)	300	0	300	Yes
Woodville Station (PEET) (commenced 2023)	185	0	185	Yes
Bowden – Brompton (commenced 2023)	1500	91	1409	50%
West Lakes (SA Water) (not commenced) (subject to Code Amendment approval)	489	0	489	Yes
Albert Park (not commenced)	250	0	250	Unknown
Seaton (not commenced)	245	0	245	Unknown
TOTAL (du)	8848	2896	5392	

Table 3 – Known Strategic Infill Sites in Charles Sturt

Key learnings from these previous rezoning processes include:

- Land that is currently not generating a revenue and has dilapidated assets and in single ownership are the essential ingredients to drive owners' interest in a change in use and private sector investment in housing.
- Despite these being master planned sites with 12.5% open space the surrounding community are highly sensitive to any medium to high density housing such as apartments and perceived traffic impacts.
- Where ownership is fragmented and or generating a return for the landowner (Albert Park, Seaton, Bowden-Brompton, Port Road Hindmarsh) very little of the land rezoned

has progressed to land division and construction stage highlighting that policy uplift alone is not enough to generate market activity.

- Few if any sites now exist that are of scale, in single ownership and not providing local employment.

8.2.2 Future Strategic Infill site uplift

Seaton

A significant portion of Seaton is under state South Australian Housing Authority ownership. Successive State Governments considered redevelopment options in the but have not progressed to date. Managing existing tenants to ensure continuity of housing in the same or nearby area is critical.

Council administration has long sought a master plan over the whole of site knowing that general infill via a block or two at a time delivers the worst possible outcome. It would be better to support higher density that is included in a complete master plan for the site than it would be to have piecemeal development that does not address local amenity issues of traffic, street tree canopy, public transport, streetscape design, social infrastructure, local shop revitalisation and public open space. Council needs to continue to proactively demand a master planned quality renewal project with less imposed (financial constraints to ensure development in this part of the city leaves a positive legacy.

Visy Glass Port Road

The parcel is in single ownership, approximately 13 hectares in size and adjacent rapid transit with excellent local amenity. The cost for Visy to relocate is prohibitive at present and may remain so however it presents an opportunity as a strategic site for potential residential medium density living with complimentary mixed-use opportunities and the State should look towards incentives for relocation at some point in the future. Given its size adjacent to a primary school, train station, Greenway, Port Road and Welland Shopping Centre as many as 1,300 dwellings could potentially be generated from this site subject to further detailed investigations involving matters such as but not limited to remediation, traffic and access.

Recommendations

- a) Continue to discuss with Visy their long-term strategic planning for their site.
- b) Include the Prime Employment Precinct as part of review of Employment Lands to identify the level of strategic importance and highest and best use.

Entertainment Centre

This 5.5-hectare site is owned by the State Government in an area identified by the Planning Commission as having potential to generate a Master Planned urban renewal site of some 800 dwellings. Should the Government be prepared to consider making the site available for redevelopment a broader study of the Hindmarsh area in this location becomes necessary.

Constraints and Opportunities

The primary constraint would appear to be the cost to relocate the Entertainment Centre. Recent investment in the Hindmarsh Stadium also suggests its location is secured long term however, if the broader Hindmarsh Triangle is to be considered for a Master Planning exercise, then the future of these two large sites within the precinct must also be fully considered beyond just the immediate asset replacement consideration.

Combined with the Hindmarsh Stadium and Entertainment Centre a precinct master plan should be developed in partnership with the State Government to ensure constraints and opportunities are suitably addressed creating a clear vision for the long-term future of this part of our city. (medium-term priority).

Hindmarsh Triangle

This area is in multiple ownership generating the most jobs per hectare of any employment precinct within Charles Sturt (*refer to Heading Infrastructure Assessment – Sub-Heading Economic Development and Employment Precincts*). Given its location to major transport options, CBD employment, Port Road District Centre, River Torrens Linear Park and, Parklands amenity, etc makes it a site worthy of consideration as a mixed use employment whilst also encouraging residential investment.

Constraints and Opportunities

The primary constraint relates to single ownership size of many of the sites. The lack of open space within the triangle and the potential loss of employment as the area gentrifies. Opportunities to generate a new local park would need to be pursued and funding for street improvements (as heavy vehicles decline) present opportunities for improved local amenity supporting the policy changes and private sector investment. A new funding model and legislative regime beyond those that currently exist would need to be introduced to ensure the outcomes are delivered equitably. Both Hindmarsh Stadium and the Entertainment Centre need to be considered. Given the recent investment in Hindmarsh Stadium, potential future development south of the River Torrens at the Brewery site, development at Bowden (MAB site) and the rezoned land at Bowden Brompton (Detmolds etc) all representing a significant loss of employment zoned lands in the vicinity, careful consideration is necessary. This is a longer-term proposition.

Recommendation

A review of the City of Charles Sturt Employment Lands to ascertain the long-term demand for Council's current employment precincts and to assist in informing future Code Amendment considerations.

8.3 Retail Centres

8.3.1 Current Centres assessment

The table below is a summary of existing centres under **current Zone policy** for potential dwelling yield (assuming gross figure with medium density (70du/ha) and only 20% of each site developed for potential dwellings given the Zones primary objective is for commercial/retails land uses).

Summary Table

Centre location	Approximate area (ha)	Current Zone	Approximate du (gross) based on medium density (70du/ha) assuming 20% of the site
Hindmarsh	23ha	Suburban Activity Centre Zone	325du
Hindmarsh	2ha	Suburban Business Zone	28du
Welland	3ha	Suburban Business Zone	45du
Kilkenny	12ha	Urban Activity Centre Zone	172du
Kilkenny	2ha	Suburban Business Zone	32du
Kilkenny	2ha	Suburban Activity Centre Zone	32du
Fulham Gardens	5ha	Suburban Activity Centre Zone	73du
Findon	5ha	Suburban Activity Centre Zone	72du
West Lakes	24ha	Urban Activity Centre Zone	337du
		Total	1,116du

Table 4: Summary of existing centres and potential yield

Council has several existing Centre type Zones which under the existing zone policy provides an opportunity for future dwelling growth. The existing zone policy supports generally medium density dwelling outcomes (if and when there is market demand) provided future residential development does not prejudice the operation of existing non-residential development and the long-term provision of services and facilities for wider community benefit. The dwelling yields above are a conservative figure based on a medium density scenario (maximum 70 dwellings per hectare) and assumes only 20 percent of these sites could be developed for future housing.

Constraints and Opportunities

The existing Centre Zones highlighted above provide an opportunity for future residential growth given their proximity to established services, transport network, public transport. The need for additional retail and commercial land use in and around centres to service the population growth will also need to be considered as part of the investigations.

While the existing Centre Zones provide an opportunity for future growth in Charles Sturt further detailed investigations would be required on a case-by-case basis on matters including but not limited to:

- Land ownership
- Location of public open space
- Location of EPA licensed areas
- Interface with non-residential land uses and land use mix
- Interface with any heritage places (State heritage, Local Heritage and areas within a Historic Area Overlay
- Traffic management
- Environmental assessment; and
- Stormwater management.

8.3.2 Future Potential Centres Uplift (refer Appendix 1 Map 18 for these locations)

Retail has continued to evolve and change and both sites are large and well located. Improved public transport to the CBD and to other centres would need to form part of any master planning of the sites but as single owner large sites there are opportunities to achieve some improved amenity to support residential living,

The Port Road Suburban Activity Centre at Hindmarsh also presents an opportunity to consider policy changes. Whilst on the northeastern side of the road some policy amendments were made at the time of the Bowden DPA in 2013 investment and redevelopment has not followed. A master planning process with the expressed objective of a Code Amendment may assist to shape this Activity Centre and position it well to complement the broader Hindmarsh triangle planning envisioned in the longer term.

8.4 Transit Corridors

8.4.1 Current Corridors assessment

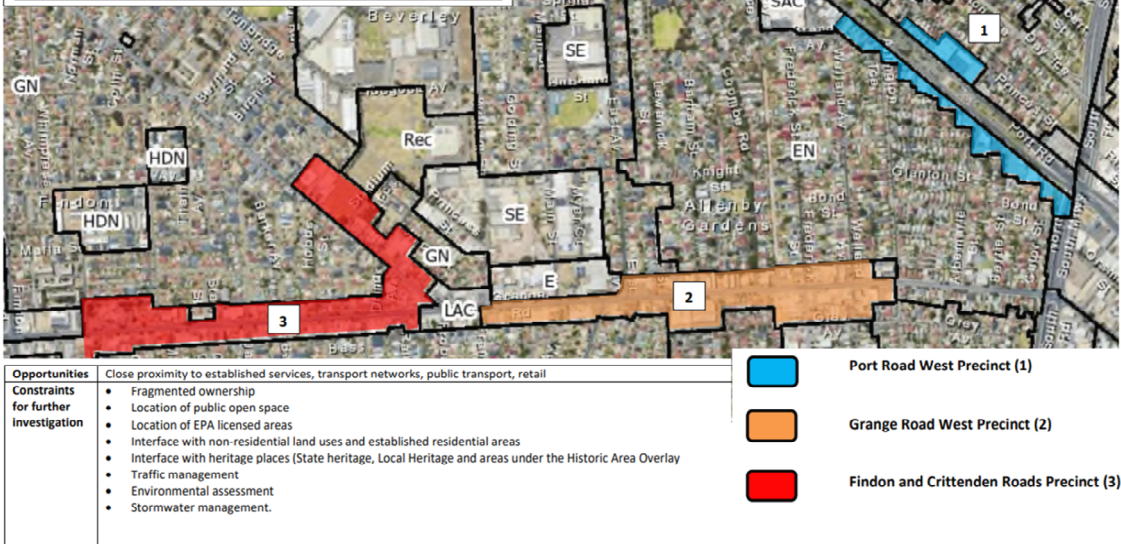
The information below is a summary of potential dwelling yield in existing inner west corridors based on current Zone policy. The locations are located along a portion of Grange Road and Port Road and located in the Suburban Business Zone. The Zone also occurs along other key arterial networks in Charles Sturt including Tapleys Hill Road, South Road, David Terrace, Torrens Road and Findon Road.

The assumption includes a gross figure with medium density (70du/ha) and only 20% of each site developed for potential dwellings given the Zones primary objective is for commercial/retails uses.

The Suburban Business Zone policy supports generally medium density dwelling outcomes that does not prejudice the operation of non-residential activity within the zone (dependant on market demand). The Zone supports generally low rise built form which is defined by the Planning and Design Code as up to 2 building levels.

Precinct Areas – Existing Zone Scenario

	Development Area	Zone	Gross Approximate Area	Estimated dwelling yield based on current zone policy (20%) (70du/ha)
1	Port Road West Precinct	Suburban Business Zone	97,954m ² / 9.7ha*	(20% = 19,590m ²) 137du
2	Grange Road West Precinct	Zone	143,981m ² / 14ha	(20% = 28,796m ²) 201du
3	Findon and Crittenden Roads Precinct		171,136m ² / 17ha	(20% = 34,227m ²) 239du
			Total	577du



Constraints and Opportunities

The location of these corridor zone (Suburban Business Zone) provides an opportunity for future growth given their proximity to established services, transport network, public transport.

Further detailed investigations would be required on a case by case basis on matter including but not limited to:

- Land ownership
- Location of public open space
- Location of EPA licensed areas
- Interface with non-residential land uses and established residential land uses
- Interface with any heritage places (State heritage, Local heritage and areas within a Historic Area Overlay)
- Traffic management
- Environmental assessment; and
- Stormwater management.

8.4.2 Future Potential Corridor Uplift

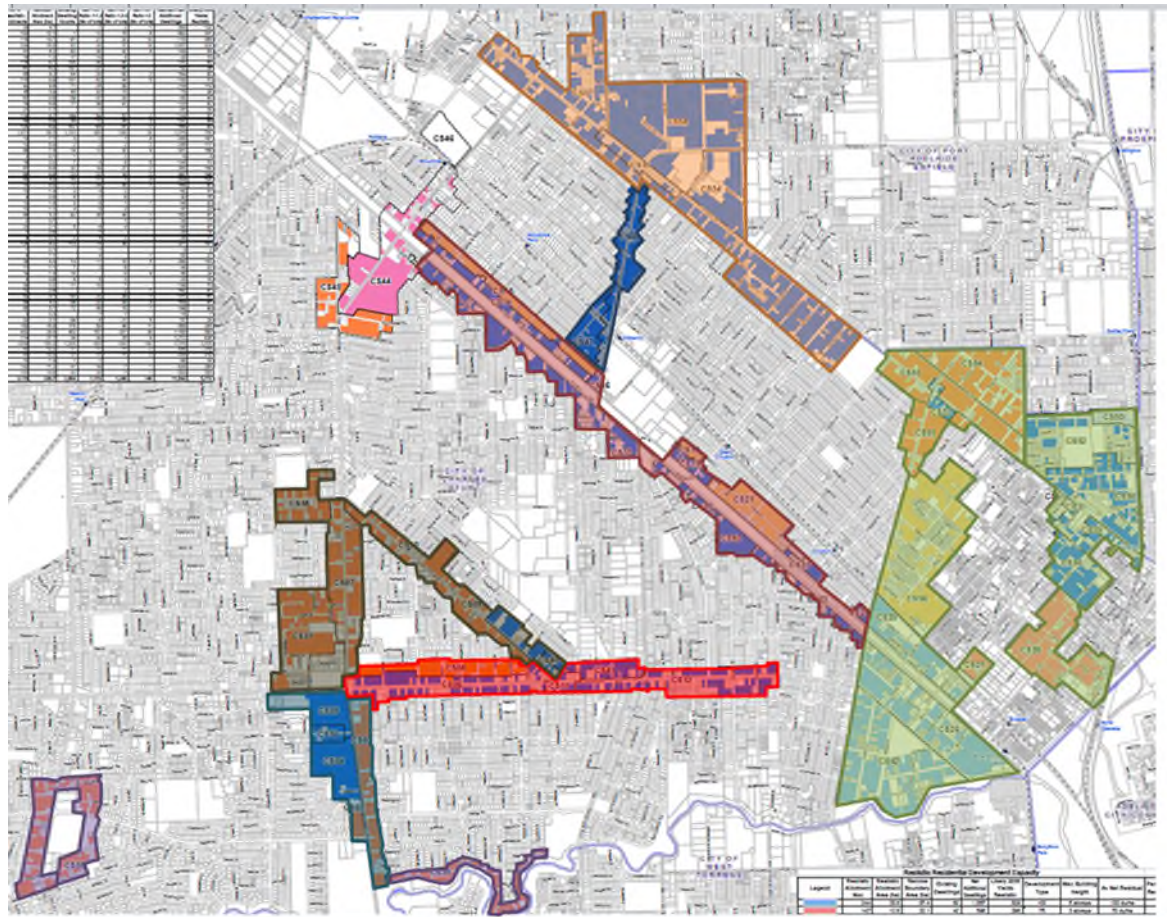
Council previously prepared a residential yields analysis in 2013, which was identified by the Charles Sturt Strategic Directions Report 2014. The analysis's scope included:

- Spatial analysis of residential dwelling targets in 30 Year Plan for Greater Adelaide.
- Identify precincts that will accommodate medium to high density development in Transit Oriented Developments, nodes and transit corridors (20 percent of the Council area). Development potential for the remaining area (80 percent) will be consolidated.
- Consider infrastructure and open space provision

The analysis identified a number of potential areas including along corridors within the inner west of the City and based an assumption that only 50 percent of the total capacity would be developed over a 30-year period. The analysis also assumed a high residential scenario for the areas identified beyond the existing zone policy. The analysis concluded that the areas identified had the potential for 5501 dwellings: An extract of the analysis is detailed below:

Precinct	Likely 2038 Dwelling Yields Realistic	%
Inner West Precinct (1)	1973	35.9
Torrens Road West Precinct (2)	1381	25.1
Port Road West Precinct (3)	692	12.6
Grange Road West Precinct (4)	402	7.3
Findon and Crittenden Roads Precinct (5)	378	6.9
Findon Road South Precinct (6)	372	6.8
David Terrace and Kilkenny Road Precinct (7)	173	3.1
Fulham Gardens and Flinders Park Precinct (8)	130	2.3
Total	5501	100

Table 5: Breakdown of Likely 2038 Dwellings Yields – Charles Sturt Council – Residential Yields Analysis 2013



- Inner West Precinct (1)**
- Torrens Road West Precinct (2)**
- Port Road West Precinct (3)**
- Grange Road West Precinct (4)**
- Findon and Crittenden Roads Precinct (5)**
- Findon Road South Precinct (6)**
- David Terrace and Kilkenny Road Precinct (7)**
- Fulham Gardens and Flinders Park Precinct (8)**

The 2013 Residential Yields Analysis showed there was opportunity for potential growth in these locations if and when there was demand and was contingent on future Code Amendment investigations. These areas were also ranked based on assessment criteria with the findings still relevant and used for calculating likely yields for Corridors in the below table.

Experience since 2013, where policy was introduced elsewhere such as Churchill Road and Henley Beach Road, shows that little development has occurred and where that has been developed has not necessarily been well received by the surrounding community.

To that end and considering significant supply in the pipeline and future strategic sites and Centres providing larger parcels under single ownership a more nuanced and limited scope for corridor growth is proposed as a potential future consideration longer-term. The following table identifies future opportunities for investigation and master planning overlayed by priorities based on earlier analysis.

9.Summary of future Residential Growth Opportunities

(High Priority 0-5 years; Medium Priority 5 to 10 years; Low Priority 10 years and beyond)

	General infill		Ongoing and likely to provide future opportunities out to approximately 2057	
Map No.	Future Strategic Infill	Priority	Comments	Approx. Yield (du)
1.	Seaton	High	SAHA land Currently housing diversity zone. State appears to be looking to further increase density via code amendment	300
2.	Visy Kilkenny	Low	Contingent upon closure or relocation	1,300
3.	Hindmarsh Entertainment Centre	Medium	Requires closure or relocation	400
4.	Hindmarsh Triangle	low	Requires further investigations into future industrial employment lands with timing linked to progression of other strategic sites nearby	800
	Centres			
5.	Kilkenny Arndale -	high	Subject to landowner interest, residential uplift is possible	700
6.	Westfield - West Lakes	high	Subject to landowner interest, residential uplift is possible	1,000
7.	Port Road – Suburban Activity Centre - Hindmarsh	high	Limited uptake to date but subject to MAB and Brewery site development interest may grow	300
	Corridors			
8.	Grange	low	Findon to Arlington Terrace	474
9.	Port Road -	low	South to Woodville road including Welland shopping centre	609
10.	Torrens Road	low	Brown Street to St Clair Avenue south side	400
	Total			6,283

Table 6: Potential future opportunities for investigation

Assumptions:- approximate yields are based on gross density dwellings per hectare with 100% area developed for potential residential development. Projected yields are influenced by proximity to rapid transport, local amenity, mixed use market demand, public infrastructure requirements and community feedback. Final yields considerations will be subject to detailed future investigations and include but not limited to capacity of infrastructure, local amenity, market demand and community expectations (**refer Map 17 below as to where they are located within the City**).

10. Investigation Priorities

(High Priority 0-5 years; Medium Priority 5 to 10 years; Low Priority 10 years and beyond)

High priorities

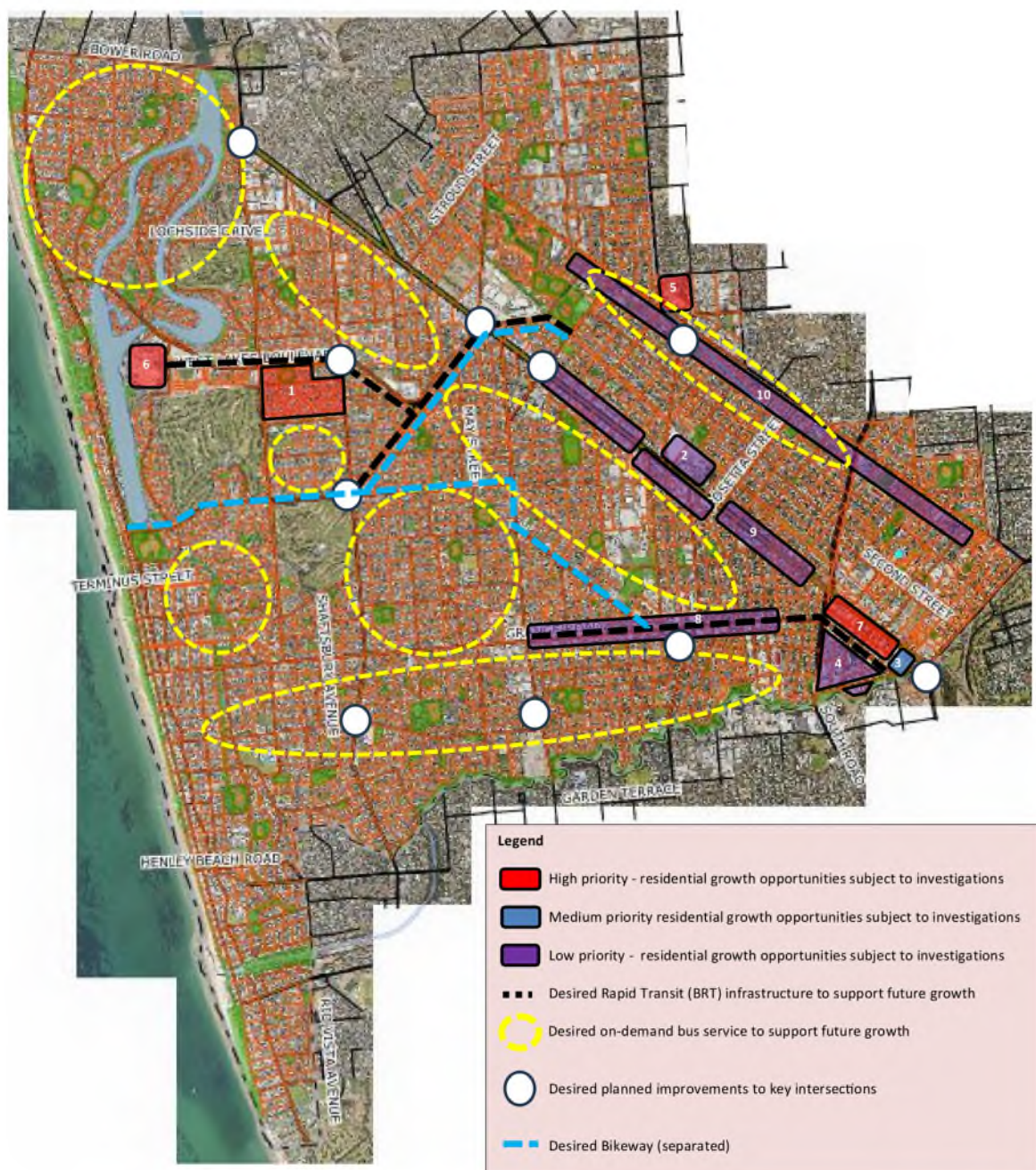
1. Advocate for a north-west public transport strategy (State Government initiative)
2. SA Water Code Amendment (commenced and externally funded)
3. Character Area Code Amendment (Not commenced – unfunded)
4. David Terrace and Kilkenny Streetscape Concept Plan only (Not commenced - funding secured)
5. General Infill Precinct Investigations and Master Plan (Not commenced - unfunded)
6. Kilkenny (Armada) and West Lakes (Westfield) Centres investigations and master plan (not commenced - unfunded)
7. Port Road Hindmarsh Suburban Activity Centre investigations /master plan (Not commenced - unfunded)
8. Seaton SAHA - Renewal SA to undertake Master Plan (State Government initiative)

Medium priorities

1. Review of Strategic Employment Zone and Employment Zone lands (unfunded)

Low priorities

1. Review of the Hindmarsh Triangle Employment land (south of Manton Street) consisting of Strategic Employment Zone, Employment Zone and Suburban Business Zone land.
2. Subject to the timing of significant public transport improvements and legislative amendments for the provision of future public open space through developments of non-strategic sites – Grange Road, Port Road and Torrens Road, investigations / master plan.



Map 17 – Investigation Priorities

11. Conclusion

The City of Charles Sturt has potential housing supply growth out to 2048 based on current Planning and Design Code policy without undertaking further policy Code Amendments under the State's Planning and Design Code. Significant work in flood mitigation, open space provision, public transport , employment creation and climate change adaption are required in key areas of the City where general infill is occurring.

To address these challenges Council requires support at the State Government level in regard to improved financial support and coordinated planning and infrastructure investment to ensure this inevitable growth does not adversely impact upon liveability of the City's suburbs.

With further identification and investigations the potential rezoning of strategic sites and policy amendments in the medium to long term within existing centres, a review of the City's Strategic Employment and Employment Zoned areas and in the longer-term investigations into some of the City's transit corridors a further approximately 10 years of potential housing supply growth based on current projections is possible.

This would provide the City potential housing supply growth City out towards 2057 based on an assumed annual housing supply growth of 700 dwellings per annum.

Appendix 1

Interactive map and layers:

<https://charlessturt.maps.arcgis.com/apps/instant/sidebar/index.html?appid=a1bb5c5ad3874647a5423aa95fdade15>

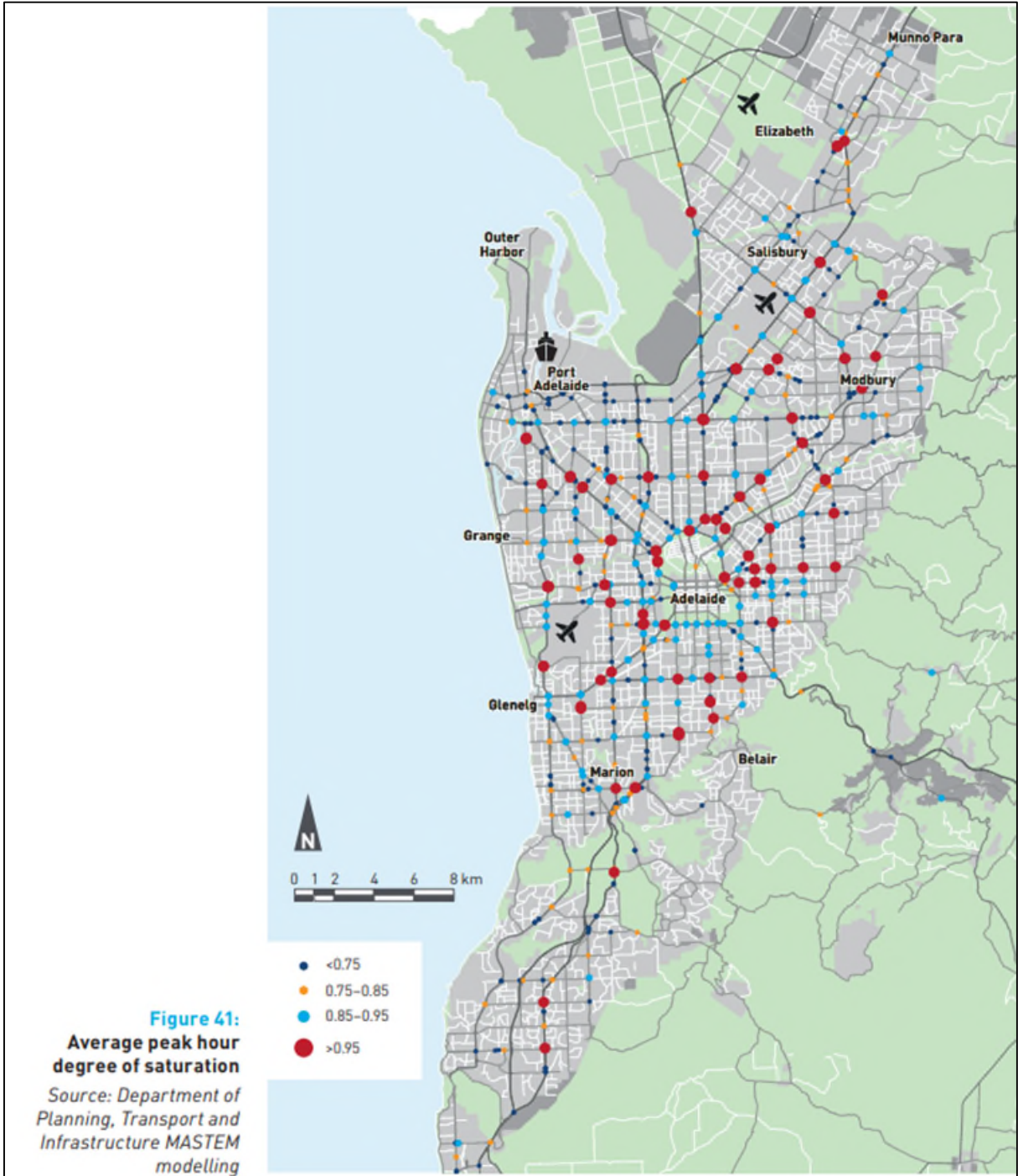
Map 1 - Stormwater and Flood management

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/e1b755c1d16e4d969f8b4c773da06ff2/data>

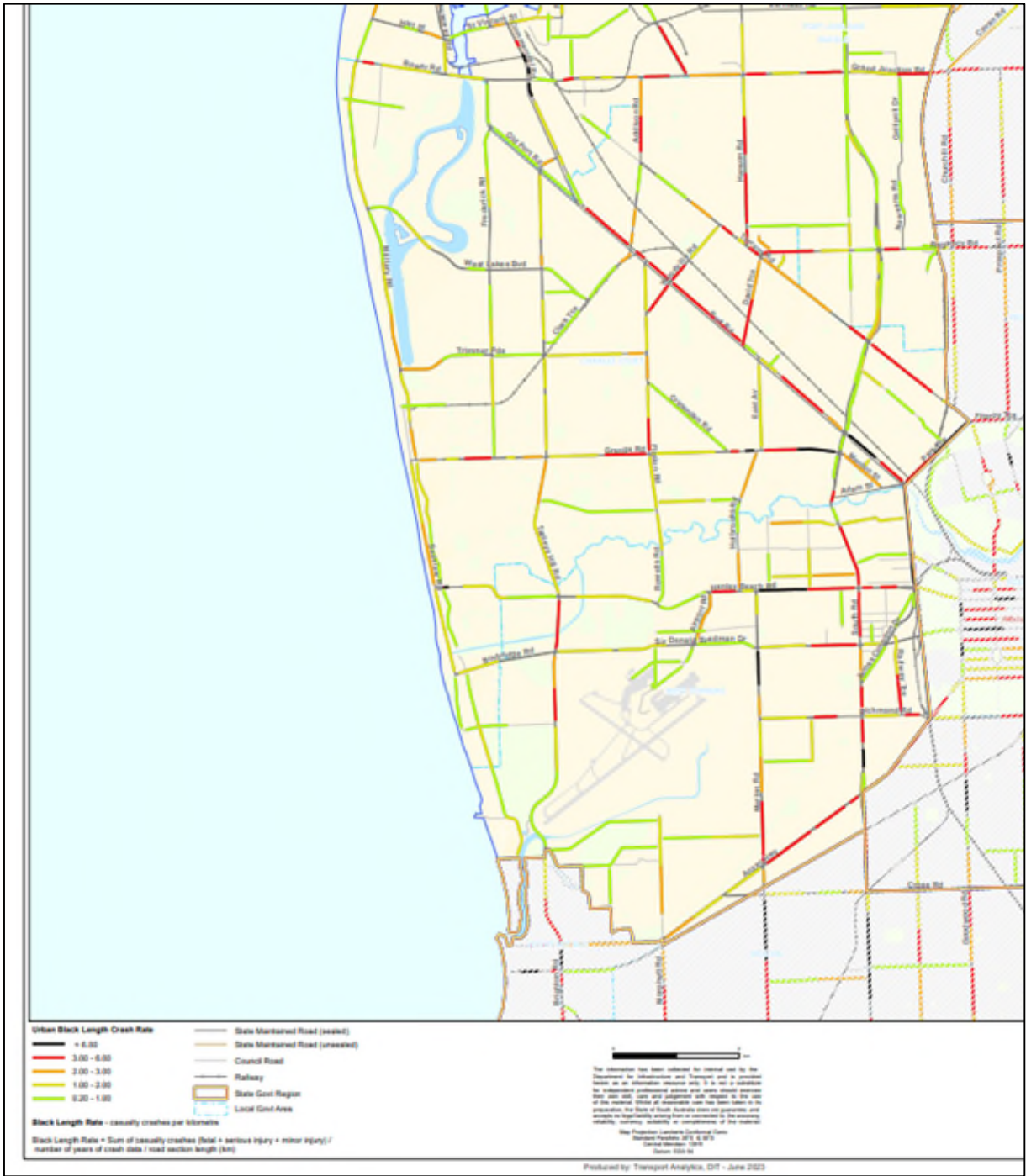
Map 2- travel time delay



Map 3 – Key intersections of interest



Map 4 - Black Length, Black Spot Locations



Map 5 - Public Transport Frequency and Accessibility

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/4884167b7da149e3b45641570c073cb9/data>

Map 6 – Urban Heat Island

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/23e65027b8d14e8d8fc3fb3de13e2aae/data>

Map 7 - Distance to Reserve- Regional, District Local and Neighbourhood

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/77039e4560924e05b857c6634f701731/data>

Map 8 - Street Tree Planting Program to 2025

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/24e0b7b0a8c0467c8a1ae0beffde5703/data>

Map 9 – Social infrastructure

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/375684511ca8431582985c8af3aa88f4/data>

Map 10- Social Infrastructure – Education

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/b057b09565d145fb9a2ef01effa102b0/data>

Map 11 – Local Activity Centres

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/889a8833249a4a0287fb1c156118ea4b/data>

Map 12- Urban Employment

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/b2577dbf6e884eca80b688e97ea66428/data>

Map 13 – General Infill

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/a139e0eb44fa4ad3adaa4f286eacddb2/data>

Map 14 - Strategic Infill

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/327392c98c564f1eba70866516a1d08d/data>

Map 15- Retail and commercial Zones

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/8c26bb10af41429aa5e3cf5e7582dd06/data>

Map 16 –Your Neighbourhood Plan - Central Area

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/4fc61d0537ec471ab94384e307325f87/data>

Map 17 –General Infill Hotspots

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/4930a6683e004fecb3f7f871dd71bf28/data>

Map 18 –Potential Growth Corridors

<https://charlessturt.maps.arcgis.com/sharing/rest/content/items/6277a5dc22024efc9adc4e03d2f6341b/data>