



Public Open
Space Strategy
2021 – 2031



Acknowledgement of Country

City of Stirling kaadatj Nyoongar moort Nyoongar boodja-k Wadjak boodja-k. Ngalak kaadatj Nyoongar nedingar wer birdiya koora wer yeyi. Baalabang koondarm, malayin wer nakolak baalap yang ngalany-al. Ngalak dandjoo barn wer kaaratj bandang boodja-k.

The City of Stirling acknowledges the traditional custodians of this land, the Wadjak people of the Nyoongar nation, and pays respect to the Elders past, present and future for they hold the memories, the traditions, the culture and hopes of Aboriginal Australia.

Executive summary

It has been well documented that public open space (POS) is a vital component to any community and provides a wide range of health, social, environmental and economic benefits. It contributes to a community’s sense of place, identity and recreational opportunities. It acts as a green relief to the ever-expanding urban environment. These benefits form integral roles to the fabric of a community and in the quality of life of residents.

Globally, POS has come to the forefront of planning to enhance the wellbeing of communities. With unprecedented changes caused by the global pandemic, the importance of POS to provide these physical, social and mental health benefits has only grown more pronounced. Although it is difficult to make predictions, several trends have emerged:

- The increased value placed on green POS
- The importance of access to POS within local (often walkable) catchments
- The growth of free, informal recreation (walking, cycling etc)

- The return to basics with an emphasis on community and family-centred recreation (eg, bike riding, kick-to-kick, backyard cricket) which provides individuals with a nostalgic sense of social connection.

With the difficulty in predicting what will come next, POS (along with the sport and recreation industry) will most certainly need to be adaptable and flexible to continue serving the community.

The City’s POS Strategy (‘the Strategy’) was first developed in 2008 to create a network of resource efficient quality POS across the City that will satisfy current and future recreational needs in an equitable and sustainable manner.

The POS Strategy still looks to meet this aim; however, it was important to revise the Strategy to better align the City’s POS hierarchy and classifications with updated industry standards and to provide a contemporary framework to guide future provision.

To meet these aims, the POS Strategy has further defined the meaning and scope of POS within the City and simplified the POS framework with emphasis on key principles and function. It has also identified the level of provision of POS across the City with consideration on how to move forward to meet growing community need.

The POS Strategy highlights the complexities of POS planning and the importance of providing access to quality spaces which offer a range of functions and benefits for the community. The City’s POS functions have been identified as sporting spaces, recreational spaces and nature spaces. These POS functions are captured within the POS hierarchy classifications as shown below.

Classification	Summary description
Local	Local spaces are typically small parklands that service the recreational needs of the local residential population, such as children’s play, dog walking and relaxation. Function: Recreation and nature
Community	Community spaces serve as the recreational and social focus of a community. Residents of surrounding areas are attracted by the variety of features and facilities and opportunities to socialise. Function: Recreation and nature
District	District spaces are principally designed to provide for organised formal sport and can provide for local or community-level recreation. Function: Sport, recreation and nature
Regional	Regional spaces may accommodate important recreation and organised sport space as well as significant nature spaces for conservation. They may also include environmental features such as water bodies. Function: Sport, recreation and nature



In total, the City has 502 POS which equal a total of 745 hectares of POS. Of these, there are currently 426 local open spaces, 31 community open spaces, 41 district open spaces and four regional open spaces. This does not include the extensive portions of bush forever areas, wetlands, conservations areas and coastal foreshore.

In Western Australia (WA), the amount of POS provided through the local planning scheme is set by the Department of Planning, Lands and Heritage (DPLH). It requires the subdivider to provide 10 per cent of the gross subdivisible area of a residential subdivision to the Crown, free of cost, for POS purposes. This equates to 33.6 square metres per person and was based on a standard density of 30 persons per hectare when established in 1955.

In assessing the City's POS provision against DPLH criteria for the 10 per cent standard, it shows that 43 per cent of suburbs meet this minimum

standard. However, when considered against the equivalent area of POS per person standard (33.6 square metres per person), 23 per cent of suburbs provide the minimum area of POS. This highlights inadequacies with a one-size fits all approach to POS provision.

It should be noted that POS can also be provided through the Metropolitan Region Scheme reservations and are typically spaces of regional significance. When POS from both schemes are considered, 37 per cent of suburbs have over 33.6 square metres per person of total POS available.

Contemporary views are that POS standards are best set locally (Veal, 2013) to cater for the varying characteristics of different places. Standards set at a broader level cannot cater for local circumstances such as differences in demographics and the extent of urban infill and development in an area.

The POS Strategy recommends a three-step assessment process

when undertaking POS planning and provision. This is to balance the current state standard of 10 per cent POS provision with POS principles such as access, distribution and quality of functions.

The POS assessment process includes consideration of future POS provision. By 2031, it is predicted that only seven suburbs will have enough POS by area per person (based on total POS). The challenge facing the City and many other local governments is how to maintain POS and its associated benefits while meeting population targets.

The next step for POS in the City is to use the POS Strategy to guide community-level planning. This localised planning will allow more in-depth consideration of different approaches for the City to effectively respond to community need.

The key challenges identified by the POS Strategy and recommended responses by the City are right of page.

POS Strategy key challenges and responses

Key challenge 1: The current state measure of POS is based on a single percentage approach applied uniformly to a whole suburb, which does not consider distribution, access or quality.		
#	Response	Timeframe
A	Develop localised suburb-by-suburb POS plans	Short
B	Undertake POS assessments in line with the identified process in this Strategy to ensure all aspects are taken into consideration	Ongoing
C	Advocate to the WAPC for review of current standards particularly for high-density areas and cash-in-lieu contributions	Medium/long
Key challenge 2: Several suburbs have been identified as having below the minimum standard of POS by area.		
#	Response	Timeframe
A	Address individual suburb deficiencies thorough the development of localised suburb-by-suburb POS plans	Short
B	Identify gaps in POS and options for addressing POS deficiencies	As above
C	Undertake strategic planning into investment opportunities of cash-in-lieu contributions	Short / medium
D	Advocate to the Department of Education and the Department of Local Government, Sport and Cultural Industries for a review and improvement of policies regarding shared-use outcomes between local schools and local government	Short
E	Prioritise the retention of existing POS	Ongoing
Key challenge 3: Projected population increases, and associated impacts of increasing residential housing density and urban infill, are resulting in less POS by area being available per person (if POS remains the same).		
#	Response	Timeframe
A	Advocate to the WAPC to investigate options to provide additional public open space through the Metropolitan Regional Scheme As the WAPC have set the population targets, it is important to reassess the POS requirements within the regional planning framework	Medium/long
B	Advocate for POS impacts to be considered when residential areas are being considered for rezoning to allow for early identification of impacts and possible solutions	Medium
Key challenge 4: Community demands and expectations are growing, with increasing value being placed on access to quality POS and associated infrastructure.		
#	Action	Timeframe
A	Ongoing community engagement to understand the community's POS needs and to educate how the City is providing quality POS through localised planning	Short/medium
B	Monitor and review changes in the community and emerging industry trends	Ongoing



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1. How to use this strategy

1.1 Guide

The POS Strategy is divided into parts. This is to assist the reader to find the relevant information for their needs (Table 1).

Table 1: POS strategy breakdown

Part	Main audience
Part 1 Part 2	This is general information for those wanting greater understanding of what POS is, context in the City and WA planning system and why POS is important.
Part 3	This is predominantly for the general community member who: <ul style="list-style-type: none">• May be interested in their local park classification and what this means in terms of park amenity• Would like an understanding of how much POS the City has and where it is.
Part 4	Predominantly for developers and those involved in subdivision process. This part outlines: <ul style="list-style-type: none">• What spaces are provided under the local planning scheme and the respective POS percentage to guide POS contribution requirements under Development Control Policy 2.3 (DCP 2.3)• Outlines cash-in-lieu and expenditure in relation to DCP 2.3 and Development Control Policy 1.3 (DCP 1.3).
Part 5	For community members and external stakeholders who are: <ul style="list-style-type: none">• Interested in the City's process for assessing POS needs and gaps in the community.
Part 6	Lists the key issues identified by the Strategy and City's responses.

1.2 Purpose

The primary purpose of the Strategy is to provide strategic direction and decision making to guide the quality provision of POS for the community. The Strategy will establish a framework with clear hierarchy and functions of POS which maximise the benefits of POS for the community.

The Strategy provides clarity for the community on the City's POS provision standards and principles. It supports the continuation and implementation of robust, transparent and community-based needs to delivering POS outcomes now and into the future.

To achieve this purpose, the following goals have been established to guide the Strategy:

- Identify and respond to changing industry trends, challenges,

population growth and associated impacts to the City's POS network

- Recognise and communicate the benefits of POS for community health outcomes
- Establish a POS framework to ensure sustainable provision of POS and associated facilities while providing equitable access to a range of POS functions
- Provide a clear decision-making framework to assess the need for POS and to address gaps within the community
- Identify the current POS provision within the City and responses to key issues enabling the City to continue providing access to quality public open space.

1.3 Strategy scope

Having an agreed understanding of what is included in the City's definition of POS is essential to reduce ambiguity in planning responsibilities and to develop functional, community-focussed open space networks.

The Strategy defines POS as per the Department of Local Government, Sport and Cultural (DLGSC) Industries Classification Framework for POS. POS is defined as “urban green spaces such as parklands, play areas, playing fields, bushland and other similar spaces people use for recreation, sport and social interaction, in which community access is encouraged and explicitly managed”.

It is typically land that has been set aside for recreation and sport purposes and has been reserved under either the Metropolitan Region Scheme (parks and recreation) or under the City's local planning schemes (POS). The Department of Planning, Lands and Heritage (DPLH) generally refers to POS as land that is required (under legislation) to be given up free of cost by a landowner/applicant and vested in the Crown as a reserve for recreation and public purposes.

While it is understood that recreational activities may occur in other areas of publicly accessible space, the Strategy is not intended to apply to areas where the primary purpose or function is identified outside of the POS framework. Primary function or purposes outside the scope of this Strategy are listed below (DLGSC, 2012):

- Preservation and restoration of natural features or habitat such as ‘bush forever’, nature reserve, state forest, conservation reserve or similar (usually fenced off with restricted or no access)

- Residual land or land set aside as urban deferred or for road reserve, car parking or similar purposes
- River and coastal foreshore reserves and buffer zones (beach area, support amenities and fenced-off areas included)
- Where statutory responsibility lies with Western Australian Planning Commission, Department of Biodiversity, Conservation and Attractions, Department of Education or other state government body
- Open space which is owned and managed by a private institution or third party, including private sporting clubs and not-for-profits
- Leased areas and facilities requiring paid entry and/or membership (eg, aquatic centres, indoor gyms and sports halls).

The Strategy is not a retrospective document and it is acknowledged that not all spaces will match the framework's classification perfectly. Instead, it looks to confirm and re-align the City's planning framework and principles for determining future investment in POS. This is important given the impacts of historical planning and provision. Any outliers will be assessed on a case-by-case basis, with consideration given to any provision gaps and future opportunities.

For example, a drainage sump's primary function is drainage. However, there may be opportunities to partner with the Water Corporation to redesign the space to improve its visual aesthetics and provide some recreational outcomes such as a bench seat or walking path.

As the City's population increases, suburban environments have begun to shift into urban living. Emerging in

these high-density areas are mixed-use spaces such as civic plazas and squares that can act as an extension of the community.

They can provide a variety of functions such as transport linkages, meeting places, retail hubs or event space. Mixed-use spaces can also incorporate recreational functions of the local community and incorporate active elements such as a skate plaza or a play space. These spaces will be considered within the context of applicable structure plans on a case-by-case basis, in line with the intent and scope of the Strategy and the functions they provide for recreational and social benefit to the community. These urban spaces are not provided in lieu of green POS; they should instead complement and add value to the community.

Spaces that focus on attracting people to key centres and have recreational, social and place-activation value are distinct to private open space provided as part of shopping precincts or retail centres. Open space with the primary purpose to support retail outcomes or act as thoroughfares will not be included.

School ovals under the control of the Department of Education can provide value to the City's POS network and developing partnerships is encouraged where possible. However, access to school ovals for the general community is not yet established in a holistic state policy approach and is determined on a case-by-case basis. These spaces sit outside the City's POS network at this time. As such, the City will investigate shared-use options when planning for POS to supplement access to open space and recreational areas as required as part of our suburb-by-suburb planning.

1.4 Alignment with key strategies and plans

The Strategy works with a range of key strategic and policy positions within the City as well as external industry organisations. It's important that information within the Strategy is read in the context of other guiding documents. These documents are listed below, with further information found in Appendix 7.1.

Table 2: City strategies and plans

Document	Explanation
Strategic Community Plan	The Strategy aligns with key results areas of <ul style="list-style-type: none">• Social: Thriving local communities• Built environment• Natural environment.
Local Planning Strategy	The City's Local Planning Strategy 3 sets the long-term planning direction for the City and highlights how a rapidly growing population will place pressure on existing POS.
Structure plans	The City currently has several structure plans and planning projects which generally include consideration of POS provision. Current projects include Stirling City Centre Structure Plan (2014), Better Suburbs (2020), Mirrabooka Town Centre Structure Plan (2015), Scarborough Beach Road Activity Corridor and Herdsman-Glendalough Precinct. These projects can be catalysts for significant change to population and density, which in turn impacts how POS is provided.
Access and Inclusion Plan	The access and inclusion plan looks to empower the community by being more inclusive and improving physical access. This includes providing access to not only the POS itself (eg, path networks and ramps) but also to the amenity and facilities found on POS such as toilets, playgrounds, drink fountains and seats.
Urban Forest Plan	POS performs an important role within the City's Urban Forest Plan as it contains the highest proportion of canopy cover (24%) than other land uses. Suburbs with higher rates of canopy cover often have more POS and/or lower density housing. As such, areas identified as having low POS with an increasing density are more at risk of low canopy cover and canopy cover loss.
Biodiversity Plan	POS can include important pockets of natural vegetation and habitat for fauna. The Biodiversity Plan identifies areas of regional and local significance for biodiversity conservation.
Community Infrastructure Plan and specific infrastructure documents	Community infrastructure is often located on POS and is guided by the City's POS model. As such, the Strategy needs to consider any community infrastructure plans as well as infrastructure-specific strategies such as the City's Skate and BMX Facility Strategy, Public Art Masterplan and Dog Exercise Park Strategy. The City's Water Smart Parks Strategy is also impacted by POS function, with application of water supplies influencing the quality of POS.
City policies	The Strategy interacts with key policies which guide infrastructure provision on POS. These include Playground Policy, Exercise Equipment Policy, Community Garden Policy, Barbeque Policy and Public Toilet Policy.

Table 3: External organisation strategies and plans

Document	Explanation
Classification Framework for POS (2012) , Department of Local Government, Sport and Cultural Industries	The Classification Framework for POS was developed to address the lack of clear and consistent terminology and definition when planning for POS. The City has looked to align with these classifications and incorporated POS functions into the City's POS framework.
Development Control Policy (DCP) 2.3 – POS in Residential Areas , Department of Planning, Lands and Heritage	The Policy looks to ensure that all residential development is complemented by adequate, well-located areas of POS which provide for the recreational needs of residents.
Position Statement: Expenditure of cash-in-lieu of POS , Department of Planning, Lands and Heritage	A position statement for the expenditure of cash-in-lieu for POS was developed to provide additional guidance in conjunction with the Development Control Policy 2.3.
Development Control Policy (DCP) 1.3 – Strata Titles , Department of Planning, Lands and Heritage	The policy deals with those classes of strata title proposals which require the approval of the WAPC and sets out the criteria to be used in the determination of applications for that approval. It includes provision for a contribution to public facilities such as POS.
Liveable Neighbourhoods 2009 & DRAFT Liveable Neighbourhoods 2015 , Department of Planning, Lands and Heritage	This is the operational policy for the design and assessment of structure plans and subdivision for new urban (predominantly residential) areas in the metropolitan area and country centres, on greenfield and large urban infill sites. Sets out POS requirements of the WAPC.
Metropolitan Region Scheme (MRS)	The MRS defines the future use of lands and provides the legal basis for planning in the Perth metropolitan region. It identifies areas which are reserved for parks and recreation under the MRS and are a mix of POS, coastal foreshore, wetlands, bush forever and recreational facilities.
State Planning Policy (SPP) 7.2 Precinct Design , Department of Planning, Lands and Heritage	The Precinct Design SPP 7.2 was recently gazetted and guides the preparation of precinct structure plans, local development plans, subdivision and development in areas identified as precincts. Policy outcome 6 specifically relates to providing comfortable public spaces that encourage physical activity, enable a range of uses and are accessible to all.
Precinct Design Guidelines, Department of Planning, Lands and Heritage	SPP 7.2 Precinct Design is to be read in conjunction with the Precinct Design Guidelines which provide more detailed information. The relevant section for the Strategy is design element 3: public realm.

1.5 Definitions

Cash-in-lieu

Under the provisions of Section 153 of the *Planning and Development Act 2005*, payment can be made by a landowner to a local government in lieu of all or part of the POS contribution and is commonly referred to as cash-in-lieu.

Department of Planning, Lands and Heritage (DPLH)

The WAPC operates with the support of the DPLH, which provides professional and technical expertise, administrative services and resources to advise the WAPC and implement its decisions.

Environmental Protection Policy (EPP)

A policy under the Western Australian State Government's Environmental Protection Authority.

Gross subdivisible area (GSA)

This is defined as per Liveable Neighbourhoods and is the total site area less deductions for non-residential.

Infrastructure

This refers to the basic physical systems required to facilitate the development of an area including roads, utilities, water, sewerage, community buildings and sport facilities.

Locality

An area or suburb.

Regional open space

As identified in a region planning scheme or similar, and which is acquired by the state and zoned in region/local schemes as 'regional open space'.

Regionally significant natural area

Regionally significant natural areas include bush forever sites as well as other sites that are large (greater than 20 hectares), viable and in a 'good' or better condition under the Keighery (1994) Vegetation Condition Scale. They must also be of an ecological community with over 10 per cent (essential criteria) or 30 per cent (desirable criteria) of its pre-European extent remaining in the interim biogeographical regionalisation of Australia (IBRA) sub-region.

Statistical area level 2 (SA2)

SA2's are functional areas that represent a community that interacts together socially and economically. They often align with suburb or locality boundaries and can reflect more than one related suburb.

Statutory planning

This is the legal approval process that ensures land use, land supply and urban development are effectively managed. The ability to influence outcomes is more limited than during the strategic planning process, as development is governed closely by a range of legislation and regulations that would have evolved from the strategic planning process.

Strategic planning

Strategic planning is the long-term planning which integrates economic, social, environmental and infrastructure requirements.

Total POS

The total amount of classified POS under the City's POS framework (either local, community, district or regional open space). If a bush forever area or wetland exists on the same POS as recreational and/or sport activity, this is deducted from the total amount.

Walkable catchment

The area within 400 metres or five to 10 minutes' walk from a centre point or location.

Western Australian Planning Commission (WAPC)

The statutory authority with state-wide responsibilities and responds to strategic direction of government on urban, rural and regional land use planning and land development matters.

Department of Local Government, Sport and Cultural Industries (DLGSC)

A Western Australian Government agency, which works collaboratively with government, community organisations, peak bodies and other stakeholders to achieve the vision of creating a vibrant, inclusive and connected WA community.





2. Setting the scene

2.1 Strategy background

The City was one of the first local governments in WA to formally develop a strategy for POS in 2008. With the growth of the recreation and leisure industry and increased importance placed on providing quality POS, this level of strategic planning is now commonplace across both state and local government organisations. In 2012, DLGSC developed a Classification Framework for POS to provide consistency in terms for the community.

The City's original strategy (2008) was developed as a framework to plan the provision and distribution of different types and functions of POS. It allowed for a greater holistic planning approach rather than ad hoc upgrades to facilities and open spaces. This enabled greater financial and sustainable management and delivery of POS functions while also providing more equal access for the City's diverse community.

The City has just over 500 POS, which are used for a range of sport,

recreation and nature activities. There are a total of 745 hectares of POS in the City. There are 154 hectares of regional open spaces and 249 hectares of district open spaces. These contain the City's sporting spaces. Local open spaces provide for the local community generally within walking distance. Local open spaces make up the majority of POS, with 267 hectares spread throughout the City. Community open space equals a total of 75 hectares with a focus on recreational and informal social activities. Within these POS, there are numerous facilities and amenities such as playgrounds, barbecues, seating, clubrooms, sporting and community infrastructure, lighting and natural features (eg, lakes).

The community has a significant interest in how POS is provided, developed and used within their local area to meet their sport, recreation and nature needs. POS also provides important green breaks within the urban environment and contributes

to the community's overall health and wellbeing. With the growth of the population and the increasing demand on existing POS, it is critical that adequate and proper planning occurs to ensure provision of facilities and amenities meet the growing need and demand from the community.

In 2021, there remains a need for the City to have a strategy to guide and inform future decision making. The 2008 strategy has been reviewed and updated to reflect industry best practice, trends, current challenges/issues, and future predicted changes to POS. The POS hierarchy and provision standards have been revised with the inclusion of a methodology to assess POS provision and assist with identifying future gaps and prioritisation. It is important that the City is consistent with best practice and can respond effectively to community needs as they change over time.

2.2 Why plan for POS?

POS in the City is a finite resource that is being influenced by a range of pressures due to increasing demand, changing population and density targets. Urban infill targets of 47 per cent by 2031 set in Directions 2031 and Beyond (2010) and later reinforced in Perth and Peel at 3.5 Million (2017) show a need to maintain and provide better functioning POS.

POS allocation has traditionally been made based on the 1955 Stephenson-Hepburn Plan and associated predicted densities at the time. However, housing densities are now greater than those present or predicted in 1955 (Grose, 2009). This is resulting in more people looking to public spaces not only to provide for their general recreational and sporting needs, but also as an escape from the urban environment. This pressure is compounded by the resulting falling

lot sizes over time and the reduction in private open space, with more backyards also being subdivided, developed or hardscaped.

The increasing demand for the use of POS is coming from a larger and more diverse group of users. This can include established sporting clubs expanding memberships and extending seasonal use; emerging and new sporting trends; community groups (eg, community gardens, men's shed); everyday use by surrounding residents; fitness groups and recreational groups (eg, dog walkers). All these types of use require different space and amenity requirements and cannot always be accommodated at the same time. It is also important to not over-embellish POS to maintain the sense of space and connection to the natural environment.

The City is largely developed, with only limited opportunity for additional POS. As such, it is prudent to ensure decisions are made holistically when providing POS and associated community infrastructure. Conversely, it is also important to consider whether rezoning a residential area is appropriate if sufficient POS cannot be provided. The provision of POS and the determination of which types of functions and uses a POS will have are essential. This is to ensure an equitable level of recreation and sporting facilities are provided while also protecting the environmental benefit of the POS. Only through a holistic and balanced approach can the City adequately provide for individuals to benefit from POS in their communities.

2.3 Value and benefit of well-planned POS

POS is a vital component to any community and provides a wide range of health, social, environmental and economic benefits. It contributes to a community's sense of place, identity and recreational opportunities. It acts as a green relief to the expanding urban environment. These benefits are integral to the fabric of a community and to the quality of life of residents.

The value POS provides to a community is not always easily measured. It is largely qualitative and intrinsic to the experience of the individual. Fundamentally, POS is provided to foster an active lifestyle and encourages positive health and wellbeing outcomes for the community. These include opportunities and settings for informal play and physical activity, relaxation and social interaction, and formal structured sporting activities. These fundamental elements have wide-reaching and long-term benefits that add value to a community. These can include:

- Promoting physical health benefits in reduced risk of chronic diseases like obesity and cardiovascular disease, which inadvertently reduces impact on health care systems
- Promoting mental health benefits through stress relief, social inclusion and social connectedness
- Encouraging social and cognitive development, particularly among children
- Improving community cohesion, sense of place and sense of pride
- Support community sporting clubs
- Creating jobs and economic stimulus through construction, maintenance and ongoing operational processes
- Reducing anti-social behaviour and crime
- Acting as green corridors and maintains canopy cover to reduce heat island effect
- Providing free recreational and sporting outlets, especially for low socio-economic communities

- Supporting walking and bicycle transport networks and movement of people between places
- Providing places to celebrate culture, heritage and history.

The provision, development and management of POS can be costly and competes against other services in an ever-changing fiscal environment. To justify investment, there has been a growing amount of research to help quantify some of the benefits of POS and associated recreational infrastructure along with a robust strategic approach.

In 2018, KPMG undertook a study which valued community sporting infrastructure and included sporting ovals and reserves. Sporting ovals and reserves make up a large proportion of POS, which feeds into the social fabric of Australian sporting culture. The study also included hard courts, indoor sport and recreation facilities, aquatic centres and multi-use sporting hubs, which are generally found on POS. The study found that POS and associated community facilities across Australia are estimated to generate an annual value of more than \$16.2 billion (Figure 1). This includes:

- An economic benefit of \$6.3 billion due to increased economic activity and increased productivity of community sport participants
- Personal health benefits of \$4.9 billion due to reduced risk of developing chronic diseases such as cardiovascular disease and diabetes, reduced risk of falling or drowning, and improved mental health
- Greater quality of life and savings made in the health care system due to healthier individuals in the community
- Social benefit of \$5.1 billion due to the increased human capital that results from the social interactions during participation in community sport.

The 2018 KPMG study suggests that this value is conservative and there are other benefits that can only be measured qualitatively, such as social inclusion and community pride.

It is noted that the study does not include the number of small, localised POS spread throughout the community that do not have structured sporting ovals or facilities. These spaces also contribute to the above value, particularly the green space benefit, health benefits and social cohesion and connectedness (relaxation, nature play, picnic spaces etc).

An important element of POS in the community is its contribution to environmental benefits. POS form a network of green spaces which act as corridors between larger conservation areas, national parks and bush forever sites. They also contain many of the mature trees left in suburban areas due to residential development and act as cool zones in often hot urban environments. The City's Urban Forest Plan (2019) states that two-thirds of the City's lost canopy cover has occurred on residential land amounting to 1.2 million square metres of canopy in six years. The City's POS currently has the highest number of trees (24 per cent) as opposed to other types of land.

It is clear both qualitatively and quantitatively that POS has enormous social, health, economic and environmental benefits to the community. Having access to parks, reserves and public spaces in which to recreate, relax and gather is inherently ingrained into the Australian psyche and culture. As such, the community places immense intrinsic value on having accessible POS. This value is also conferred on the ability of those entrusted to provide these spaces to meet the community's needs now and into the future.

Figure 1: Value of community facilities (KPMG 2018)



Note: The headline figures do not add exactly to the rounding.

2.4 Making great POS

Project for Public Spaces (PPS) evaluated successful public spaces around the world, including parks and reserves, and has found four key qualities that are shared among them:

- They are accessible
- They engage users in activities
- They are comfortable and are aesthetically pleasing
- They offer a sociable space

PPS then linked these four key attributes to intangible elements, for example 'safe', 'clean' and 'attractive' under the 'comfort and image' attribute. These intangible measures can then be linked to tangible measurements such as satisfaction ratings and crime statistics to quantify the value and benefit of public spaces.

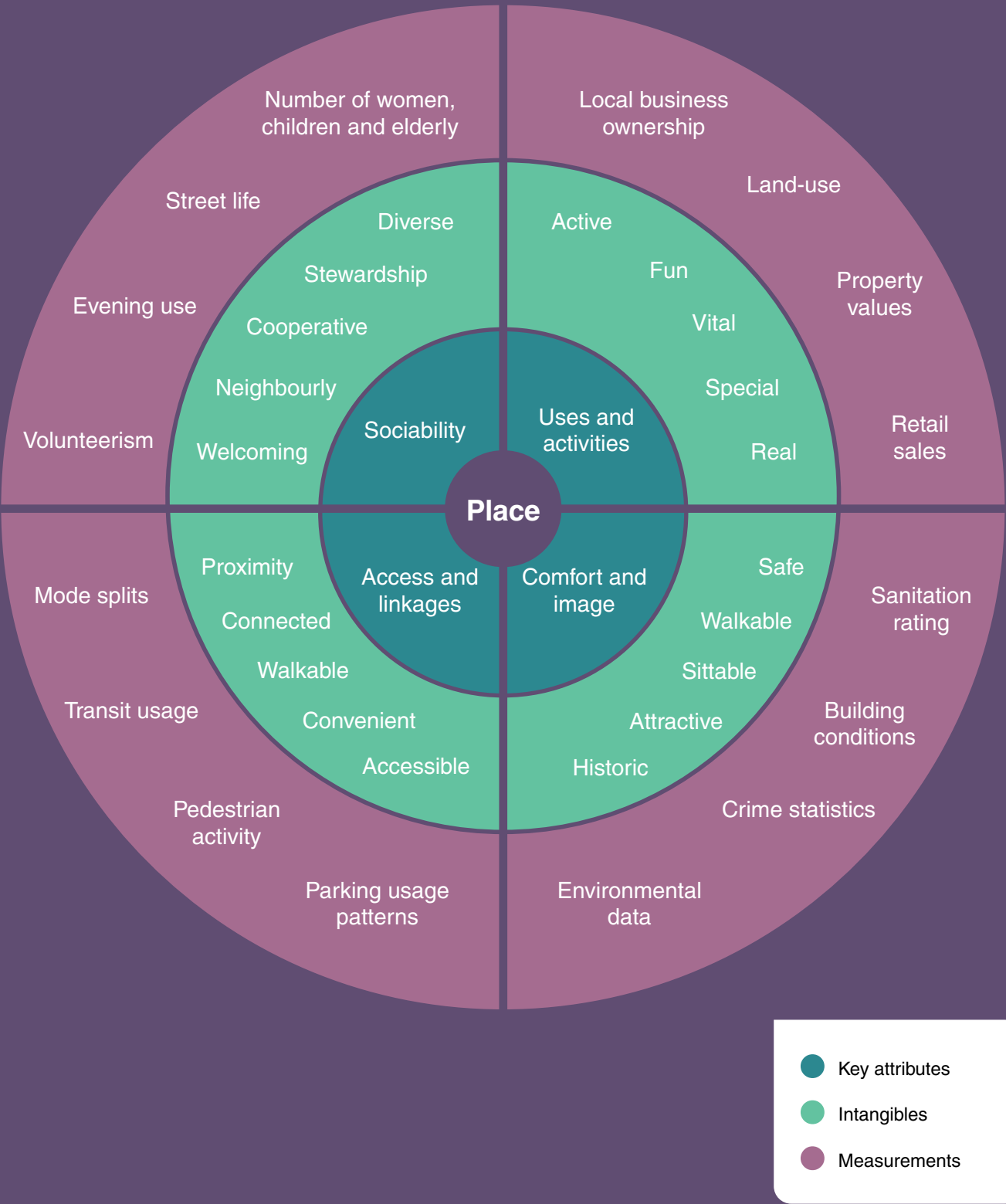
Figure 2 below shows the Place Diagram (PPS, 2016) which displays the four attributes and how they can link to intangible elements and be measured. These would apply in varying degrees according to the POS context.

Planning for different types of POS needs to consider a range of tangible and intangible attributes depending on the identified function and need of the community. It is important to be able to make these links to maximise the benefits of POS in the community and quantify the value of investing in great POS.



Figure 2: What makes a great place? (PPS, 2016)

What makes a great place?



2.5 Industry trends and considerations

2.5.1 Sport and physical activity in Australia

The Future of Australian Sport Report (CSIRO, 2013) prepared on behalf of the Australian Sports Commission identified six ‘megatrends’ which were likely to shape Australian sports over the next 30 years.

Figure 3 shows the six megatrends that impact on POS due to changes in how people approach sport and recreation in their lives. The report highlighted the increase in time-poor and fragmented lifestyles which resulted in people undertaking more individualised sport and recreational activities. Activities such as aerobics, running and walking have seen sharp increases in participation rates, with gym memberships also growing (CSIRO, 2013).

Lifestyle, adventure and alternative sports, particularly popular with young

people, have also seen increases, as has the focus on more inclusive and intergenerational sports and activities. Demographic change influences the types of activities and hence the infrastructure provided within POS.

The subsequent impact of these trends is the pressure on POS to deliver wide-ranging, flexible and often simultaneous sport and physical activity outcomes.

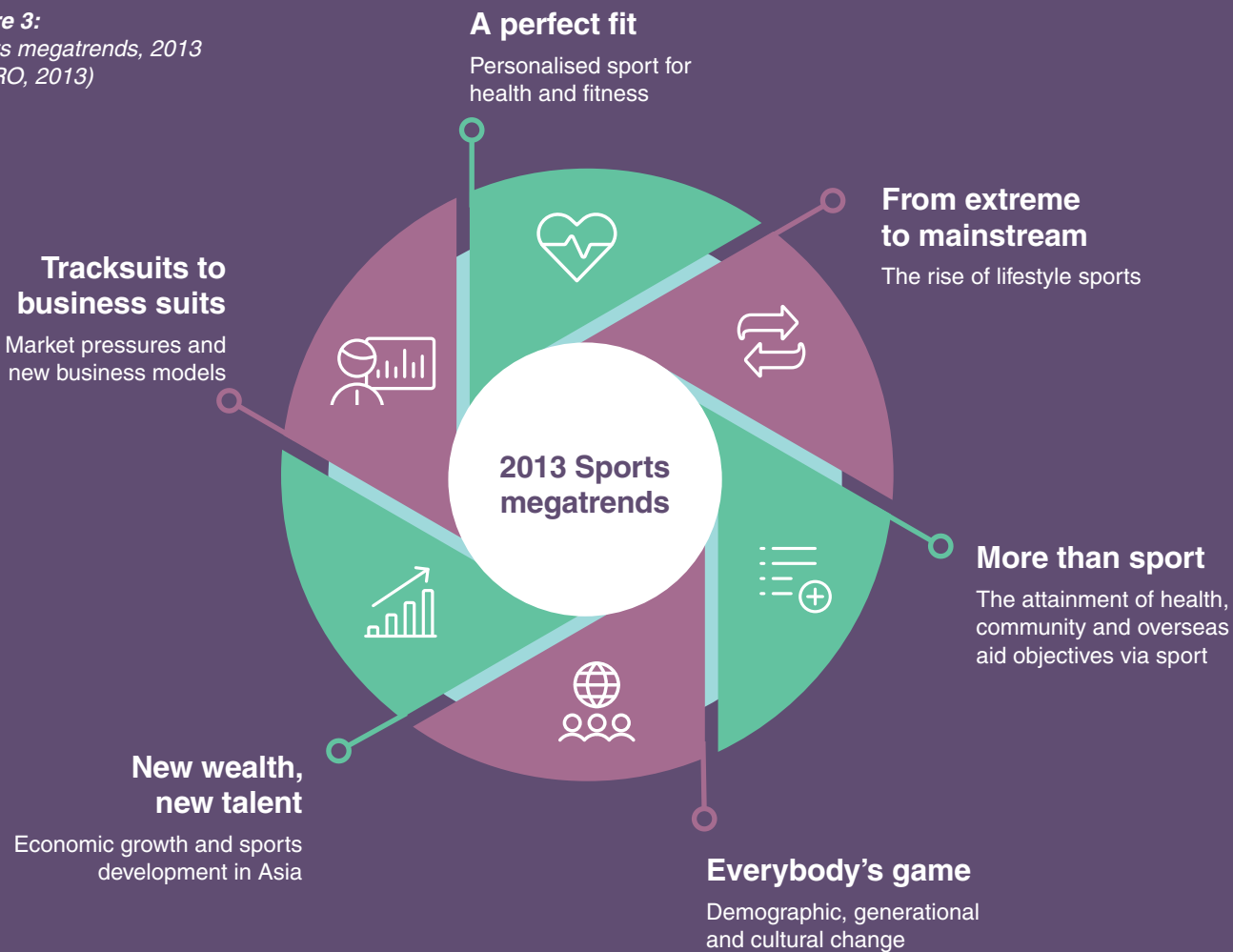
Since the CSIRO report, Sports Australia (2018) has released its long-term vision, targets and outcomes to 2030 for sport across the country. Sports Australia has broadened its definition of sport to include unstructured physical activity such as walking, riding and swimming, along with new and evolving sports such as parkour. It has highlighted inactivity as the fourth largest chronic condition in Australia, with 56 per cent of Australian adults being sedentary or having

low-activity lifestyles. Lifestyle factors such as aging and being time poor, along with a rise in digital technology, have contributed to this lack of physical activity. Despite the benefits of physical activity, as a nation, Australians are moving less.

A key long-term target of Sports Australia is that ‘people of all ages should have the opportunity to be engaged in sport and physical activity throughout every stage of their life’ (2018).

It is important that communities can gain the benefits of an active lifestyle. One key element to supporting this target is having accessible and equitable distribution of POS and associated facilities. The City’s POS network is the foundation needed to support the lifelong physical activity pursuits of its community, now and into the future.

Figure 3: Sports megatrends, 2013 (CSIRO, 2013)



2.5.2 Current POS challenges and considerations

Local governments across the Perth metropolitan area are facing similar challenges concerning the provision of and planning for POS. Many previously identified considerations remain relevant to today’s POS planning. However, some are having greater impacts or have shifted how they apply to POS.

As the City’s population grows, greater pressure is placed on land and water availability to meet a variety of needs across the community. Concepts such as multi-use and waterwise are underpinning many planning and design decisions. Adding to the pressure is the

expansion of higher-density dwellings surrounding existing POS. This has created demand not only for a growing population and participation changes, but also recreation needs that were once met by private backyards. Figure 4 below highlights the current key challenges being faced by POS. Appendix 7.2 discusses them in greater detail.

A holistic and coordinated approach can contribute greatly to the flexible nature of POS. This is critical given that uses can change over time due to community needs, trends, challenges and demographics. Flexibility and adaptability are also important for POS to adapt in times of crisis or dramatic change.

Figure 4: Current challenges and considerations



2.5.3 Future considerations for POS

It is important that this strategic document recognises and considers the impact of the recent global pandemic and how this may impact future trends for POS. The global community is facing unprecedented change which is being reverberated throughout our local communities and at an individual level.

The traditional formats of participating in sport and recreation, whether through sporting clubs, group fitness or playgrounds, have shifted dramatically.

Figure 5 provides observations into future influences of planning and providing for POS. Appendix 7.3 discusses them in greater detail.

Figure 5: Future challenges and considerations



2.6 City of Stirling community

The City's community has seen a considerable population growth over the last 10 years. The City's population is forecast to reach over 270,000 people by 2026 (City of Stirling Local Planning Strategy). As the population has grown, the demographic make-up has changed with increases in people aged over 65 years (+17.4 per cent); people aged 25-34 years (+31 per cent); people born overseas (+25 per cent) and family households (plus seven per cent). These changes come alongside an increase in the multi-cultural diversity across the City. Regardless of these changes, the fundamental value and importance placed on the City's POS by the community is steadfast. It is how people use and access POS in response to the changing community that the City needs to consider.

The City receives upwards of 150 requests from the community every year relating to POS provision and community infrastructure. This can range from a bench seat or drink fountain request to a park upgrade and major infrastructure such as a playground, basketball courts, a skate park or a mountain bike trail.

In receiving individual requests and during the process of planning for POS provision, the following trends have been observed within the City's community:

- Increased demand for specialised areas for dogs
- Greater variety for children's play including nature play and destination play spaces
- Continued importance placed on picnic areas for social interaction, and in particular large family gatherings
- Greater number of community requests for lighting to increase usage times
- Ongoing demand for hard courts for informal sport such as basketball
- Growth in non-traditional sports and adventure-type sports such as scooter, skateboarding and mountain biking
- Greater expectations from the community to deliver quality community infrastructure.

While managing community requests and POS provision, broader planning considerations have emerged including:

- Focus on multi-use development of community infrastructure on POS to manage increasing demand

- Need for holistic and planned approach to mitigate over-developing POS
- Greater understanding of the mental health benefits of POS and how to plan space to support these benefits
- Increased demand for use across a larger cross-section of the community (eg, intergenerational spaces and lifelong activity)
- Greater concerns over noise impacts (eg, basketball courts and clubroom locations), particularly with increasing densities
- Ongoing importance of water-sensitive design
- Need to balance sport and recreational needs with preserving trees and native vegetation while considering the surrounding residents.

The City's POS provides important gathering places for people and are catalysts for community activity and social interaction. It embodies a sense of place and creates a distinctive community identity by maximising the shared value of place. Holistic planning can ensure that there is a mix of uses that meet a variety of needs for a diverse range of people across the City. It also accounts for future considerations and challenges to ensure the City's POS continues to meet the community's needs moving forward.





3. The City’s POS

3.1 Key planning principles

The following principles have been used to guide the Strategy and provide the fundamentals for POS provision and development. Inevitably, there will be spaces that do not fit perfectly with the POS hierarchy and function, but which have been recognised as a valuable piece of the POS network. This may be because of the lack of conventional POS in the catchment, historical provision, or conversion of space into POS to meet a function or need. The key principles should then be followed to determine a best-fit outcome for the benefit of the local community. This approach is particularly important in areas with poor distribution, access or amount of POS.

Table 4: Key planning principles

Access, availability and equity	The City’s residents should have access to POS with different functions and be within a walkable catchment to a local POS that provides recreational and/or nature functions. Connections to the POS should be both visual and physical so that it is easy to find and, for larger POS, to get around. It is important that POS is universally accessible for all ages, abilities and cultures. Barriers to physical access and visual amenity should be reduced where possible to ensure access is not constrained while maintaining safe environments. Access barriers can include major roads, industrial areas, large developments (eg, golf courses, housing complexes, schools) or vegetation. Suburb boundaries and perception of unsafe path connections can also act as barriers.
Flexibility and diversity of functions and activities	Providing a diversity of functions and activities within the different spaces is what attracts the community to visit and provides the vibrancy and sense of place. Being responsive and flexible to changing trends and use helps POS continue to meet community needs over time and into the future. Being flexible and adapting to change is also important for residents where more people are using the same spaces. Multi-use principles have been largely adopted for many sporting facilities and playgrounds are evolving into intergenerational spaces with a variety of activity choices.
Health and wellbeing	Recognising and promoting the significant benefits that POS provides the community is becoming increasingly important. Positive health outcomes such as fostering social connectivity and building community capacity are key components of healthy communities. Without sufficient POS to conduct such activities, community health decreases along with the health of the individuals in that community.
Sustainability	Sustainability requires balancing the current and future needs of the community, the environment and the economy in providing and maintaining POS. Sustainability in POS principally involves ensuring appropriate use and protection of resources, including the best use of parklands, the protection of habitats, sensitive water management, maintaining POS for future generations, and appropriate use of these assets.
Community need	POS needs to be responsive and reflective of the local community it is servicing. Consideration of community need is important when providing POS and establishing the types of functions, activities and user groups the POS will cater for. As such, community engagement forms part of ensuring the City’s POS is a destination that fosters social connections and a sense of place.

3.2 The City’s POS framework

The POS framework was originally endorsed in 2008 and has been widely used in guiding POS development across the City. In reviewing the classification system, several key considerations were made:

- Changes in POS provision principles, trends and challenges over time
- The subsequent development of state government guiding documents
- A review to identify any gaps in the current POS provision classifications
- A review of where current POS classifications could improve in line with changing community needs.

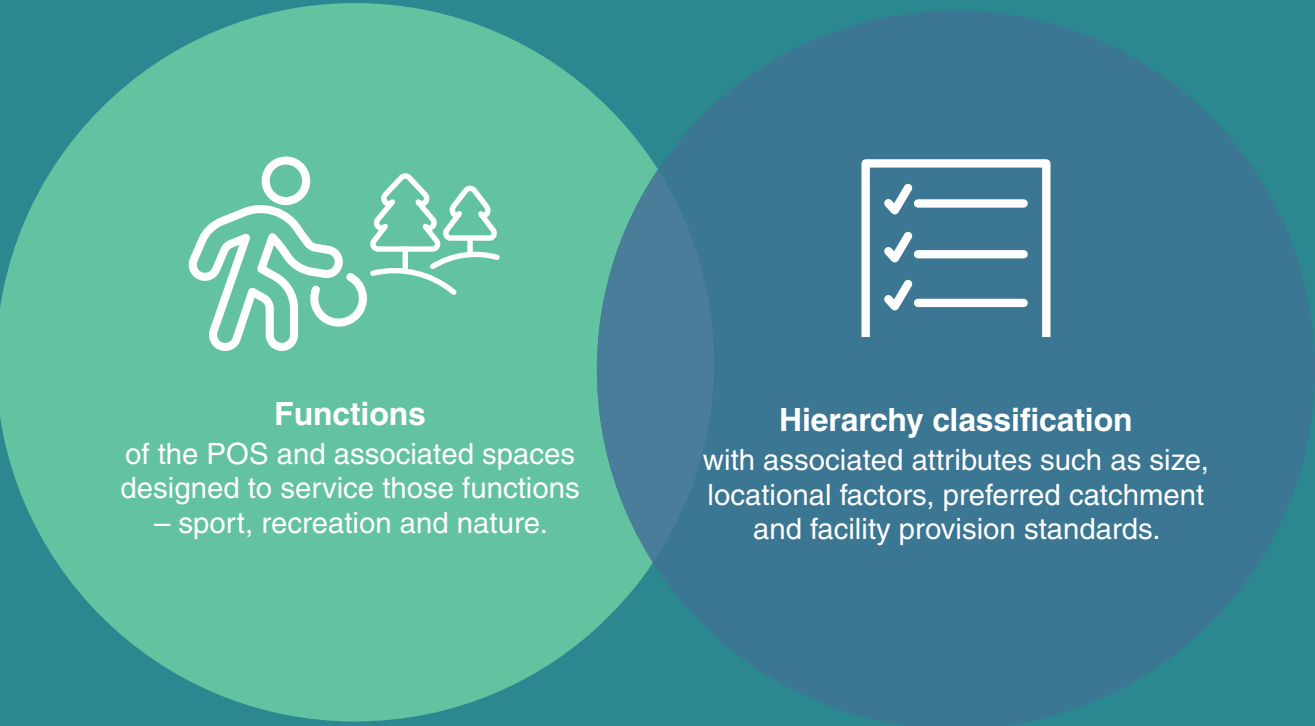
It was found that the current POS framework only requires moderate adjustments to bring it in line with state guiding documents and current industry standards. Specifically, the City will align with the state government’s

classification framework for POS, developed in 2012.

The state’s classification framework document was developed as a peer-reviewed cross-industry classification framework. The City was included in the consultation process. This includes placing greater emphasis on the role or function of the open space and streamlining the POS classifications to the four main classifications. It was also important to provide greater clarification within the POS provision standards for facilities attached to each classification. A summary has been provided with greater detail in Appendix 7.4.

The City’s revised framework utilises a two-tier approach which considers both the functions and the hierarchy classification as part of the POS network (Figure 6).

Figure 6: POS framework (DLGSC, 2012)



3.2.1 POS functions

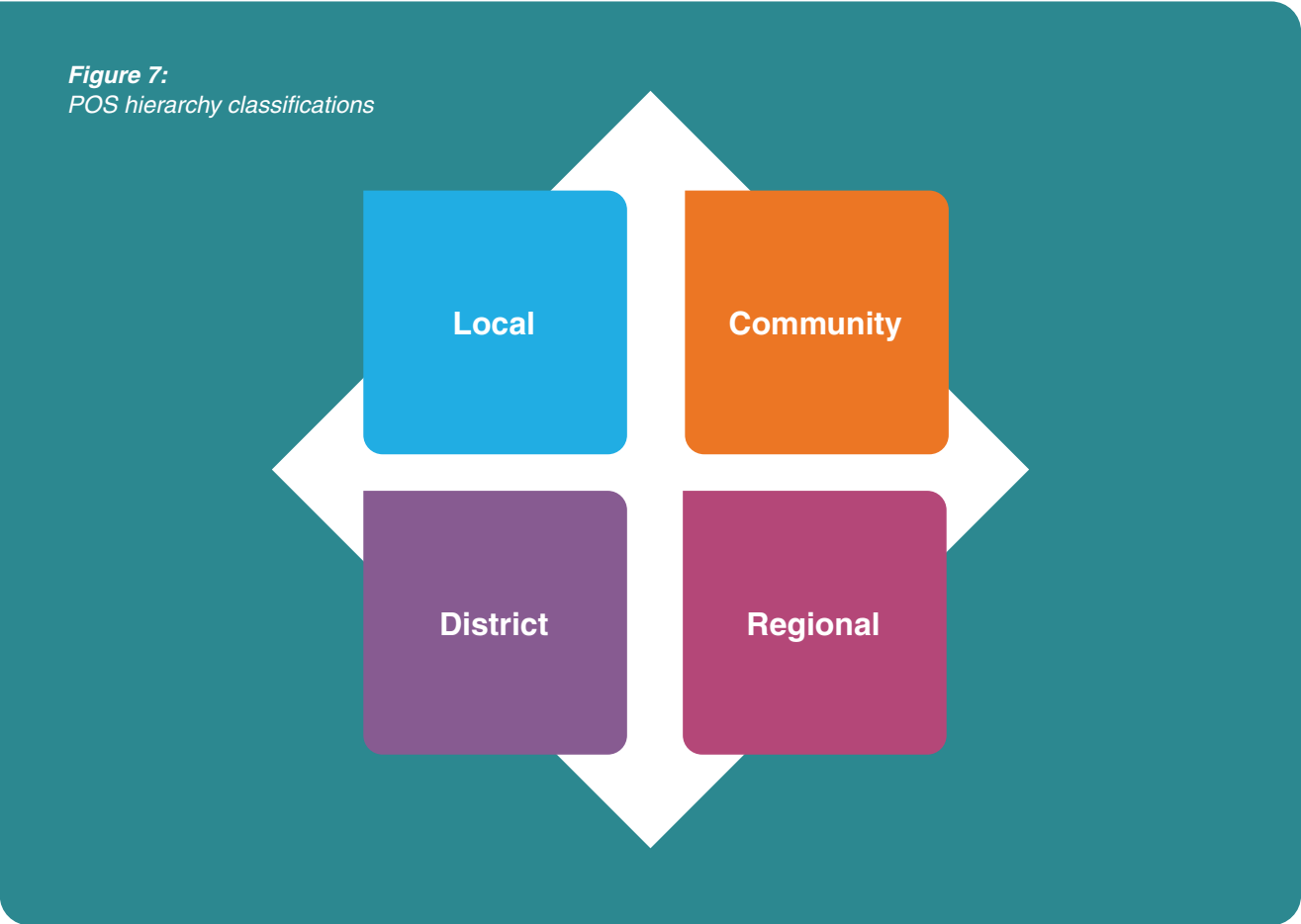
The POS functions are the primary use and expected activities undertaken within POS. There are three primary function spaces, which are described in Table 5 below. A single POS may serve more than one function and is highly influenced by the classification attributes. For example, a POS which is large enough to accommodate a sporting oval and clubhouse is naturally larger, has a bigger catchment and serves a greater sporting function than a smaller POS.

Table 5: POS functions (DLGSC, 2012)

Recreation spaces	
Purpose	Recreation spaces provide a setting for informal play and physical activity, relaxation and social interaction.
Description	Recreation spaces enhance physical and mental health through activity that provides relaxation, amusement or stimulation. Recreation spaces can be accessed by all to play, socialise, exercise, celebrate or participate in other activities that provide personal satisfaction or intrinsic reward. Recreation space includes gardens and open parklands, community gardens, corridor links, amenity spaces (eg, picnic areas), community use facilities (eg, barbecues, skate plazas), civic commons or squares.
Sport spaces	
Purpose	Sport spaces provide a setting for formal structured sporting activities.
Description	Sport spaces provide a venue for formal structured sporting activities such as team competitions, physical skill development and training. Sport spaces are designed to accommodate playing surfaces, buffer zones and infrastructure requirements of specific or general sporting activity, Players and spectators attend with the express purpose of engaging in organised sporting activity, training or competition; or watching the game. Most sport spaces can also be accessed by community members for informal sport and recreational purposes.
Nature spaces	
Purpose	Nature spaces provide a setting where people can enjoy nearby nature while protecting local biodiversity and natural area values.
Description	Nature spaces provide opportunity for low-impact recreational activities such as walking, cycling, picnicking, playing, watching or exploring natural features. They are commonly linked/integrated with recreational spaces. Nature spaces may include bushland, coastal areas, wetlands and riparian habitats, and geological and natural features. Sites are managed to enable recreation access while protecting local ecological and biodiversity values.

3.2.2 POS hierarchy classifications

The City's POS hierarchy has been revised in line with the intended scope of the Strategy and two-tier POS framework previously discussed. The City's POS hierarchy is represented by four classifications (Figure 7) which are:



The hierarchy classifications are defined by their attributes, most notably primary purpose and associated function(s); catchment and access; size; locational factors and distribution; activity type and supporting facilities.

The most tangible difference between the four classifications is the size of the POS. Naturally, the larger POS can cater for larger catchments, simultaneous functions and larger user groups, and support more and bigger facilities. Smaller POS, however, tend to offer more localised recreational activities, intimate environments for socialisation and green relief in urban areas.

It is desirable to have a range of both highly active spaces as well as quieter, more calm spaces to offer the community access to a range of diverse POS.

It is noted that the four classifications remain consistent with the City's

previous version of the Strategy. Three classifications have been removed: 'natural conservation areas', 'special purpose open space' and 'residual land'.

Natural conservation area classification was intended to capture areas of natural habitat such as bush forever and wetlands. The Strategy still recognises these spaces within the community, but they sit outside the scope of the POS. These spaces are managed separately through specific WA State Planning Policy and the City's Biodiversity Plan (2010). They have different provision standards given their primary purpose for environmental conservation and have limited public access. Recreational access to these areas needs to be carefully managed through environmental principles and may vary over time.

With a clearly defined scope and a two-tiered framework, special purpose

or residual land classifications are no longer relevant. Any spaces identified as POS will be assessed against these parameters and classified per the hierarchy. As previously mentioned, it is not assumed that the hierarchy will identically match every parcel of POS within the City. Any outliers are more than likely to be found in the local open spaces classification and will be assessed accordingly.

A summary of the hierarchy classifications is provided below, with more information found in Appendix 7.4.

A list of the City's regional, district and community open spaces are provided in Appendix 7.5. Local open spaces make-up the remaining open spaces and are the most numerous.

Local open space

Purpose and function:

Local spaces are typically small parklands that service the recreational needs of the local residential population, such as children's play, dog walking and relaxation.

The primary function is recreation and may include small areas of nature space.

The locations are generally in intimate settings with naturally shaded space and open grassed areas and may include local-level infrastructure like bench seating, local level playground, bins and path access.

Other local level informal recreational facilities can also be considered to help deliver vibrant local parks for our community.

The main form of access is via walking and serves a 300-400 metre catchment (approximately five to 10 minutes' walking).

Local spaces are primarily for daytime use (ie, up until sunset).

Local spaces are important pockets of green relief, particularly in areas of higher density with limited private open space and/or concentrated populations. These spaces break up the urban form, contributing to local identity and providing a venue for social interaction at a personal level.



Community open space

Purpose and function:

Community spaces serve as the recreational and social focus of a community. Residents of surrounding areas are attracted by the variety of features, facilities and opportunities to socialise.

Community spaces can assist to engender a sense of place and protect specific natural values through accommodating small nature spaces or lakes and rivers.

They are generally large enough to provide for a variety of informal recreational uses such as playgrounds, dog walking, bike riding, skating/scootering, picnics and informal ball activities. As such, community spaces may have more noticeable infrastructure.

Community spaces cater for approximately 800 metre walkable catchment and act as a destination for family groups by supporting longer-stay activities. They are generally located near food and beverage outlets and accessible by either walking, public transport or limited carparking.

Note: The state's Classification Framework of POS uses the term 'neighbourhood' as opposed to 'community' open space. However, the intent behind the terms is the same and so the City will retain 'community' to maintain consistency in terminology for the City's community and reduce confusion.



District open space

Purpose and function:

District spaces are principally designed to provide for organised formal sport.

District spaces can also provide recreation space on the areas surrounding the main sporting spaces. In most cases there is limited nature space, with the main nature attributes being large mature trees.

District spaces serve large catchments, with many people travelling to participate or spectate sporting events. These spaces are also utilised by nearby schools, with some having the ability to host events.

To accommodate a large variety of simultaneous uses, district spaces require significant infrastructure investment and maintenance regimes to meet the required sporting standards.

District spaces provide a significant visual break in the urban environment, particularly along major thoroughfares, and are serviced by public transport, walking paths and carparks.



Regional open space

Purpose and function:

Regional spaces may accommodate important recreation and organised sport space as well as significant nature spaces for conservation. These may include environmental features such as water bodies.

Regional spaces in the City have been vested by the Crown as Regional Reserves.

Regional spaces serve one or more geographical or social regions and are likely to attract visitors from outside City boundaries. They also serve local residents' needs. As such, parking facilities and transport network connections are important.

Regional spaces provide for the highest level of simultaneous use due to their very large size. As such, they can accommodate substantial facilities for organised sport, social interaction, relaxation and enjoyment of nature.

Usage is spread throughout the daytime into the late evening to accommodate sporting groups, evening community use and events.



3.3 Specific considerations

Each hierarchy classification includes certain core and discretionary provision standards which align with the primary purpose and function of the POS. Key factors such as demonstrated need, available space, existing like facilities and impact to residents are also considered when improving infrastructure in the City's POS.

Irrigating non-sporting spaces

It is important to protect the water supply in WA. The City needs to implement plans and programs to maintain its commitment as a gold-level waterwise local government, while also providing quality services for the community. The volume of groundwater that the City is permitted to use is determined by the Department of Water. As such, the City manages and maintains a range of both irrigated and unirrigated parks.

Given the increasing demand for access to POS, the City must ensure there is an appropriate distribution of irrigated and unirrigated reserves throughout the community. This is to balance demand and water restrictions as well as utilising water-sensitive design approaches to make unirrigated reserves functional and usable by the community. Further reductions on groundwater extraction licences are expected and the City will need to ensure future communities have diverse choice and equitable access to irrigated reserves.

Playgrounds

The community places a high value on play opportunities for children. The provision of playgrounds is guided by both the Strategy and the City's Playground Policy. There is a hierarchy of playground levels (local, major and regional) which are provided on certain categories of POS. Not all POS will have a playground as provision is governed by a walkable catchment of 400 metres (five to 10 minutes' walk). The City looks to provide for the community's playground needs in an equitable and sustainable manner while providing high-quality, well-maintained equipment that complies with the relevant Australian standards.

Higher-level playgrounds (eg, major and regional) are provided on the higher-level POS as they can support larger numbers of visitors and associated infrastructure such as barbecues, picnic areas, public toilets and parking. Noise and impact on surrounding residents are also key considerations.

Playground provision has also been evolving with greater emphasis on a diversity of play opportunities between play spaces. These include destination-style play spaces, nature play elements, improved inclusivity, more challenging play equipment and combination with elements for older children, such as scooter, skate and BMX.

Community gardens

The City has a Community Garden Policy which guides where and how community gardens are provided within the City. There is a large range of community gardens in terms of size, type and style, and so any new location needs to be assessed on a case-by-case basis. Community gardens are not easily defined into a single category and may not always necessarily be on areas designated as POS, especially as the City grows.

Public art

Public art can be provided in a range of public places and is often found within POS. Public art provision is responsive to the surrounding community and guided by the City's Public Art Policy. As such, any placement of public art within POS should consider maintenance requirements, appropriateness of scale, and appropriate placement to not impact functionality and use. These considerations enable public art to enhance the POS and provide meaning for the community.

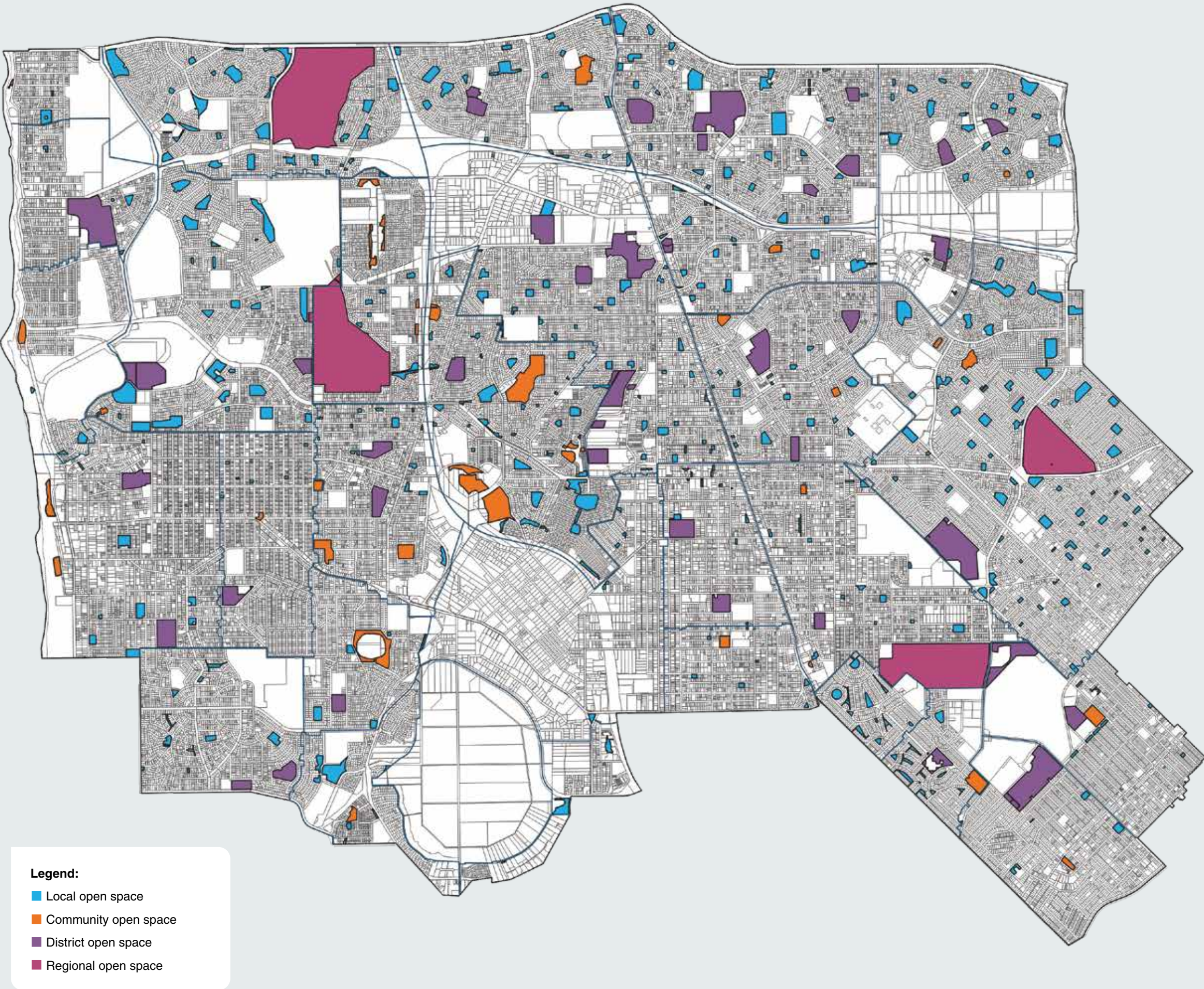
3.4 POS in the City

The City has a large network of POS which varies from small local parks offering a green leafy escape to large spaces with organised sporting activities and large facilities. There are a total of 745 hectares of POS within the City spread over 500 parks and reserves. It is important to consider the amount of POS by both area and the number of spaces. These measures can inform the distribution of POS, the accessibility to different types of POS and the diversity of functions and amenities available to residents.

A map of the City's POS is shown in Figure 8. It displays how POS is distributed across the City.

A suburb of high POS area may still have gaps in provision due to uneven distribution of POS or concentration of POS in regional or district open spaces.

Figure 8: POS classifications map



The largest amount of POS by area and number is captured within local open spaces (267 hectares across 426 parks and reserves). Hamersley Ward has the highest area (71 hectares) and number (89) of local open spaces, whereas Doubleview Ward has the lowest area (22 hectares) and Coastal Ward the lowest number (32).

Community open space amounts to 75 hectares and primarily meets the growing demand for informal recreation and social activities. It is acknowledged that both district and regional open spaces can perform local and community functions. As such, POS provision needs to be considered holistically across the classifications to ensure a diversity of function, access and opportunity.

There are 41 district open spaces, which make up 249 hectares. Balga Ward has the highest area (63 hectares) and number (12) of district open spaces. The Doubleview Ward has the lowest area (22 hectares) while both the Coastal and Inglewood Wards have the lowest number (three) of district open spaces.

Regional open spaces (ROS) provide 154 hectares of POS across the City. Two of the regional open spaces are in the Hamersley Ward while the others are within the Lawley and Inglewood Wards. It is noted that three of the four regional open spaces are also classified as ‘bush forever’ areas (Carine ROS, Lake Gwelup ROS and Dianella ROS). Lake Gwelup ROS and Carine ROS also contain large

wetland and lake systems which are classified as Environmental Protection Policy wetlands and serve primary conservation purposes.

As such, restricted portions of the reserves have been subtracted from the totals in line with the scope of POS. Part 3.6 provides further information on the City’s natural areas.

Figures 9 and 10 show the makeup of each ward by POS classification by both the area of POS (hectares) and number of POS.

The corresponding table with data totals is found in Appendix 7.6 by ward and suburb with maps shown in Appendix 7.7.

POS provision has also been calculated at a suburb level for both area (hectares) and numbers (Figure 11 and 12 respectively). Appendix 7.6 provides the corresponding data tables.

Figure 9: POS area by ward

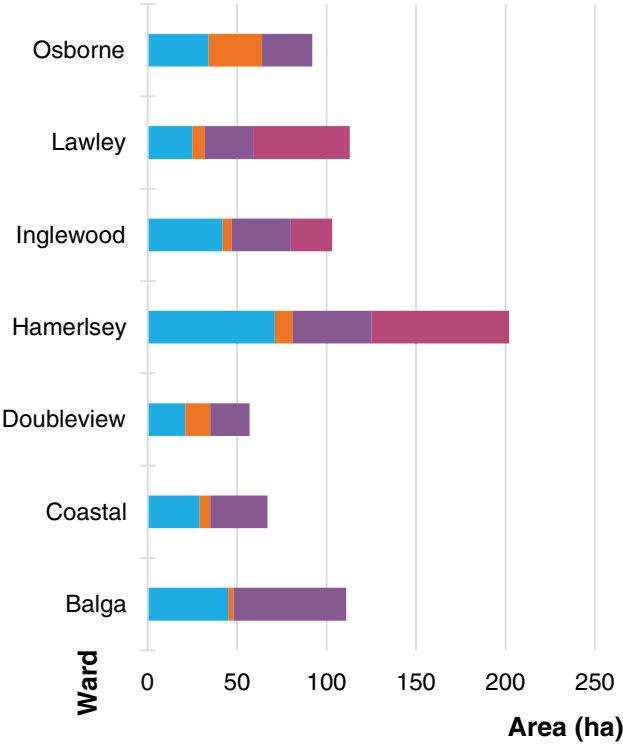
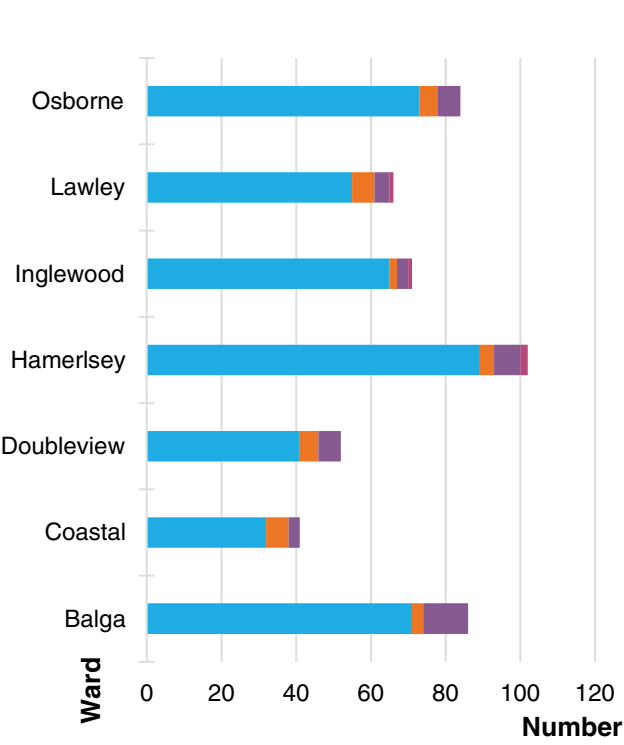


Figure 10: POS number by ward



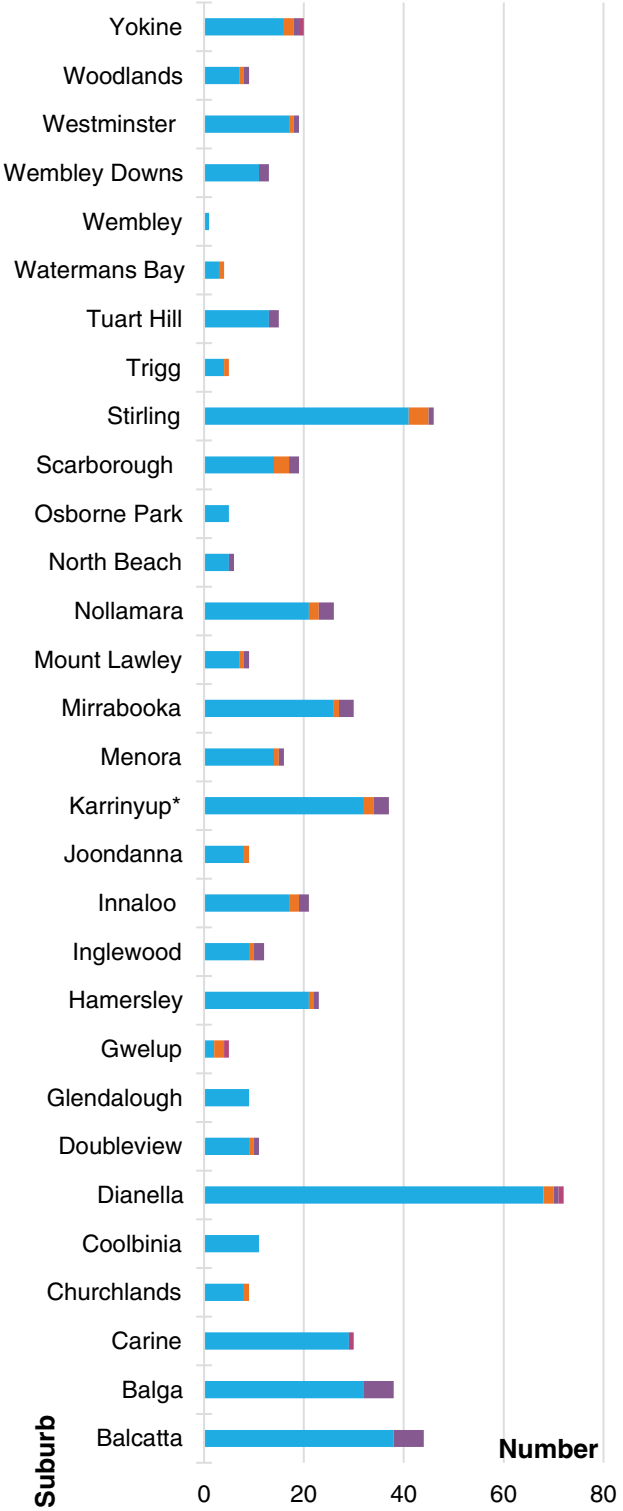
Legend: Local Community District Regional

Figure 11: POS area by suburb



Legend: Local Community District Regional

Figure 12: POS number by suburb



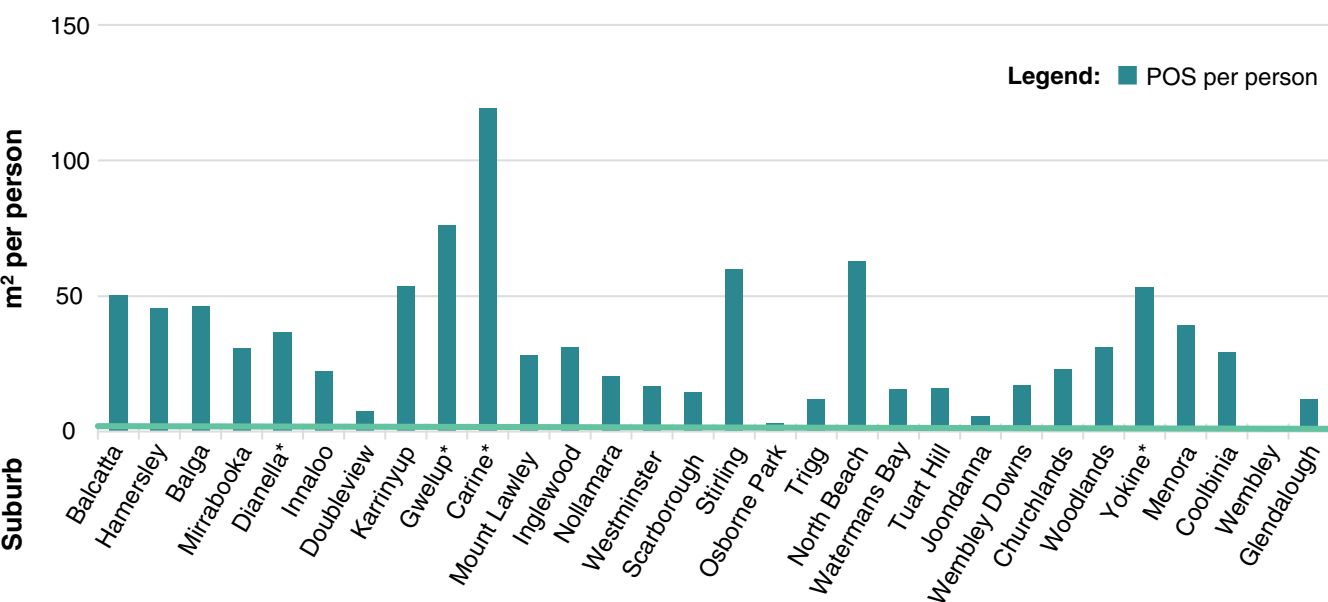
Legend: Local Community District Regional

3.5 POS review

There is significant variation in the characteristics of different suburbs such as size, density, land use and demographics. To simplify comparisons across the suburbs, the total POS area has been calculated using the current population data of each suburb (ABS Census 2016).

Figure 13 shows the POS available per person in square metres by suburb and as a heat map in Appendix 7.8.

Figure 13: Total POS area per person by suburb



When considering POS provision, it is important to clearly represent how the POS is distributed across the City. A suburb of high POS area may still have gaps in POS due to uneven distribution of POS or concentration of POS in regional or district open spaces.

There is no updated standardised measure across local governments to quantify how much POS per person is required. As a baseline, the POS for the City has been reviewed against the standard of 33.6 square metres per person. This measure is referenced in the Stephenson-Hepburn Report (1955) and generally refers to POS provided through the local planning scheme and not the metropolitan region scheme. This is discussed further in Part 4.

Although the City's total POS includes both local planning and Metropolitan Region Scheme POS, 33.6 square metres can be used as a baseline of which further analysis is required to also consider both access and quality of POS. See Part 5 for further discussion of the City's method of assessing POS.

Overall, 19 suburbs have under 33.6 square metres of POS per person. Of these, the suburbs with the lowest amount of POS by area per person are:

- Wembley: 2.0 square metres
- Osborne Park: 3.0 square metres
- Joondanna: 5.7 square metres
- Doubleview: 7.6 square metres.

It should be noted only a small portion of the Wembley suburb falls within the City of Stirling boundary, the rest of the suburb falls in the Town of Cambridge. Other than Wembley (which is adjacent to Herdsman Lake), Osborne Park, Joondanna and Doubleview are not within proximity to any Bush Forever areas or coastal foreshore reserves to help break up the urban form.

The suburbs of Carine, Balcatta, Gwelup, Karrinyup, North Beach, Stirling and Yokine have the most POS with a minimum of 50 square metres of POS per person. Three of these suburbs contain regional open spaces, with North Beach containing Charles Riley Reserve. Stirling suburb is likely to be impacted regarding population change due to development of the Stirling City Centre.

3.5.1 Population projections

Table 6 shows the change over time in access to POS. As the population increases, the amount of POS per person naturally will decrease. The suburbs that will lose the most POS area per person due to population increases are Wembley and Glendalough (-36 per cent) and coastal suburbs of Scarborough (-24 per cent), Trigg, North Beach and Watermans Bay (-23 per cent).

Overall, the City is projected to reduce the POS area available per person by five square metres on average due to population change. Appendix 7.9 shows the change over time by five-yearly increments until 2031.

These population projections are derived from the ABS Quick Stats 2016 Census Data and Western Australia Tomorrow Population Report Number 10 and 11, B and C.

The total POS for Mount Lawley and Wembley suburbs have been adjusted to only reflect population and POS area inside the City's boundaries. Forecasts will be monitored and adjusted if required, in line with local POS plans and when new data is released.

Table 6: Current and projected total POS per person 2016 – 2031

SA2 level	Total POS area (ha)	Current provision (ABS 2016 Census)		Future provision (2031 projections)		Reduction in POS per person 2016 – 2031	
		Population	m² / person	Population	m² / person	m² / person	%
Balcatta	52	10,382	50.3	10,802	48.3	-2	-4%
Hamersley	23	4,982	45.5	5,183	43.8	-2	-4%
Balga	59	12,685	46.3	13,637	43.0	-3	-7%
Mirrabooka	25	8,110	30.9	8,719	28.8	-2	-7%
Dianella*	92	23,486	39.3	25,249	36.6	-3	-7%
Innaloo	18	8,251	22.2	9,644	19.0	-3	-14%
Doubleview	6	8,404	7.6	9,823	6.5	-1	-14%
Karrinyup	50	9,283	53.5	11,551	43.0	-10	-20%
Gwelup*	35	4,539	76.2	5,648	61.3	-15	-20%
Carine*	77	6,479	119.3	8,062	95.9	-23	-20%
Mount Lawley	22	7,565	29.6	8,140	27.5	-2	-7%
Inglewood	18	5,674	31.2	6,105	29.0	-2	-7%
Nollamara	23	11,570	20.3	14,557	16.1	-4	-21%
Westminster	10	6,203	16.8	7,838	13.3	-4	-21%
Scarborough	22	15,421	14.6	20,200	11.1	-3	-24%
Stirling	58	9,676	60.0	11,310	51.3	-9	-14%
Osborne Park	1	4,120	3.0	4,816	2.6	-0.4	-14%
Trigg	3	2,794	12.0	3,649	9.2	-3	-23%
North Beach	21	3,410	62.8	4,453	48.1	-15	-23%
Watermans Bay	2	1,281	15.7	1,673	12.0	-4	-23%
Tuart Hill	11	7,012	16.1	8,196	13.8	-2	-14%
Joondanna	3	4,836	5.7	5,653	4.9	-1	-14%
Wembley Downs	11	6,321	17.2	7,388	14.7	-2	-14%
Churchlands	8	3,387	22.9	3,959	19.6	-3	-14%
Woodlands	13	4,145	31.1	4,845	26.6	-4	-14%
Yokine*	62	11,542	53.5	12,420	49.7	-4	-7%
Menora	10	2,592	39.3	2,789	36.5	-3	-7%
Coolbinia	5	1,660	29.2	1,786	27.1	-2	-7%
Wembley	0.1	791	1.3	1,233	0.8	-0.5	-36%
Glendalough	3	2,483	11.9	3,870	7.7	-4	-36%
SA2 total / average	745.1	209,084	35.6	243,200	30.6	-5	-14%

*All accessible POS in the City, inclusive of both POS provided under the Local Planning Scheme and Metropolitan Regional Planning Scheme.

3.6 Bush forever, coastal foreshores, natural areas and wetlands

It is important to clarify how natural areas are measured as part of POS area totals and what components of natural areas are not included within the POS calculations. The exclusions are in line with the DLGSC Classification Framework (2012), which specifies that although recreational activities can occur on other publicly accessible spaces, the framework is not intended to apply to areas where the primary purpose or function is identified as preservation or restoration of natural features and values. These areas include bush forever estates, conservation reserves, nature reserves, state forest or similar. POS is also not intended to include river and coastal foreshore reserves and buffer zones.

In addition, it is noted that Liveable Neighbourhoods (2009) specifies conservation areas with restricted access, foreshore reserves and wetlands identified under the Environmental Protection Policy (EPP) or similar environmental value do not form part of POS contributions.

The Strategy is guided by the City's Biodiversity Strategy (2010) which identifies three types of natural areas. These are Regionally Significant Natural Areas (RSNAs), Locally Significant Natural Areas (LSNA) and Local Natural Areas (LNAs).

There are nine RSNAs that are not included within the POS calculations, as their primary purpose is identified for preservation and conservation of natural features. These nine RSNAs are also identified as bush forever sites with two containing EPP wetlands. Where an RSNA is also classified as a regional open space due to recreational and sporting use, only the wetland and/or bushland component has been excluded to maintain consistency in how spaces are measured.

There are three sites that the City's Biodiversity Strategy identifies as EPP wetlands. In these instances, the wetland component has been excluded while the recreational component has been included. These sites are Jackadder Lake, Native Dog Swamp and Careniup Wetland.

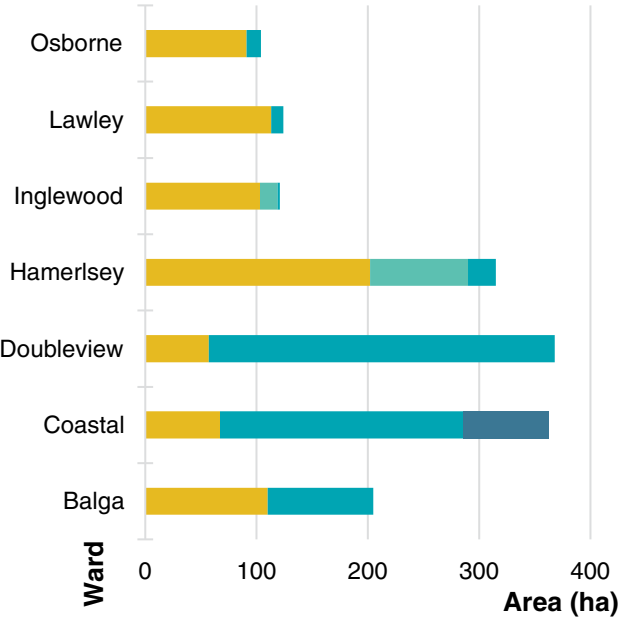
Where an LSNA or LNA forms a whole reserve and has limited or no access or is not intended for recreational use, it has also been excluded as it does not align with the scope.

The natural areas which have been determined as outside of the POS classification scope are listed in Table 7 and shown in the corresponding map (Figure 15). They include areas nominated as regionally significant

natural areas (RSNAs), Environmental Protection Policy (EPP) identified wetlands and natural areas that serve a solely nature function, are fenced or have restricted access and use.

The Strategy recognises the importance of the City's natural areas and how they contribute to the liveability of the community. Figure 14 shows the total POS by ward in conjunction with the natural areas listed in Table 7 and Table 8. The natural areas in Figure 14 have been separated to show either Bush forever or EPP wetland portions on the respective regional open spaces, whole reserves (eg, Star Swamp) or coastal foreshore.

Figure 14: Total POS area compared to natural areas



Legend: Total POS, Regional ROS, Bush forever, natural area or wetland, Coastal foreshore

Table 7: Natural areas – City-managed

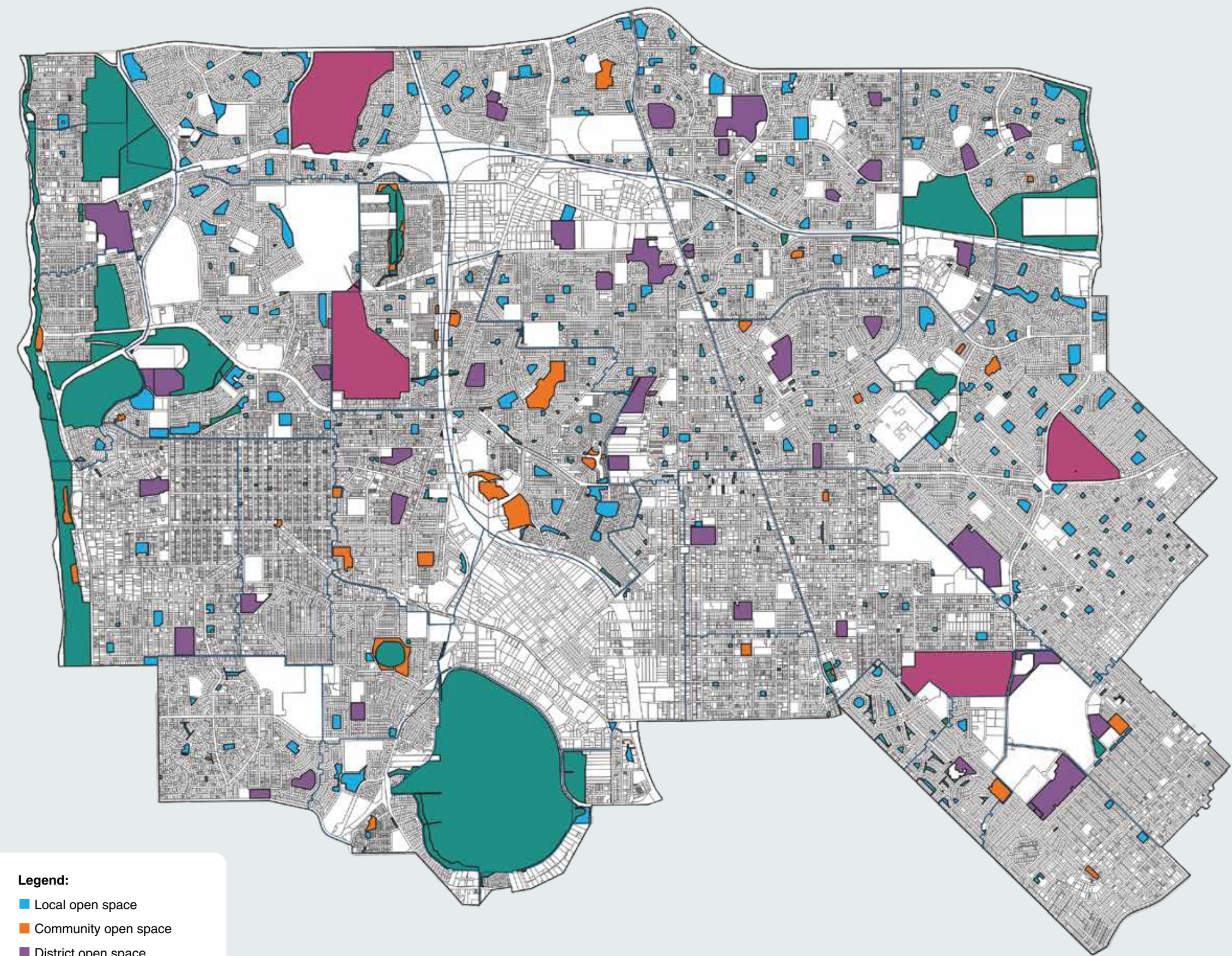
	Name	Significance	Suburb
1	Arkana Walderton Reserve	LNA	Westminster
2	Beach Alexander Bushland	LNA	Mirrabooka
3	Beachton Hamersley Kitchener Bushland and North Beach Beachton Kitchener Bushland	LSNA	North Beach
4	Bradford Glick Bushland Reserve	LNA	Coolbinia
5	Careniup Reserve	EPP wetland	Gwelup
6	Carine Regional Open Space – section	RSNA, EPP wetland, bush forever	Carine
7	Coastal Reserve	Coastal, RSNA and bush forever	Watermans Bay, North Beach, Trigg, Scarborough
8	Cottonwood Crescent Nature Reserve	RSNA, bush forever	Dianella
9	Dianella Regional Open Space	RSNA, bush forever	Dianella
10	Esperanto Martin Reserve	LSNA	Westminster
11	Fletching Climping Reserve	LNA	Balga
12	Lake Gwelup Regional Open Space	RSNA, EPP wetland, bush forever	Gwelup
13	Native Dog Swamp	EPP wetland	Yokine
14	Jackadder Lake	EPP wetland	Woodlands
15	Jackson Duke Wheeler Reserve	LSNA	Karrinyup
16	Star Swamp	RSNA, EPP wetland, bush forever	Watermans Bay
17	Trigg Bushland	RSNA, bush forever	Trigg
18	Walter Hamer Eighth Reserve	LSNA	Inglewood

RSNA – regionally significance natural area; LSNA – locally significant natural area, LNA – local natural area. EPP wetland – Environmental Protection Policy wetland.

Table 8: Natural areas – not City-managed

	Name	Significance	Suburb
A	Herdsmen Lake (includes Maurie Hamer Park)	RSNA, EPP wetland, bush forever	Herdsmen and Glendalough
B	Mirrabooka Bushland	RSNA, bush forever	Mirrabooka
C	Channel 9 Bushland	LSNA	Dianella

Figure 15: City's natural areas outside of POS



As noted previously, the POS hierarchy is not retrospective and not all parcels of POS will fit perfectly within these classifications, including nature spaces. However, it is important to provide a clear position regarding POS to ensure the POS statistics are not misleading or influenced by large areas of conservation or restricted sites. This is to enable informed decision making for future communities and consistency with industry standards.

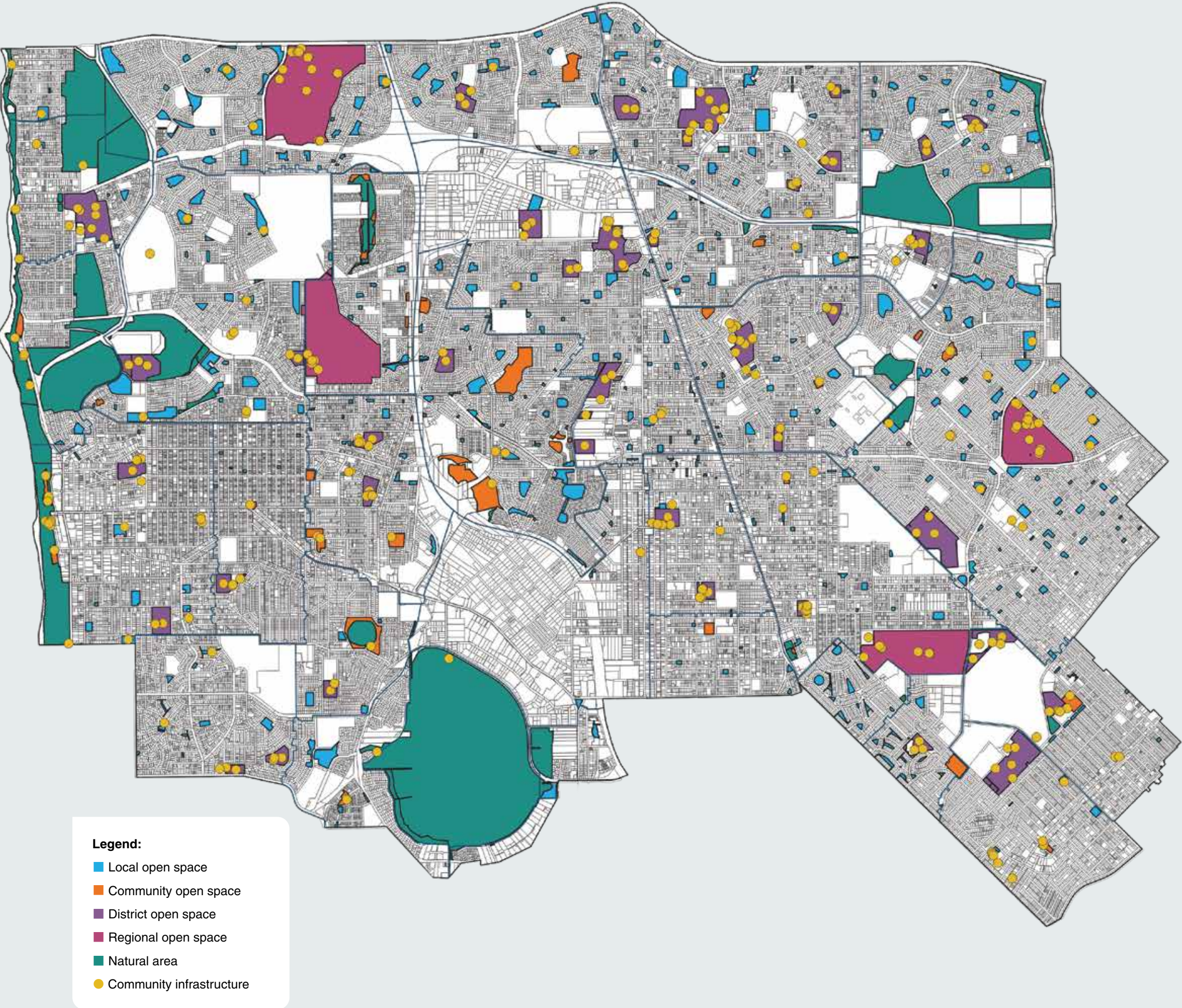
The City's Biodiversity Strategy (2010) should be referred to for other identified locally significant natural areas (LSNA) and local natural areas (LNA) that sit within POS. POS which provides for nature function in conjunction with recreation and/or sporting function has been included within the POS classifications and percentage calculations.

3.7 Community facilities

The Strategy's focus is on POS across the City and achieving the associated benefits for the community. In conjunction with POS, the City also provides a range of community infrastructure which complements outdoor recreational and sporting activities and provides choice for residents.

It is recognised that planning for POS also considers the holistic opportunities across the City and as such is referenced here. These can range from recreation centres, leisure centres, halls, bowling, golf clubs, tennis clubs and changerooms. Figure 16 shows a snapshot of community facilities in relation to the POS locations.

Figure 16: City's POS, natural areas and community facilities





4. State planning alignment

4.1 Setting aside POS

The WA planning system coordinates land use and development by balancing several potentially competing issues relating to economic, social and environmental matters. This process is guided by a series of planning policies, schemes and other statutory processes. The fundamental aim is to develop and sustain a high quality of life for people living within our communities (DLGSC, 2010).

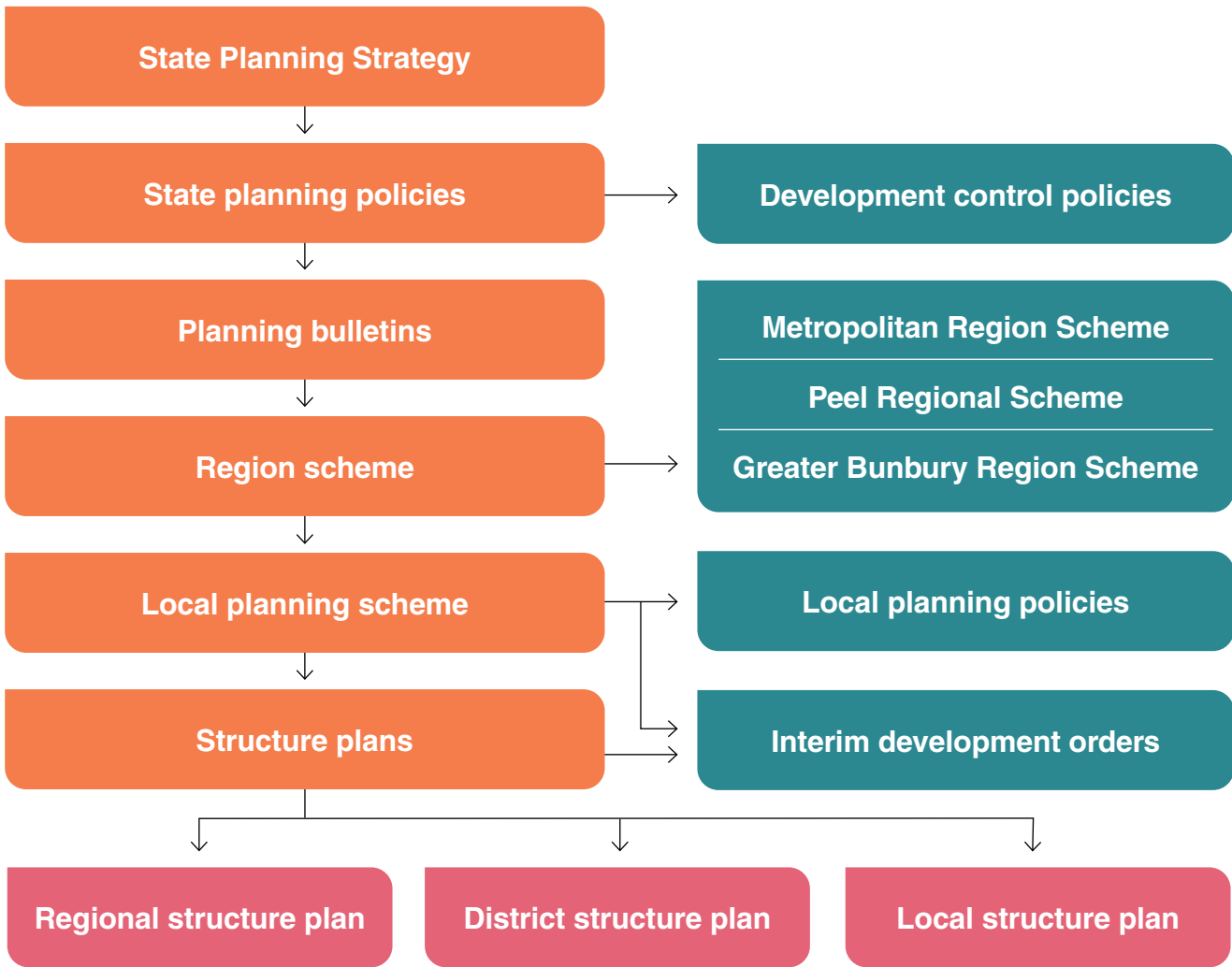
Two key elements to the planning system are strategic planning

(long-term planning) and statutory planning (the legal approval process which regulates land use). The most critical stage to inform POS needs is during the strategic planning process, as the ability to influence outcomes is more restricted during the statutory planning stage.

There are a variety of principal planning documents that impact the provision of POS throughout varying stages of the planning process. A selection of documents that impact

the City's Strategy is included in Part 1.4. They include regional schemes, local planning schemes, state planning policies, development control policies, and operational policies such as Liveable Neighbourhoods. The relationship between some of these principal planning documents is shown below in Figure 17.

Figure 17: Relationship of principal planning documents (DLGSC, 2010)



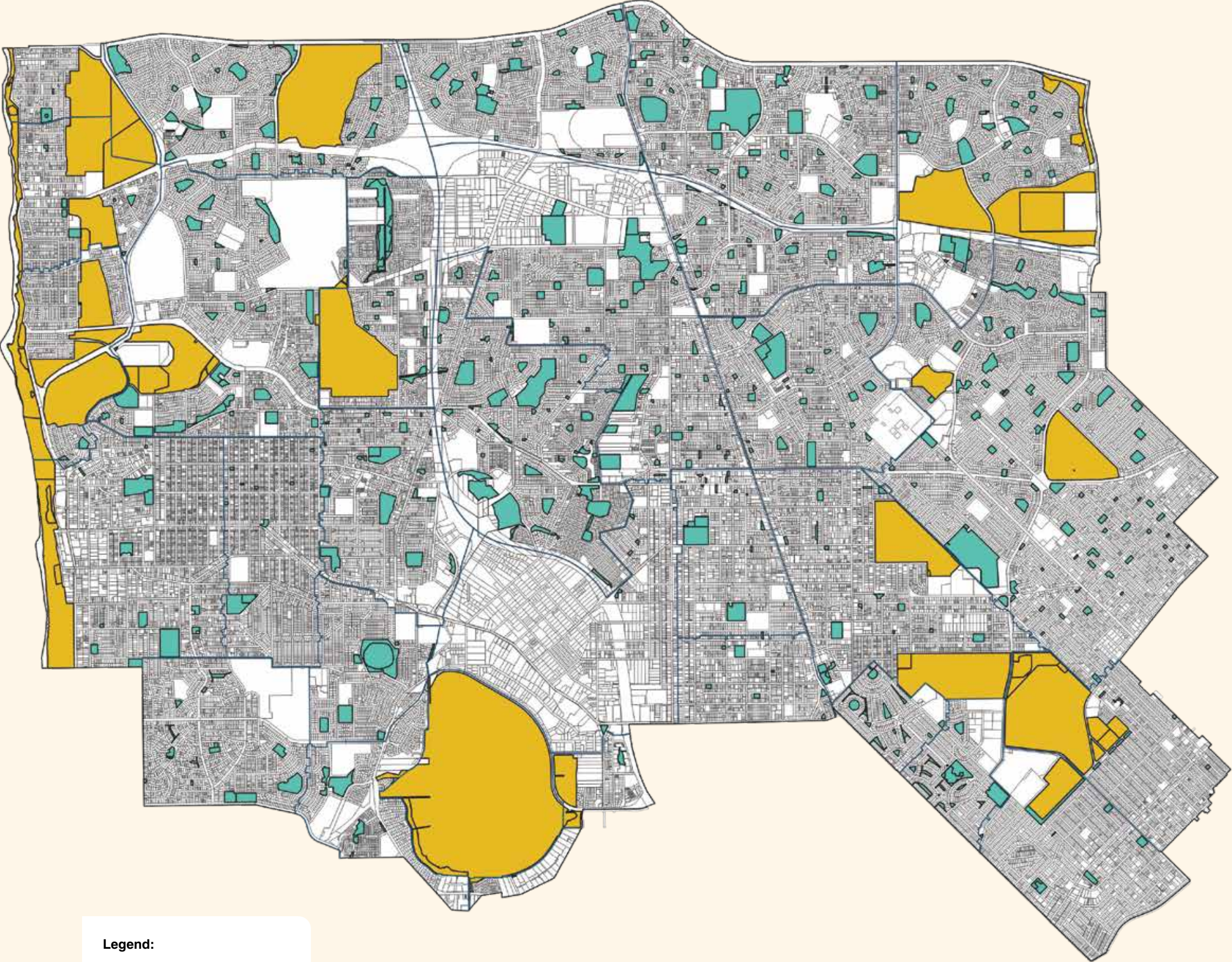
The City's POS can be divided into spaces that have been provided through the Metropolitan Regional Scheme (MRS) and spaces that have been provided through the local planning scheme (LPS). The LPS must be consistent with the MRS and hence, in the case of conflict between the schemes, the MRS will override the LPS. POS provided through both the MRS and LPS form an integrated POS network for the City's community.

4.2 Metropolitan Region Scheme

The MRS defines the future use of land and provides the legal basis for planning in the Perth metropolitan region. It divides land in the region into broad zones and reservations. When referring to 'reservations', the MRS is referring to land reserved for community purposes. These community purposes can include parks and recreation; railways; ports; state forests; water catchments; civic and cultural uses; waterways; public purposes (eg, hospitals and schools); regional roads and bush forever areas.

Of interest to the Strategy are the areas reserved for parks and recreation under the MRS. These spaces are defined by the MRS as land of regional significance for ecological, recreation or landscape purposes. The parks and recreation reservations are a mix of POS, coastal foreshore, wetlands, bush forever and recreational facilities. The City's bush forever areas have been highlighted in Part 3.6. Bush forever areas are subject to planning requirements of State Planning Policy 2.8 – Bushland Policy for the Perth Metropolitan Region.

Figure 18: Map of MRS parks and recreation reservations



- Legend:**
- Parks and recreation reservations (MRS)
 - POS (LPS)

4.2.1 POS provision under Metropolitan Regional Scheme

Figure 18 shows the areas reserved for parks and recreation under the MRS. It also shows the POS network provided under the LPS for comparison. It is emphasised that only a portion of MRS parks and recreation reservations are included as POS within the City's POS framework. The areas included as POS

have been assessed to align with the definition, scope and key principles of POS.

Distinction has been provided in Tables 9, 10 and 11 of the MRS areas which are POS compared to other land uses. There are three instances in which the land provides POS purposes while also identified as bush forever. These are Carine Regional Open Space,

Dianella Regional Open Space and Lake Gwelup Regional Open Space.

Table 11 shows the lands reserved under the MRS as parks and recreation which serve a separate function such as bush forever, coastal foreshore and recreational facility. It should be noted that not all MRS reservations listed are managed or owned by the City.

Table 9: MRS parks and recreation reservations – also serve as POS

	Name	City POS classification	Suburb	Ward
1	Allamanda Gardens Reserve	Local open space	Mirrabooka	Balga
2	Apple Blossom Polyantha Reserve	Local open space	Mirrabooka	Balga
3	Charles Riley Reserve	District open space	North Beach	Coastal
4	Coastal Foreshore Reserve, Brighton Beach Reserve, Scarborough Beach Reserve, Clarko Reserve and Watermans Bay Reserve	Community open spaces	Watermans Bay, North Beach, Trigg and Scarborough	Coastal
5	Hamer Park and Inglewood Oval	District open space	Mount Lawley	Lawley
6	Macaulay Park	Community open space	Inglewood	Inglewood
7	Millington Reserve / Kevin Langdon Reserve	District open space	Karrinyup	Coastal
8	Walter Road East Reserve	District open space	Inglewood	Inglewood
9	Wordsworth Reserve	District open space	Inglewood	Inglewood
10	Yokine Regional Open Space	Regional open space	Yokine	Lawley



Table 10: MRS parks and recreation reservations – provide both POS and bush forever area

	Name	City POS classification	Suburb	Ward
1	Carine Regional Open Space	Regional open space	Carine	Hamersley
2	Dianella Regional Open Space	Regional open space	Dianella	Inglewood
3	Lake Gwelup Regional Open Space	Regional open space	Gwelup	Hamersley

Table 11: MRS parks and recreation reservations – serve other uses

	Name	City POS classification	Suburb	Ward
1	Coastal foreshore	Coastal foreshore / bush forever	Various	Coastal
2	Cottonwood Crescent Nature Reserve	Bush forever	Dianella	Lawley
3	Star Swamp	Bush forever	Watermans Bay	Coastal
4	Trigg Bushland	Bush forever	Trigg	Coastal
5	Walter Hamer Eighth Reserve	Locally significant natural area	Inglewood	Inglewood
6	Inglewood Bowling and Sports Club	Recreational facility (located on Hamer Park / Inglewood Oval)	Mount Lawley	Lawley
7	Inglewood United (leased facility)	Recreational facility	Inglewood	Inglewood
8	Mount Lawley Golf Course (includes tennis club)	Recreational facility	Inglewood	Inglewood
9	North Beach Tennis Club	Recreational facility (located on Charles Riley Reserve)	North Beach	Coastal
10	Stirling Leisure Centres – Terry Tyzack Aquatic Centre – Inglewood	Recreational facility (located on Wordsworth Reserve)	Inglewood	Inglewood
11	WA Golf Course	Recreational facility		
12	Yokine Bowling Club	Recreational facility (located on Yokine Reserve)	Yokine	Lawley
13	Herdsman Lake (includes Maurie Hamer Park and Glendalough Reserve)	Bush forever and EPP wetland (not City-managed)	Herdsman and Glendalough	Doubleview
14	Mirrabooka Bushland	Bush forever (not City-managed)	Mirrabooka	Balga

4.3 Local planning scheme

Local Planning Schemes (LPS) set out the way land is to be used and developed. An LPS classifies areas for land use and includes provisions to coordinate infrastructure and development within the local government area. An LPS consists of scheme maps and is supported by a local planning strategy. It is developed in line with the other principal planning documents and reserves land for POS purposes.

4.3.1 Current LPS standards for POS

It was in the early twentieth century that park activists sought to establish minimum requirements for the provision of POS (Byrne and Sipe, 2010; Veal, 2013). These standards, first established in the US and UK, have now been emulated in Australian POS planning and development policies and strategies.

In WA, the standard of 3.36 hectares of POS per 1,000 people was established in the Stephenson-Hepburn Report of 1955 for POS provided through local planning. This standard was converted to 33.6 square metres per person, based on a density of 30 persons per hectare. This resulted in 1,008 square metres of POS provision for every hectare (10,000 square metres) of land and thus the standard established was that 10 per cent of a residential area was to be set aside for POS.

This 10 per cent standard has been applied in WA since this time, and a subdivider is required to provide 10 per cent of the gross subdivisible area of a residential subdivision to the Crown, free of cost, for POS purposes.

This 10 per cent standard only applies to POS determined through LPS via subdivision and relates to the Development Control Policy (DCP) 2.3 for POS in Residential Areas. POS set aside through the MRS is required in addition to the LPS and is excluded from the 10 per cent contribution for an area.

A report undertaken in 1972 into the corridor plan for Perth found increasing density to be a concern and that “if basic standards for the provision of POS are not reaffirmed then desired concepts may be lost forever”. It stated that the adopted policy was 10 per cent of the subdivisible area while the Stephenson Plan of 1955 recommended that the provision be based upon population. It concluded

that the provision of POS based on population density was more desirable than existing requirements based upon area (Honorary Royal Commission, 1972, p. 74).

The 10 per cent standard was reviewed and retained in 1980 and the 10 per cent provision has subsequently been supported through DCP 2.3. The DCP 2.3 states that the 10 per cent requirement remains valid due to smaller lot sizes being offset by declining household occupancies. This standard is also iterated in the draft Liveable Neighbourhoods (2015). More recently it has been acknowledged that the DCP 2.3 and Liveable Neighbourhoods require a review, which is scheduled for 2022.

It is noted that this 10 per cent contribution applies only to land that generates a need for POS, primarily residential land use. As such, only POS provided under the LPS is included in the calculation when assessing developer POS contributions.

As advised by DPLH, the land listed below is excluded from the City's POS calculations and does not form part of the gross subdivisible area (GSA).

- Foreshore reserves, bush forever areas, natural water bodies and EPP wetlands
- Local bushland with restricted public access, unless it forms part of the two per cent of ‘restricted use’ local POS (refer to: LN 2009, Element 4 R5 and R33)
- All land reserved as parks and recreation under the MRS regardless of function
- Land zoned as industrial, rural or private recreation under the MRS
- Business, civic, development, district centre, hotel, industry, local centre, mixed business, private institution, regional centre, service station and special use zones/reserves under LPS 3, including leased and private sporting clubs (eg, bowls, tennis, golf, soccer)
- All public purpose or utility reserves under the MRS and LPS, such as fenced drainage sumps
- Recreation facilities, leisure facilities or other community facilities.

It is noted that artificial water bodies are considered ‘restricted use’ local POS for up to 2 per cent of the 10 per

cent calculation, with the surplus being excluded. If deemed ‘restricted use’ then the surface area of the water body is included in the GSA and POS calculation.

Previously mixed-use zoned land was excluded from the GSA and hence POS calculation. With changes in built form, the residential and non-residential components of a mixed-use development can only be known at development stage. As such, it is difficult to accurately quantify the residential component of future development for POS purposes. It is preferred that these future developments, such as activity centres and corridors, include mixed-use zoned land within the GSA to ensure the amount of POS land required is not underestimated.

4.3.2 Shortcomings of percentage standards for POS

There are several concerns in applying a broad-based percentage standard adopted over 60 years ago. This is predominantly due to the changes in density and suburb characteristics, changes to how people access and use both private and POS, and the impact of changes to planning policy.

The standard of 10 per cent for local residential areas was set prior to subsequent increases in densities and residential infill. High-growth suburbs originally planned around this standard, such as Westminster and Nollamara, have since had density increase threefold. This has resulted in the average property being able to accommodate three dwellings instead of the original one dwelling, without increasing the total residential area.

This change over time is cumulative and is having a significant impact on the adequate provision of POS (Local Planning Strategy, 2019). In particular, areas with uneven distribution of POS are more at risk of not having walkable access to POS.

Assumptions made in 1955 have significantly changed, specifically the availability of private open space as the main source of outdoor recreation (Grose, 2009). As housing densities increase, the amount of private open spaces diminishes. This change results in more people looking to public spaces to fill gaps in recreational activities once predominantly catered for in backyards.

An overall significant shortage of POS available to accommodate organised sport has been an unintended consequence of applying the 10 per cent standard (Middle, 2013). This is due to added requirements to also provide water-sensitive urban design (WSUD) and bush forever (Middle et al., 2013). The shortage of organised sporting spaces is concentrated in new-growth suburbs but impacts inner-city areas such as the City of Stirling, given people need to travel to access sporting space. This volume of visitors to the City's district and regional POS coupled with high infill will only increase pressure. It also inadvertently impacts the condition of the sporting spaces, which need appropriate recovery time from the high impact and high volume of use.

Minimum requirements are needed to establish a baseline standard to consistently measure POS provision

across local government areas. It is also acknowledged that conservation and water management principles are important for long term sustainability. However, measuring the adequacy of POS provision through an arbitrary percentage based on a static area value will not suffice moving forward. POS provision is complex and multi-faceted, with consideration needed at both a broad and local level.

As such, the application of the 10 per cent standard for POS is discussed within the confines and scope to which it applies as per DCP 2.3. However, when planning for broader POS needs, the standard forms part of the City's assessment methodology of POS as outlined in section 5.1, in conjunction with other key measures including accessibility and quality.



4.4 Application of the percentage standard for POS

The 10 per cent POS requirement comes from the Stephenson-Hepburn Report, which is implemented through DCP 2.3. DCP 2.3 only relates to subdivision, and as such, the 10 per cent standard is applicable to subdivision under the LPS.

Suburbs vary greatly in size and Table 4 shows the areas of POS against the gross subdivisible area (GSA). This provides a percentage of POS within each suburb, which is in line with WAPC’s method of determining adequate POS provision. The POS area has also been assessed against

the equivalent 33.6 square metres per person measure in line with the latest population census statistics (ABS, 2016).

Table 12 shows that 13 of the City’s suburbs (43 per cent) have more than 10 per cent of POS when compared against GSA within their respective suburb boundaries. However, when considering the area per person standard (33.6 square metres), only seven suburbs (23 per cent) provide above the required amount. Herdsman is excluded given the suburb has no GSA. The suburbs are broken down as follows:

Standard	Suburbs
✓ Percentage ✓ Area per person	7 Suburbs Balcatta, Balga, Carine, Hamersley, Karrinyup, Menora, Stirling
✓ Percentage ✗ Area per person	6 Suburbs Churchlands, Dianella, Innaloo, Mirrabooka, Nollamara, Woodlands
✗ Percentage ✗ Area per person	17 Suburbs Coolbinia, Doubleview, Glendalough, Gwelup, Inglewood, Joondanna, Mount Lawley, North Beach, Osborne Park, Scarborough, Trigg, Tuart Hill, Watermans Bay, Wembley, Wembley Downs, Westminster, Yokine

Table 12 shows that suburbs which meet the 33.6 square metres of POS per person generally have a minimum of 15 per cent POS. This variance shows the inadequacies of arbitrarily applying the 10 per cent standard without considering the suburb characteristics, and particularly the impact of density and urban infill.

This is demonstrated in suburbs such as Hamersley and Mirrabooka which both have 15 per cent POS but a significant difference in POS provision when measured by area per person. Hamersley has 45.5 square metres of POS per person and Mirrabooka has 30.9 square metres of POS per person.

The suburb of Stirling has the highest supply of POS by percentage and

area per person. Stirling has only one small district open space with majority of POS area being captured in community and local open spaces (Appendix 7.7). Stirling is however not located in the wards with the highest amount of POS, highlighting an uneven distribution of POS for adjacent suburbs in the same ward. It is noted that the Stirling City Centre Structure Plan (2014) may impact on the amount of POS per person for Stirling.

The suburbs of Yokine (three per cent, 6.3 square metres), Joondanna (three per cent, 5.7 square metres), Osborne Park (1.6 per cent, three square metres), North Beach (1.4 per cent, 3.5 square metres) and Wembley (0.2 per cent, two square metres) have the

lowest provision of POS by percentage and by area per person.

It is noted that Yokine contains a regional open space (ROS) which provides supplementary access to POS for residents in the south of the suburb. North Beach contains Charles Riley Reserve, an MRS-provided reserve, which also supplements LPS POS.

As such, priority for addressing POS gaps should consider the broader provision of POS across both MRS and LPS areas.

Overall, the City averages 11 per cent of POS with 24.6 square metres of POS per person.

Table 12: Assessment of POS area by percentage and population

Suburbs that have 10% or more POS and over 33.6m² of POS per person are highlighted in green.

Suburb	LPS POS area (ha)	Gross subdivisible area (GSA)	POS % of GSA	Latest census population (2016)	POS by m2 / person
Balcatta	52	252	21%	10,382	50.3
Balga	59	268	22%	12,685	46.3
Carine	28	175	16%	6,479	42.7
Churchlands	8	67	11%	3,387	22.9
Coolbinia	5	49	9.9%*	1,660	29.2
Dianella	70	598	12%	23,486	29.7
Doubleview	6	181	4%	8,404	7.6
Glendalough	1	29	3%	2,483	3.5
Gwelup	7	104	7%	4,539	16.2
Hamersley	23	152	15%	4,982	45.5
Herdsman	0	n/a	n/a	n/a	n/a
Inglewood	2	111	2%	5,674	4.1
Innaloo	18	151	12%	8,251	22.2
Joondanna	3	102	3%	4,836	5.7
Karrinyup	38	234	16%	9,283	41.1
Menora	10	52	20%	2,592	39.3
Mirrabooka	25	170	15%	8,110	30.9
Mount Lawley	3	159	2%	7,565	4.2
Nollamara	23	216	11%	11,570	20.3
North Beach	1	84	1.4%	3,410	3.5
Osborne Park	1	78	1.6%	4,120	3
Scarborough	19	284	7%	15,467	12.3
Stirling	58	177	33%	9,676	60.0
Trigg	2	69	2%	2,794	5.6
Tuart Hill	11	135	8%	7,012	16.1
Watermans Bay	2	38	5%	1,281	14.4
Wembley	0.1	24	0.2%	791	0.7
Wembley Downs	11	159	7%	6,321	17.2
Westminster	10	130	8%	6,203	16.8
Woodlands	13	107	12%	4,145	31.1
Yokine	7	248	3%	11,542	6.3
City total	517	4,605	11%	209,084	24.7

POS provided under the local planning scheme only.

Figures for Mount Lawley and Wembley include population within the City’s boundary only.

Total POS and percentage figures are shown rounded to the whole number were applicable. Coolbinia suburb’s percentage is 9.9% when rounded to one decimal place and hence counted as under the 10% provision. Gwelup is 10.2% and counted as over 10%.

GSA is consistent with LPS3 and will be reviewed in line with LPS4 and DPLH methodology.

Table 13 shows the change over time in access to POS provided through the local planning scheme. The percentage of decrease is similar to the impact to the total POS per person (Table 6), with the biggest decline by percentage being Wembley and Glendalough (-35 per cent) followed by Scarborough (-27 per cent). Overall, the City is projected to experience a decline of available POS by an average of three square metres per person Citywide.

Table 13: Reduction of local planning scheme (LPS) POS per person (2016 – 2031)

Suburbs with over 33.6m² of POS per person are highlighted in green.

SA2 level	LPS POS area (ha)	2016 Census data		2031 projections		Reduction in LPS POS per person 2016 – 2031	
	ha	Population	m² / person	Population	m² / person	m² / person	%
Balcatta	52	10,382	50.3	10,802	48.3	-2	-4%
Hamersley	23	4,982	45.5	5,183	43.8	-2	-4%
Balga	59	12,685	46.3	13,637	43.0	-3	-7%
Mirrabooka	25	8,110	30.9	8,719	28.8	-2	-7%
Dianella	70	23,486	29.7	25,249	27.6	-2	-7%
Innaloo	18	8,251	22.2	9,644	19.0	-3	-14%
Doubleview	6	8,404	7.6	9,823	6.5	-1	-14%
Karrinyup	38	9,283	41.1	11,551	33.1	-8	-20%
Gwelup	7	4,539	16.2	5,648	13.0	-3	-20%
Carine	28	6,479	42.7	8,062	34.3	-8	-20%
Mount Lawley	3	7,565	4.2	8,140	3.9	-0.3	-7%
Inglewood	2	5,674	4.1	6,105	3.8	-0.3	-7%
Nollamara	23	11,570	20.3	14,557	16.1	-4	-21%
Westminster	10	6,203	16.8	7,838	13.3	-4	-21%
Scarborough	19	15,421	12.8	20,200	9.4	-3	-24%
Stirling	58	9,676	60.0	11,310	51.3	-9	-14%
Osborne Park	1	4,120	3.0	4,816	2.6	-0.4	-14%
Trigg	2	2,794	5.6	3,649	4.2	-1	-23%
North Beach	1	3,410	3.5	4,453	2.7	-1	-23%
Watermans Bay	2	1,281	14.4	1,673	11.0	-3	-23%
Tuart Hill	11	7,012	16.1	8,196	13.8	-2	-14%
Joondanna	3	4,836	5.7	5,653	4.9	-1	-14%
Wembley Downs	11	6,321	17.2	7,388	14.7	-2	-14%
Churchlands	8	3,387	22.9	3,959	19.6	-3	-14%
Woodlands	13	4,145	31.1	4,845	26.6	-4	-14%
Yokine	7	11,542	6.3	12,420	5.8	-0	-7%
Menora	10	2,592	39.3	2,789	36.5	-3	-7%
Coolbinia	5	1,660	29.2	1,786	27.1	-2	-7%
Wembley	0.1	791	0.7	1,233	0.5	-0.3	-36%
Glendalough	1	2,483	3.5	3,870	2.2	-1	-36%
All LPS POS	517	209,084	24.7	243,200	30.6	-3	-14%

4.5 POS contribution and cash-in-lieu

The provision of POS or cash-in-lieu (CIL) for residential areas is governed by the DPLH’s Development Control Policy 2.3 POS in Residential Areas (DCP 2.3). It is noted that the DCP 2.3 is subject to a comprehensive review. However, the City must still align CIL contribution requirements with this policy until such time that it is updated or advised otherwise.

In conjunction with the requirements set in DCP 2.3, the City will continue to undertake a holistic assessment of subdivision and CIL submissions in line with the previously identified POS provision assessment process.

4.5.1 Subdivision of five lots or less

A subdivision of five lots or less doesn’t necessarily require a cash-in-lieu contribution. However, DCP 2.3 specifies that cash-in-lieu can be requested under certain conditions. Along with other conditions within the DCP 2.3, the DPLH have confirmed that cash-in-lieu should be requested in localities where a deficiency or potential deficiency of POS has been identified. The primary way of determining this deficiency, in line with DPLH requirements at this current time, is the 10 per cent standard for the suburb.

In the event of managing disputes to a POS CIL contribution, the City will utilise information on the 400 metre walkable catchment provision and future projected provision in line with relevant impacts such as high-growth areas, activity centres and evidence of ongoing urban infill.

4.5.2 Strata titles

Development Control Policy 1.3 Strata Titles (DCP1.3) provides general requirements where land for public purposes such as POS can be ceded to the Crown free of cost. This is due to the increased scope for use of strata schemes resulting in land being divided in a manner similar to a conventional subdivision.

Section 3.3 of DCP 1.3 states that for proposals involving more than a small number of lots, a contribution may be required from the WAPC towards the provision of public facilities such as POS. A maximum allowance of up to 50 per cent of the total 10 per cent may be permitted as communal open space if it provides a usable function for general recreation. The remainder may be provided outside of the subdivision or by way of CIL.

A strata title development of five lots or less doesn’t necessarily require cash in lieu contribution. However, like a subdivision of five lots or less cash in lieu can be requested under certain conditions.

Consideration should be given to DCP 1.3, particularly in suburbs of poor access or low amount of POS, where appropriate for POS contribution.

4.5.3 Expenditure of cash-in-lieu

The expenditure of cash-in-lieu is subject to the conditions set within the DCP 2.3. Generally, any expenditure is required to be on land vested with the local government for management, be freely available for public use, have no entry or membership requirement, and have no other access or use restrictions. It also needs to be consistent with the Position Statement: Expenditure cash-in-lieu of POS (2020).

The position statement states that cash-in-lieu funds may be used in the following manner:

- For the purchase of land for parks, recreation grounds or open spaces generally, in the locality in which the subdivision is situated
- In repaying loans raised by the local government for the purchase of such land
- With the approval of the minister for planning, for the improvement or development as parks, recreation grounds or open spaces generally of any land in the said locality vested in or administered by the local government for any of those purposes.

In addition, the land must be managed for recreation purposes and be for uses to which the public has unrestricted access. Land held in fee simple by local governments should be reserved for public recreation or civic and community purposes within local planning schemes.

Acceptable expenditure of cash-in-lieu funds may be for basic items such as seating, spectator cover, toilets, landscaping and earthworks, changerooms, lighting, play equipment, pathways, car parking or signs relating to recreational pursuits. Other examples may include proposed development which:

- Provides for a range of functions
- Aligns with adopted strategic planning documents such as POS Strategy
- Improves access to and functionality of open spaces within the reserve

- Promotes the safe use and enjoyment of open spaces
- Preserves and enhances ecological systems and biodiversity
- Establishes or enhances a community’s sense of place.

The use of cash-in-lieu is not typically accepted for facilities where access by the public is restricted or associated with a fee. Examples of these are community halls, recreation centres, enclosed tennis courts, bowling clubs and private club facilities.

It is noted that cash-in-lieu expenditure can only occur within the locality (suburb) of the subdivided lots from which the cash-in-lieu contribution came and where the subdivided lots are seen to benefit from the expenditure.

The distance and location of the cash-in-lieu expenditure to the subdivided lots may depend on the type of POS and expenditure. For example, low-cost local POS expenditure should be within a walkable catchment as per the local classification. Alternatively, the expenditure may occur on purchasing or improving a large POS within the relevant catchment to the subdivided lots, such as a community or district open space.

Access is an important consideration in determining a POS contribution as the subdivision needs to be reasonably located with reasonable access to surrounding POS. As such, major barriers need to be considered such as significant roads, commercial areas, public transport options and large bushland areas.

In some instances, cash-in-lieu may be considered for expenditure on POS reserved for parks and recreation under the MRS. This may be in instances where there is not suitable local POS within the subdivision catchment or the MRS reserve will provide for the best use of cash-in-lieu to meet local recreational needs.

Any use of cash-in-lieu on MRS reserves will require consideration based on circumstances and merit, with the Minister for Planning making the final determination.

The Strategy will guide expenditure through strategic investment of cash in-lieu in line with local POS planning and community infrastructure planning.



5. Assessing public open space

5.1 POS methodology

As infill developments and urban renewal projects occur across the City, many of the areas traditionally made up of large blocks and single houses are gradually replaced by higher-density areas. This shift in dwelling type increases the housing density while subsequently decreasing the amount of POS available and accessible to each person. In some areas, this is already occurring.

Historically, new subdivisions used the POS standard developed by Stephenson-Hepburn Report (1955) which revolves around a 10 per cent provision of the gross subdivisible area. This percentage provision is often measured at a suburb level for ease and consistency of application. However, suburbs are made up of residential areas and localities often delineated by road barriers, commercial precincts, schools, landmarks and sometimes socioeconomic and cultural variances.

Suburbs are also not uniformly developed, with higher densities often concentrated around activity centres and corridors. See Part 4 for further discussion on the application of the Stephenson-Hepburn POS standard.

Contemporary views are that POS standards are best set locally (Veal, 2013) to cater for the varying characteristics of different places. Standards set at a broader level cannot cater for local circumstances such as differences in demographics, walkability of neighbourhoods and the extent of urban infill and development in an area.

The City follows a three-step POS assessment process which is guided by three key measures of adequate POS. These three key measures with an example of key questions are shown in Table 14.

Table 14: Key measures of adequate POS

Key measures	Example questions
Quantity	<ul style="list-style-type: none">• How much POS is in my local area?• How much POS will there be in the future?
Access	<ul style="list-style-type: none">• Can I walk to a POS?• What other POS can I reasonably access?• Are there any barriers I face trying to access POS?
Quality	<ul style="list-style-type: none">• What classifications of POS are near me?• What functions do the POS perform?• Is the infrastructure in the POS able to meet that function?

Figure 19: POS assessment process



The POS assessment process (Figure 19) still recognises the current application of the Stephenson-Hepburn 10 per cent POS standard while balancing other key considerations to meet the needs of local communities.

Within step one, the City will consider the current POS provision at a suburb level (percentage and area per person) and what is available within the 400 metre walkable catchment. It will also identify access to different classifications of POS within the relevant catchment areas (eg, 800 metres for a community open space). It is important to consider both percentage, area per person and walkability as not all suburbs or local areas will develop and grow at equal rates. For example, a suburb with density growth may have a high percentage of POS but a low amount of POS per person.

The second step is essential and overlays the local area's characteristics. It is vital to consider how POS has been distributed across the suburb, whether there is access to different POS functions and recreational amenity, how the local

demographics may influence POS needs and if there are any barriers to accessing POS. For example, a suburb may have larger portions of POS located to the north, creating an imbalance of access to POS in the south.

The final step considers the future projected POS provision and possible impacts. This includes determining POS provision per person based on population projections, future structure planning or development areas, and consideration of any future community needs and industry trends. It is realistic to assume that most suburbs will see a decrease in POS per person as population increases within the same land area if the area of POS remains the same. However, some areas may have faster rates of growth or be further impacted by key activity corridors and precincts.

The process mapped in Figure 19 will assist with any assessments relating to POS as applicable. These may include but are not limited to:

- New POS provision (eg, structure plans and community infrastructure plans)

- Applications requiring consideration of POS such as green title, survey strata, strata plan, subdivision and community title plans
- Cash-in-lieu assessments
- Change of use requests (ie, leased space to public space)
- Upgrading POS classifications
- Development of existing POS
- Acquisition and disposal of POS.

It is recognised that in many built-up areas, new POS may be difficult to acquire and traditional POS form, particularly in the short-term, may not be achievable.

This Strategy's approach, however, will consider how the City can sustainably meet the community's needs by identifying gaps in provision, justifying POS recommendations, guiding future planning and being a catalyst to rethink how the community uses POS.

5.2 Addressing gaps in POS

The City is in a challenging position to balance growth with maintaining access to quality POS, in order to achieve healthy and liveable communities. Currently, the only official standard for POS is the WAPC's recommended 10 per cent of the gross subdivisible area. However, it is apparent that this standard is not an adequate method on its own to assess the future needs of the City's community.

As such, the City includes this measure within the three-step assessment process previously discussed.

Once gaps in POS provision have been identified, the City can look at opportunities to improve POS provision. This may be through addressing distribution, equity of activities or infrastructure, availability of space, considering shared use partnerships or by diversifying functional needs (Table 15).

Given the City is largely developed, relying solely on new subdivisions to increase POS is not realistic. Likewise, the ongoing acquisition of sufficient land to address any gaps in POS, especially with a growing population, will be difficult. The City must consider a range of strategies and work with the local communities to maintain and improve access to quality POS.

Table 15: Addressing gaps in POS

Opportunity	Discussion
New POS	This is new POS as part of a subdivision in line with the DCP 2.3 and the <i>Planning and Development Act 2005</i> . The Strategy advocates for POS to be considered early in the subdivision process to ensure quality POS is provided and that the functional needs of the community are considered.
Cash-in-lieu	In certain circumstances, the Planning and Development Act 2005, DCP 2.3 allows for POS to be provided as cash-in-lieu as opposed to setting aside a portion of land. Funds gathered through cash-in-lieu can be used to improve the provision or quality of POS in the said locality. Cash-in-lieu is generally consented to by the WAPC via the subdivision process. DCP 1.3 also provides position on POS provision requirements.
Acquiring POS	The acquisition of POS can be an extensive and costly process and is considered on a case-by-case basis. It may be considered in circumstances where land becomes available and there is a strong and clear demonstrated need for POS. It is important to identify possible acquisition opportunities early in the process to prevent loss of suitable land to fill POS gaps.
Upgrading POS classification	Upgrading a POS from local to a community classification can be considered. This upgrade is to meet a gap in POS provision, activities or function by increasing the catchment and capacity of an existing POS. Any identified upgrade would require community engagement and integrate with the City's capital works program.
Shared use	Consideration may be given to supplementing gaps in POS through shared use of like facilities such as school ovals.
Multi-purpose sites	Recreational functions and activities can be incorporated into civic spaces such as plazas or squares, particularly in high-density areas or where there is a mix of commercial and residential land uses in the one development. Along with adding recreational value, these spaces should provide for place activation and social interaction. They may be repurposed from other land uses such as road reserves and carparks and can be negotiated through planning schemes, structure plans and development applications.
Development of existing POS	It is important that existing POS is at a quality standard to accommodate the needs of the community. This is regardless of how much POS is available. The Strategy acknowledges the City's park renewal and asset replacement programs, which can accommodate POS improvements.
Transforming spaces	The shortfall of traditional POS is a realistic prospect for many areas across the City as population increases over time. The City will need to expand the ideas of how to continue providing the benefits of POS for the City's communities. Embracing innovations and non-traditional spaces will need to be considered while ensuring the integrity of the POS network is not compromised. For example, this may require a change in how streetscapes are viewed, drainage sump conversions where practical, better use of shared spaces in apartment and strata living and even vertical or rooftop green spaces.

The Strategy establishes the overarching framework to guide future planning and provision of POS. Given the expansiveness and variety of POS across the City, detailed recommendations on individual areas or POS have not been provided within the Strategy.

As recognised by the Strategy, the City's local communities have varying characteristics and needs which require more consideration than a blanket application across all areas. Addressing gaps in POS provision also requires long-term consideration depending on the most suitable approach. For example, acquiring POS can be a lengthy and indeterminate process particularly in a high-density residential area compared to improving existing POS or transforming spaces.

As such, the Strategy provides the POS framework and methodology which will be applied at a localised level to develop suburb-based POS plans.

The localised POS plans will include:

- Review of current POS provision from a percentage and square metres approach as per the Strategy
- Community demographic analysis
- Review of current and projected population and density
- Assessment against the key principles including quality, diversity and accessibility in line with POS catchments
- Detailed mapping which will identify each classification of POS along with the type of functions available to the community to assess the variety of POS available
- Consideration of the quality of POS and how this relates to the performance of the POS in meeting its core role and function
- Identification of any influencing factors within the suburb that may impact POS provision.

This information will enable the City to identify current and future gaps in provision. Localised POS improvement plans are being progressed and will include a range of strategies to address any identified gaps as per Table 15. These plans will include engagement with Council and the broader community.

5.3 Community engagement

To achieve positive results in planning for and providing POS, it is important to embrace multi-disciplinary planning, cross-sectional collaboration and community engagement.

The World Health Organisation (2017) suggests embedding these elements in the planning process is essential in delivering a variety of functional opportunities. Specifically, "...when a physical improvement to the green space is coupled with a social engagement/participation element to promote the green space and reach out to new target groups" (WHO, 2017).

Engaging with the community is an essential part of POS provision and upheld in the Strategy. The City is committed to communicating and engaging with our diverse community openly and inclusively to make sure they can participate in decision making that impacts them. Any community engagement relating to POS will be guided by the City's Community and Stakeholder Engagement Policy and guidelines.



6. Outcomes

The Strategy has been reviewed to align with key industry documents while also recognising the need for flexibility and local consideration when planning for future POS provision.

The Strategy will guide ongoing decision making within the City to provide an equitable and accessible network of quality POS for the Stirling community. As a result of analysing the City's current POS provision, it was noted that 43 per cent of suburbs meet the minimum requirement set by the WAPC of 10 per cent POS of the gross subdivisible area. When converting this to a representative area per person, just 27 per cent of suburbs meet the minimum 33.6 square metres of POS per person.

The next step for the Strategy is to guide local POS planning so that the community's needs can be considered at a local level and be reflective of the community's characteristics.

Several key challenges have emerged from the Strategy which will drive the future outcomes and recommendations for addressing POS in the City. These key issues are listed over the page in Table 16 with key responses recommended.



Table 16: Key challenges and responses

Key challenge: The current measure of POS is based on a single percentage approach applied uniformly to a whole suburb, which does not consider distribution, access or quality.		
#	Response	Timeframe
A	Develop localised suburb-by-suburb POS plans	Short
B	Undertake POS assessments in line with the identified process in this Strategy to ensure all aspects are taken into consideration	Ongoing
C	Advocate to the WAPC for review of current standards, particularly for high-density areas and cash-in-lieu contributions	Medium / long
Key challenge: Several suburbs have been identified as having under the recommended amount of POS		
#	Response	Timeframe
A	Address individual suburb deficiencies thorough the development of localised suburb-by-suburb POS plans	Short
B	Identify gaps in POS and options for addressing POS deficiencies	As above
C	Undertake strategic planning into investment opportunities of cash-in-lieu	Short / medium
D	Advocate to the Department of Education and the Department of Local Government, Sport and Cultural Industries for a review and improvement of policies regarding shared-use outcomes between local schools and local government	Short
E	Prioritise the retention of existing POS	Ongoing
Key challenge: Projected population increases and associated impacts of increasing density and urban infill are resulting in less POS by area being available per person (if POS remains the same).		
#	Response	Timeframe
A	Advocate to the WAPC to investigate options to provide additional POS through the Metropolitan Regional Scheme As the WAPC have set the population targets, it is important to reassess the POS requirements within the regional planning framework	Medium / long
B	Advocate for POS impacts to be considered when residential areas are being considered for rezoning to allow for early identification of impacts and possible solutions	Medium
Key challenge: Community demands and expectations are growing, with increasing value being placed on access to quality POS and associated infrastructure.		
#	Response	Timeframe
A	Ongoing community engagement to understand the community's POS needs and to educate how the City is providing quality POS through localised planning	Short / medium
B	Monitor and review changes in the community and emerging industry trends	Ongoing

Progress of the Strategy will be continually monitored and will aligned with the City's reporting requirements. The Strategy will also be reviewed in line with changes in community profile data or updated statistics when available, such as the 2021 Census and state population and density forecasting.

Localised suburb-by-suburb POS plans, identifying amenity improvements and addressing provision deficiencies are being progressed as a matter of priority for Council consideration and adoption.

The Strategy will be reviewed at five years for any minor amendments and formally revised at 10 years. This is to ensure the strategic intent and principles of the Strategy are still relevant to the City's community. Minor amendments may also be made at the time updated statistics are available, such as population, changes in POS or policy framework.





7. Appendices

7.1 Alignment with key strategies and plans

City of Stirling Local Planning Strategy

The City of Stirling Local Planning Strategy (LPS) sets the long-term planning direction for the City. In relation to POS, the LPS highlights how a rapidly growing population will result in the reduction of POS per person while the area by suburb remains the same. This will present the City with challenges on providing sufficient POS.

Traditionally POS is determined as a percentage of the total residential area. The benchmark was established under the Plan for the Metropolitan Region Perth and Fremantle (1955) and based off the Stephenson-Hepburn ratio of 3.36 hectares of POS per 1,000 population. This benchmark does not account for increases in residential housing density over time, however. The LPS notes that from 2004 – 2014, the City's population increased by approximately 50,000 people with minimal increase in land area.

The LPS provides the POS percentage and area within the City's suburbs. These figures differ from the POS area and percentages provided by the Strategy. This is because the Strategy excludes spaces required to be deducted to ensure accurate determination of the 10 per cent calculation and POS area per person calculation. These include deductions such as natural conservation areas, coastal foreshore, regional open spaces and recreational facilities. Future iterations of the LPS will look to align with the Strategy regarding the percentage of POS. The localised suburb POS plans will also further address the POS figures.

Structure plans

The City currently has several structure plans and planning projects which generally include consideration of POS provision. Current projects include Stirling City Centre Structure

Plan (2014), Better Suburbs (2020), Mirrabooka Town Centre Structure Plan (2015), Scarborough Beach Road Activity Corridor and Herdsman-Glendalough Structure Plan. These projects can be catalysts for significant changes to population and density which in turn will impact on how POS is provided, and hence an integrated approach is required.

The Stirling City Centre Structure Plan (adopted in 2014) for example, along with the Herdsman Glendalough Structure Plan area, will form Perth's largest activity centre outside of the Perth central business district (CBD). Specifically, the Stirling City Centre will become intensely developed with the intent to transform the area into a 'city for people'. This includes the transformation of the transport system from a vehicle-dominated experience to one that is focussed on pedestrians, cyclists and public transport.

Included within these structure plans is the proposed configuration and distribution of POS across the structure plan area. It centres around a linear green corridor which will also accommodate drainage (beautified to improve aesthetics), cycling and pedestrian linkages, the retention of some existing POS, and new POS. New civic squares are also proposed.

These structure plan areas will be increasing the local area population dramatically through multi-storey development and higher density without an equal rate of increase in land availability. This in turn will increase pressure on existing POS in these structure plan areas and surrounding POS and will require new POS to accommodate this growth.

Providing enough POS for such intensive growth is difficult. For example, in the Stirling City Centre, the biggest increase in population is projected to be in the station precinct of the structure plan with a minimum of 5,245 people. Depending on what

measure of POS is used (percentage of gross subdivisible area or area per person) this will give a different outcome. Currently, the structure plan allows for a minimum of 10 per cent POS (current WAPC standard) at approximately 12 hectares. If area per person is used (at 33.6 square metres per person), the minimum POS requirement for this area based on the minimum population projection would be 17.6 hectares. As such, it will be important to ensure there is a reasonable provision of POS that considers future community needs and delivers functional POS for the community.

As the structure plan is focussing on pedestrian movements and public transport, the POS within the structure plan should be well connected to allow walkable access to a diverse range of activities and functions. This includes access to POS which provides for recreation space (eg, barbecues, picnic areas, open grassed areas), nature space (eg, trees, nature play) as well as sporting space (eg, senior sporting ovals). With a lack of backyards, increased importance will be placed on areas for social interaction, large gatherings, children's play, dog walking, and green relief to escape the urban form. The structure plan currently proposes a mix of local-level open spaces, community-level spaces and one district-level open space.

City of Stirling Urban Forest Plan

The Urban Forest Plan (2019) states that the City is currently losing four times more canopy than it is growing each year. If this loss continues at its current rate, the City will not be able to recover back to present levels until 2030. This is because trees take time to grow and it may be 30 years until a new tree can replace a removed mature tree. It is predicted that in 10 years' time, suburbs with high rates of development are predicted to lose up to 85 per cent of the residential

canopy that existed in 2012. This is due to many residential developments utilising the whole site and using hardscaping for outdoor space, with limited ability to plant trees.

POS performs an important role within the City’s Urban Forest Plan as it contains the highest proportion of canopy cover (24 per cent) compared to other land uses. Suburbs with higher rates of canopy cover often have more POS and/or lower-density housing. As such, areas identified as having low POS with an increasing density are more at risk of low canopy cover and canopy cover loss.

The City has set an 18 per cent canopy cover target by 2040. This includes actions such as retention of existing trees and planting more trees. The Strategy works in collaboration with the Urban Forest Plan through the retention of existing POS and supporting the provision of new POS where needed. The Strategy also looks to support a balanced approach to providing POS which serve recreation, sport and nature space functions. Trees within POS are a vital component and provide a range of tangible and intangible benefits such as shade, nature play and education, green relief, visual amenity, food and homes for wildlife and mental health benefits.

Classification Framework of POS, Department of Local Government, Sport and Cultural Industries

The Classification Framework for POS (Framework) was developed to address the lack of clear and consistent terminology and definition when planning for POS. The Framework is intended as a peer-reviewed cross-industry document which also looks to inform high-level policy, urban planning practice and open space elements in Liveable Neighbourhoods.

The Framework highlights the gap in the Liveable Neighbourhoods regarding the diversity of open space function within neighbourhood planning. As such, the application of Liveable Neighbourhoods has resulted in an imbalance in some areas, with smaller open spaces being favoured as opposed to POS that can accommodate organised sport.

To address this, the Framework identifies three main functions of POS. These are sporting space, recreation space and nature space. These functions are found within the four main classifications of POS, being local, neighbourhood, district and regional open spaces.

The City has looked to align with these classifications but has retained the classification ‘community’ instead of ‘neighbourhood’. The descriptions and purpose of a community open space and neighbourhood open space are the same. However, a name change would cause confusion among residents given the length of time that ‘community’ as a classification of POS has been used.

New to the Strategy is the inclusion of different POS functions. These had been previously referred to but have now been included into the POS framework and strengthened in line with the Framework. These elements have previously been discussed in Part 4.

Development Control Policy 2.3 POS in Residential Areas, Department of Planning, Lands and Heritage

The basic component of this policy is the requirement of 10 per cent of the gross subdivisible area of a conditional subdivision will be given up free of cost by the subdivider for POS. As mentioned previously, this 10 per cent requirement is derived from the Stephenson-Hepburn Plan of 3.36 hectares per 1,000 population. This

standard in turn was made based on a uniform density of 30 persons per hectare. It is noted that the policy is subject to a comprehensive review however at this time, the 10 per cent requirement is the primary method of determining sufficient POS in a locality.

The policy looks to ensure that all residential development is complemented by adequate, well-located areas of POS which provide for the recreational needs of residents. It sets general requirements for what is included within the gross subdivisible area on which the POS requirement is assessed. It also sets provisions for cash payment in lieu of providing land for open space, known as cash-in-lieu. It also sets out the conditions for how the cash-in-lieu is to be expended.

Position Statement: Expenditure of cash-in-lieu of POS, Department of Planning, Lands and Heritage

A position statement for the expenditure of cash in lieu for POS was developed to provide additional guidance in conjunction with the Development Control Policy 2.3. This includes more information on where cash-in-lieu funds can be spent and what they can be spent on.

Use of cash-in-lieu to improve POS provision for the community will be guided by the Strategy and future POS planning. The position statement states that cash-in-lieu funds can only be expended within the locality of the newly subdivided lots and where these local areas are seen to benefit from this expenditure. Determining the location and distance of POS to achieve that benefit for the subdivision will be considered based on the POS framework and assessment process outlined in the Strategy. This includes consideration of size, scale, form and function of new POS or POS improvements.

7.2 POS challenges and considerations

Challenge	Explanation
Finite resources	<p>The impact of forecast climate change in rainfall, temperature and hydrological cycle as well as reduction in groundwater availability will impact the quality of POS and hence how the City meets recreational outcomes. Not all POS can be irrigated, with the City maintaining a range of both irrigated and unirrigated spaces. As such, water-sensitive design is used to balance demand and water conservation while ensuring POS are functional and usable by the community. Groundwater allocations to City groundwater licences are expected to reduce by 10-15 per cent. The City’s Watersmart Parks Strategy and Waterwise Council Action Plan 2021 – 2026 seek to address securing water supplies for POS by amalgamating groundwater licences to ensure more equitable allocation of water. They also set specific water goals, vision and consumption targets.</p> <p>The City of Stirling, along with other inner-city councils, is largely developed and has reduced capacity for additional land for POS. New opportunities come in the form of small structure plans and POS needs to contend with other land uses. It’s important that any new POS options are identified early in planning processes and existing POS is retained and managed appropriately.</p>
Suburban to urban: Density and infill	<p>Current housing types across the City are dominated by single detached dwellings in ‘residential R20’, ‘R30’ and ‘R40’ zoned areas. However, many homeowners are subdividing or building grouped dwellings. Although this has enabled housing supply to keep pace with demand, most growth is occurring within backyards or through the redevelopment of larger lots into small strata complexes. Unintended consequences have been experienced as houses remain large and lot sizes shrink in effect, reducing the amount of private open space and particularly green space. It is noted that currently there is no levy for a POS requirement for built strata subdivisions or group dwellings.</p> <p>It is noted that the City has seven of the 10 densest suburbs in Perth, being Tuart Hill, Joondanna, Scarborough, Innaloo, Doubleview, Nollamara and Westminster. This type of residential development coupled with 47 per cent infill targets (Perth and Peel at 3.5million) for the Perth Metropolitan area has placed and will continue to place increasing pressures on existing POS to serve greater recreational functions.</p>
Demand and capacity	<p>With increasing population, higher densities and smaller backyards comes increasing demand for use of POS by a variety of users for a broader range of activities. Backyard-dominant activities such kick-to-kick, backyard cricket, children’s play, family barbeques and large gatherings are shifting to POS.</p> <p>In conjunction, the City has limited sporting spaces, which are under increasing pressure from sporting clubs due to the number of players as well as expanding times of use. This includes both extended hours (eg, opening evenings for match play) and expanded out-of-season and off-season activities. This has flow-on impacts which require management, such as light and noise spillage for residents, traffic implications and increased turf maintenance.</p> <p>As usage increases, so does the expectation that the POS can be maintained to a community standard and that adequate facilities are provided to support these uses. Demand has been increasing for infrastructure such as picnic tables, diverse play space, scooter trails, barbeques, public toilets, mountain bike trails, dog facilities, lighting and parking. Sporting clubs are also requesting improved floodlighting and clubrooms facilities.</p> <p>The challenge is in balancing the diverse needs of the community to ensure flexibility is built into the form and spaces are not overdeveloped to ensure retention of the green space benefit.</p>

7.2 POS challenges and considerations (continued)

Challenge	Explanation
Participation shift	<p>It has been identified that people are undertaking more informal recreational activities such as cycling, walking and running, whilst organised and team sports have held constant or declined (CSIRO, 2013).</p> <p>Coupled with smaller backyards, this change in participation is placing pressure on POS and associated infrastructure to support more informal and ad hoc activities. This can be seen in the growth of walking path connections, bike paths, lighting, dedicated dog facilities and space for personal trainers.</p> <p>Destination play spaces and intergenerational spaces for families have grown more popular as people continue to look for outdoor experiences.</p> <p>Greater emphasis has also been placed on the importance of outdoor play and nature play for young children and the mental health benefits of nature for adults. There has been growing interest and demand for nature-play-style opportunities and balancing accessible nature spaces with developed areas as well as restricted conservation areas.</p> <p>In the context of the global pandemic, staying active during lockdown was highly encouraged by multiple agencies, including the state and federal governments, given the flow-on negative health impacts of remaining sedentary. Outdoor activities that permitted social distancing and prevented lengthy stays in one location were favoured. Activities permitted for outdoor recreation (as opposed to at home) included walking, jogging, riding a bike or scooter and kicking a ball at an oval.</p>
Aging population and lifelong activity	<p>The City has a high percentage of people aged over 65 years compared to the broader Perth metropolitan area. As the population continues to age, this percentage is forecasted to increase to 26 per cent by 2031. Providing opportunities for the City’s aging population to participate in lifelong physical activity and recreational pursuits is important for both the physical and mental health of the community. How our aging population recreates is also changing. More older people are providing childcare for grandchildren and are less inclined to spend entire days within bowling or sporting clubs. Many are also more active outdoors, with cycling and walking popular. As such, POS needs to be able to respond to how people want to use spaces through different life stages and to reduce barriers to participation. Barriers could include accessibility, education and proximity to inclusive facilities</p>
Risk Perception	<p>Previously, the provision of community infrastructure (such as playgrounds) has looked to design out risk to reduce the chance of injury. However, this perception has changed with demand growing for more adventurous and challenging play designs and features of POS. Having a level of inherent risk should not, however, be confused with something being unsafe. There remains a need to balance risk as part of decision-making processes.</p>

7.3 POS Future considerations

Observation	Comment
Increased value of POS	<p>There appears to be a greater mainstream awareness and acknowledgement of the importance POS plays in the health and well-being of communities, both socially, physically and mentally. This was further highlighted as POS became focus points for essential exercise and activities with the closure of indoor leisure facilities, gyms and national parks (Barker and Smith, 2020).</p> <p>The ability to disconnect, slow down and give time for self-care is important. POS intrinsically provides spaces where people can have an emotional and mental break from the day-to-day, connect with nature and find renewed sense of purpose.</p>
Importance of local access	<p>Contributing to the increased value of POS has been the requirement to stay local during lockdown stages. This has accentuated any unequal distribution of POS, function or service within the local area. Individuals who travel further than their immediate catchment to access functions or activities in other POS would no longer have this option (Barker and Smith, 2020). The variations in availability and quality of POS would disadvantage certain neighbourhoods. Of particular concern would be households which do not live within the walkable catchment (400 metres) to any type of POS or vulnerable individuals who need special facilities (eg, adult change facilities). Creative and localised consideration is important in these scenarios to maintain equity of access to the benefits that POS can provide.</p>
Technology opportunities	<p>In line with the growth of cycling and walking, technology expanded quickly to keep people connected as well as active during the global pandemic. POS along with other public spaces such as national parks, coral reefs and museums became more accessible through virtual tours. Not only did it keep lockdown communities in touch with places, it opened a new outdoor world for people with disabilities and accessibility difficulties. Although virtual tours are not new, the number of locations expanded rapidly.</p> <p>Along with virtual tour opportunities to share the visual and mental experience of POS, augmented reality also presents an opportunity. As outdoor spaces, POS inevitably provide less risk and more space to accommodate social distancing requirements. POS can shift into art exhibits, children’s activities, educational programs and fitness classes using augmented reality. Technology is rapidly changing, and this is a space to watch for future POS experiences.</p>

7.3 POS Future considerations (continued)

Challenge	Explanation
Reclaiming streets as public spaces	<p>With a reduction in cars on the road, varying levels of POS and greater emphasis on local recreation, the streets have become focal points as places rather than just transit routes. Streets have provided important access to essential services as well as places for healthy activities in a climate where space is a commodity. Government agencies are responding with bold and creative ways to rapidly reshape streets to meet immediate health, social and financial needs of communities (National Association of City Transportation Officials, 2020).</p> <p>Many local governments are looking at programs to activate streets and verges with temporary closures for children to ride bikes and play. Further afield, places like Boston, Minneapolis and Oakland have banned through-traffic and opened streets for pedestrians and cyclists. This repurposing is to provide for greater use while maintaining social distancing for recreation and transit (Diaz, 2020).</p> <p>This shift shows not just a change in the needs of the community but also changing values and perspectives. As reliance on cars decreases, streets have evolved into important public realms that provide cycling and walking linkages between POS.</p>

7.4 POS Framework provision standards

Explanation

The tables below show the core and discretionary facilities that can be considered for each hierarchy classification of POS. If an item is not listed, then it is not generally provided. However, as trends shift the City will consider other needs on a case-by-case basis.

A discretionary facility requires an assessment to determine if it will be provided on a particular POS. This assessment is completed with consideration to:

- Relevant policy requirements (eg, Playground Policy, Public Toilet Policy, Barbeque Policy)
- Proximity of infrastructure on surrounding POS to minimise over-provision
- Suitability of infrastructure for the POS site characteristics
- Any operational, environmental and financial impacts.

Irrigation cannot be provided at all POS due to the volume of open spaces in comparison to water availability and water conservation efforts.

Outliers

The POS framework is not retrospective and not all parcels of POS will fit perfectly within these classifications. It is important to provide a clear distinction between inclusions and exclusions for different classifications of POS to guide informed decision making for current and future communities. This is to ensure consistency and equity of service across the City.

Any provision outside of hierarchy classification standards as outlined below needs to be adequately justified and approved. Consideration is also given to other influencing strategies and/or policies such as the Playground Policy or Skate and BMX Facility Strategy. There are a small number of circumstances in which infrastructure has been provided historically outside of the key provision standards (for example, a basketball hoop on a local park). These elements will be considered on a case-by-case basis and in consultation with the local community.

It is important not to undermine the role of the Strategy in providing fair and equitable provision for the City's community, but to recognise the need to be flexible and adaptable in managing change in community needs.



POS classification provision standards

Local open space	Key facilities	Discretionary facilities
<p>Purpose: Local spaces are typically small parklands that service the recreational needs of the local residential population, such as children’s play, dog walking and relaxation.</p> <p>The locations are generally in intimate settings with naturally shaded space and open grassed areas and may include local-level infrastructure such as bench seating, local-level playgrounds*, bins and path access. Other local level informal recreational facilities can also be considered to help deliver vibrant local parks for our community.</p> <p>Local spaces are important pockets of green relief particularly in areas of higher density with limited private open space and/ or concentrated populations. These spaces break up the urban form, contributing to local identity and providing a venue for social interaction at a personal level.</p>	<ul style="list-style-type: none">• Natural shade• Informal play area• Relaxation area• Bench seat• Path access (external/street)• Signage• On-street parking.	<ul style="list-style-type: none">• Local level playground• Nature play area• Internal path• Rubbish bins• Dog poo bags• Irrigation• Drinking Fountains• Turf/grassed areas• Additional seating area(s).
<p>Function: Recreation and nature spaces</p>		
<p>Size: 0.4 – 2.0 hectares</p>		
<p>Catchment: 300 – 400 metre walkable catchment (five to 10 minutes)</p>		
<p>Location:</p> <ul style="list-style-type: none">• Easily accessed by foot via safe pedestrian and cycle connections• Consideration given to physical barriers to accessing the POS (eg, cul-de-sacs, long street blocks, distributor roads and highways, natural barriers including steep topography, wetlands and bushland, undeveloped land and large private lots)• Frontage to one or two streets and it is preferable that adjacent residences face or side onto the park, providing opportunities for passive surveillance.		
<p>Timing of use: Local spaces are primarily for daytime use up until sunset.</p>		

Local open spaces contain the widest range of POS with many not matching the classification completely due to historic provision. Some local open spaces may be oddly shaped, too small or poorly located to reasonably accommodate all the key facilities. These spaces will be assessed on a case-by-case basis to determine the best use and function (ie, green relief, pocket park) depending on form and surrounding provision.

*Refer to 3.3 Specific considerations.

Community open space	Key facilities	Discretionary facilities
<p>Purpose: Community spaces serve as the recreational and social hub of a community. Residents of surrounding areas are attracted by the variety of features and facilities and opportunities to socialise.</p> <p>Community spaces can assist to engender sense of place and protect specific natural values by accommodating small nature spaces or lakes and rivers.</p> <p>They are generally large enough to provide for a variety of informal recreational uses such as playgrounds, dog walking, bike riding, skating/scootering, picnics and informal ball activities. As such, community spaces may have more noticeable infrastructure.</p> <p>Community spaces cater for approximately 800 metre walkable catchment and act as a destination for family groups by supporting longer-stay activities. They are generally located near food and beverage outlets and accessible by either walking, public transport or limited car parking.</p>	<ul style="list-style-type: none">• Natural shade• Turf/grassed area• Informal play area• Relaxation area• Bench seat• Path access (external/street)• Signage• On-street parking. <p>Plus</p> <ul style="list-style-type: none">• Major level playground• Informal recreational facilities (dependent on needs)• Internal path• Rubbish bin• Dog poo bags• Drinking fountain• Picnic table• Barbeque• Shelter structure• Bicycle rack• Power/water supply• Limited parking• Irrigation.	<ul style="list-style-type: none">• Nature play area• Lighting• Public toilet• Informal recreational facilities such as multi-use hard courts (basketball, netball), tennis hit-up wall, scooter/skate path• Bicycle paths• Small-scale community event areas• Outdoor exercise equipment• CCTV• Power/water supply.
<p>Function: Recreation and nature spaces</p>		
<p>Size: Two to five hectares</p>		
<p>Catchment: 800 metre walkable catchment</p>		
<p>Location:</p> <ul style="list-style-type: none">• Easily accessible to residents by safe pedestrian, cycle and public transport connections• Consideration given to physical barriers to accessing the POS• Central to surrounding neighbourhoods as a key part of identity in the area• Street frontage preferred on at least one local distributor or on or near intersections• Residential lots oriented towards community open spaces encouraging passive surveillance		
<p>Timing of use: District open space is used throughout to day into the late evening. They experience high use on weekends and community events are common.</p>		

District open space	Key facilities	Discretionary facilities
<p>Purpose: District spaces are principally designed to provide for organised formal sport.</p> <p>District spaces are significant open spaces that provide recreation space on the fringes of the sport spaces or when not in use for organised sport. In most cases, there is limited nature space, with the main nature attributes being large mature trees.</p> <p>District spaces serve large catchments with many people travelling to participate or spectate sporting events. These spaces are also utilised by nearby schools with some having the ability to host events.</p> <p>To accommodate a large variety of simultaneous use, district spaces require a significant infrastructure investment and maintenance regime to meet the required sporting standards.</p> <p>District spaces provide a significant visual break in the urban environment, particularly along major thoroughfares. They are serviced by public transport, walking paths and carparks.</p>	<ul style="list-style-type: none"> Natural shade Turf / grassed area Informal play area Informal recreational facilities (dependent on needs) Relaxation area Bench seats Path access (external/street) Signage On-street parking Local-level playground Internal path Rubbish bin Dog waste bags Drinking fountain Shelter structure Bicycle rack Power/water supply. 	<ul style="list-style-type: none"> Major or regional-level playground Nature play area Picnic area Barbeque Public toilet Informal recreational facilities such as multi-use hard courts (basketball, netball), tennis hit-up wall, scooter/skate path Other informal sporting facilities Bicycle path Event space Outdoor exercise equipment CCTV Lighting (community use and footpath) Dog exercise park Community facilities and associated infrastructure.
<p>Function: Sporting, nature and recreation spaces</p>	<p>Plus</p> <ul style="list-style-type: none"> Designated sporting field Clubroom facility and associated infrastructure Floodlighting Irrigation (sporting space) Carparking. 	
<p>Size: Five to 30 hectares</p>		
<p>Catchment: 1.5 – 2.5 kilometre catchment (can also serve the catchment of local and community POS if providing the same purpose).</p> <p>Location:</p> <ul style="list-style-type: none"> Location determined by resource availability and opportunities to utilise and/or protect POS Street frontage required for most of the perimeter Well-connected to major roads and public transport network High-use areas taken into consideration in relation to noise pollution and traffic flow for neighbouring residential areas Can be co-located with schools or other community facilities to create a community hub. 		
<p>Timing of use: District open space is used throughout to day into the late evening. They experience high use on weekends and community events are common.</p>		

Regional open space	Key facilities	Discretionary facilities
<p>Purpose: Regional spaces may accommodate important recreation and organised sport spaces as well as significant nature spaces for conservation. These may include environmental features such as water bodies.</p> <p>Regional spaces in the City have been vested by the Crown as regional reserves.</p> <p>Regional spaces serve one or more geographical or social regions and are likely to attract visitors from outside City boundaries. They also serve local residents' needs. As such, parking facilities and transport network connections are important.</p> <p>Regional spaces provide for the highest level of simultaneous use due to the nature of their very large size. As such, they can accommodate substantial facilities for organised sport, social interaction, relaxation and enjoyment of nature.</p>	<ul style="list-style-type: none"> All key facilities within local, community and district open spaces. <p>Plus</p> <ul style="list-style-type: none"> Public toilet (one minimum) Major-level playground (one minimum) Bicycle paths. 	<ul style="list-style-type: none"> Regional-level playground Nature play area or additional local-level playground Public toilet (additional) Informal recreational facilities such as multi-use hard courts (basketball, netball), tennis hit-up wall, scooter/skate path Other informal sporting facilities Event space CCTV Lighting (community use and footpath) Dog exercise park Community facilities and associated infrastructure.
<p>Function: Recreation, sporting and nature spaces</p>		
<p>Size: 30 – 80+ hectares (size is variable and dependent on function)</p>		
<p>Catchment: 2.5 kilometre catchment (can also serve catchment of local, community and district if providing same purpose).</p> <p>Location:</p> <ul style="list-style-type: none"> Already determined within the City with current regional reserves Allocated outside of structure planning process by the WA Planning Commission Determined by resource availability and opportunities to utilise and/or protect the POS Street frontage required for most of the perimeter Well-connected to major roads and public transport network High-use areas taken into consideration in relation to noise pollution and traffic flow for neighbouring residential areas. 		
<p>Timing of use: Regional open spaces are used throughout the daytime into late evening. Activities possible in buildings extend late into the night.</p>		

7.5 City’s regional, district and community POS

District open spaces

District open space name	Suburb	District open space name	Suburb
Grindleford Reserve	Balcatta	Millington Reserve	Karrinyup
Jones Paskin Reserve	Balcatta	Alexander Park	Menora
Macedonia Park	Balcatta	Dryandra Pendula Reserve	Mirrabooka
Rickman Delawney Reserve	Balcatta	Fragrant Gardens Reserve	Mirrabooka
Richard Guelfi Reserve	Balcatta	Mirrabooka Reserve	Mirrabooka
Roselea Estate District Reserve	Balcatta (future)	Hamer Park and Inglewood Oval	Mount Lawley
Barry Britton Reserve	Balga	Des Penman Reserve	Nollamara
Camberwell Park	Balga	Robertsbridge Reserve	Nollamara
Celebration Park	Balga	Woodchester Reserve	Nollamara
Fernhurst Reserve	Balga	Charles Riley Reserve	North Beach
Linthorne Park	Balga	Abbett Park	Scarborough
Princess Wallington Reserve	Balga	Butlers Reserve	Scarborough
Breckler Park	Dianella	Sheldrake Jardine Reserve	Stirling
Bennett Park	Doubleview	Grenville Reserve	Tuart Hill
Aintree Eglington Reserve	Hamersley	Robinson Reserve	Tuart Hill
Walter Road Reserve	Inglewood	AS Luketina Reserve	Wembley Downs
Wordsworth Reserve	Inglewood	Empire Avenue Reserve	Wembley Downs
Birralee Reserve	Innaloo	Ted Cross Reserve	Westminster
Yuluma Park	Innaloo	Woodlands Reserve	Woodlands
Karrinyup Reserve	Karrinyup	Reader Reserve	Yokine
Kevin Langdon Reserve	Karrinyup		

Community open spaces

Community open space name	Suburb	Community open space name	Suburb
Edith Cowan Reserve	Churchlands	Hertha North Reserve	Stirling
Majestic Noble Reserve	Dianella	Roselea Reserve	Stirling
Montclair Rise Estate	Dianella	Shearwater Spoonbill Kingfisher Reserve	Stirling
Munro Reserve	Doubleview	Stirling Civic Gardens	Stirling
Careniup Reserve	Gwelup	Clarko Reserve	Trigg
Pomarine Cinnamon Reserve	Gwelup	Watermans Bay Reserve	Watermans Bay
Rannoch Reserve	Hamersley	Pycombe Worthing Reserve	Westminster
Macaulay Park	Inglewood	Jackadder Lake Reserve	Woodlands
Millet Park	Innaloo	Native Dog Swamp	Yokine
La Grange Dongara Reserve	Innaloo	Knight Reserve	Yokine
Joondanna Reserve	Joondanna		
Newborough Tamblyn Reserve	Karrinyup		
Tamblyn Cousins Reserve	Karrinyup		
Copley Park	Mount Lawley		
Ron Stone Park	Menora		
Floribunda Reserve	Mirrabooka		
Hancock Karabil Reserve	Nollamara		
Tony Marcon Reserve	Nollamara		
Brighton Beach Reserve	Scarborough		
Scarborough Beach Reserve	Scarborough		
Antonio Scarfo Reserve	Stirling		

Regional open space name	Suburb
Carine Regional Open Space	Carine
Dianella Regional Open Space	Dianella
Lake Gwelup Regional Open Space	Gwelup
Yokine Regional Open Space	Yokine



7.6 Total POS by ward and suburb

Total POS (area and number) by ward

Ward	Total POS*		Local open space		Community open space		District open space		Regional open space	
	Area (ha)	#	Area (ha)	#	Area (ha)	#	Area (ha)	#	Area (ha)	#
Balga	110	86	45	71	3	3	63	12	0	0
Coastal	67	41	29	32	6	6	32	3	0	0
Doubleview	57	52	21	41	14	5	22	6	0	0
Hamersley	202	102	71	89	10	4	44	7	77**	2
Inglewood	103	71	42	65	5	2	33	3	23**	1
Lawley	113	66	25	55	7	6	27	4	54	1
Osborne	91	84	34	73	30	5	28	6	0	0
City total	745	502	267	426	75	31	249	41	154	4

**Includes both MRS and LPS-provided POS.*
***Relevant portions of regional open spaces which have EPP wetlands and bush forever areas have been subtracted from total in line with scope.*

Total POS (area and number) by suburb

Figures rounded to whole number unless the figure is below 1

Suburb	Total POS		Local open space		Community open space		District open space		Regional open space	
	Area (ha)	#	Area (ha)	#	Area (ha)	#	Area (ha)	#	Area (ha)	#
Balcatta	52	38	13	32	-	0	39	6	-	0
Balga	59	32	21	26	-	0	37	6	-	0
Carine	77	30	28	29	-	0	-	0	50	1
Churchlands	8	8	7	7	1	1	-	0	-	0
Coolbinia	5	11	5	11	-	0	-	0	-	0
Dianella*	92	69	46	65	3	2	21	1	23	1
Doubleview*	6	9	1	7	1	1	4	1	-	0
Glendalough	3	2	3	2	-	0	-	0	-	0
Gwelup	35	10	4	7	4	2	-	0	27	1
Hamersley	23	21	13	19	5	1	4	1	-	0
Herdsmen	0	0	-	-	-	0	-	0	-	0
Inglewood	18	9	2	6	3	1	12	2	-	0
Innaloo	18	17	4	13	6	2	9	2	-	0
Joondanna	3	8	1	7	1	1	-	0	-	0
Karrinyup*	50	32	35	27	0.6	2	14	3	-	0
Menora	10	14	4	12	4	1	3	1	-	0
Mirrabooka	25	26	14	22	0.4	1	11	3	-	0
Mount Lawley	22	7	2	5	1	1	19	1	-	0
Nollamara	23	21	6	16	2	2	16	3	-	0
North Beach	21	5	1	4	-	0	20	1	-	0
Osborne Park	1	5	1	5	-	0	-	0	-	0
Scarborough	22	14	7	9	3	3	12	2	-	0
Stirling	58	41	23	36	30	4	5	1	-	0
Trigg	3	4	2	3	2	1	-	0	-	0
Tuart Hill	11	13	2	11	-	0	9	2	-	0
Watermans Bay	2	3	2	2	0.2	1	-	0	-	0
Wembley	0.1	1	0.1	1	-	0	-	0	-	0
Wembley Downs	11	11	5	9	-	0	6	2	-	0
Westminster	10	17	7	15	1	1	2	1	-	0
Woodlands	13	7	4	5	6	1	3	1	-	0
Yokine	62	17	4	13	0.9	2	2	1	54	1
City total	745	502	267	426	75	31	249	41	258	4

**Includes both MRS and LPS POS.*

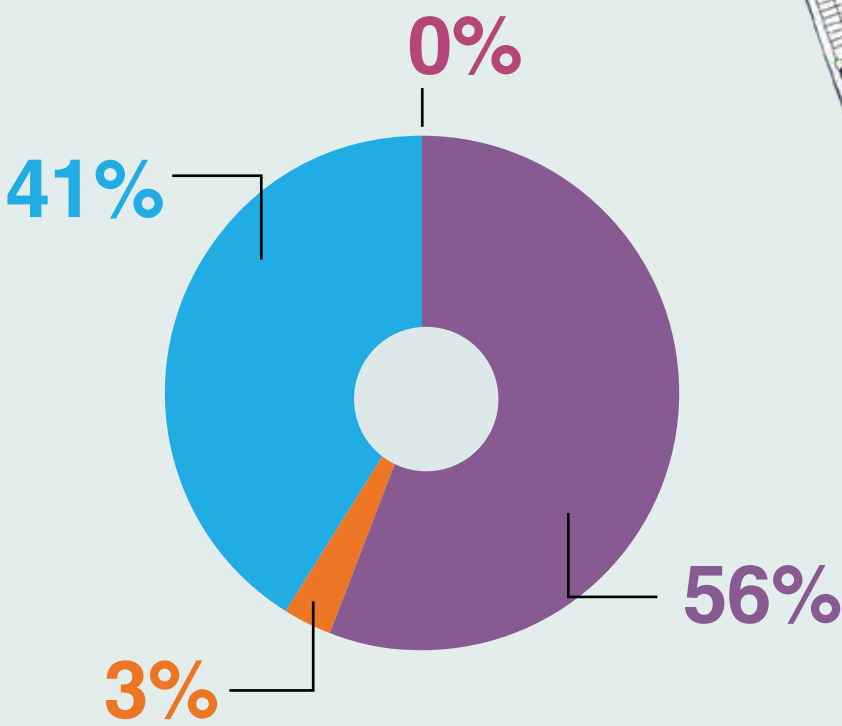


7.7 POS maps

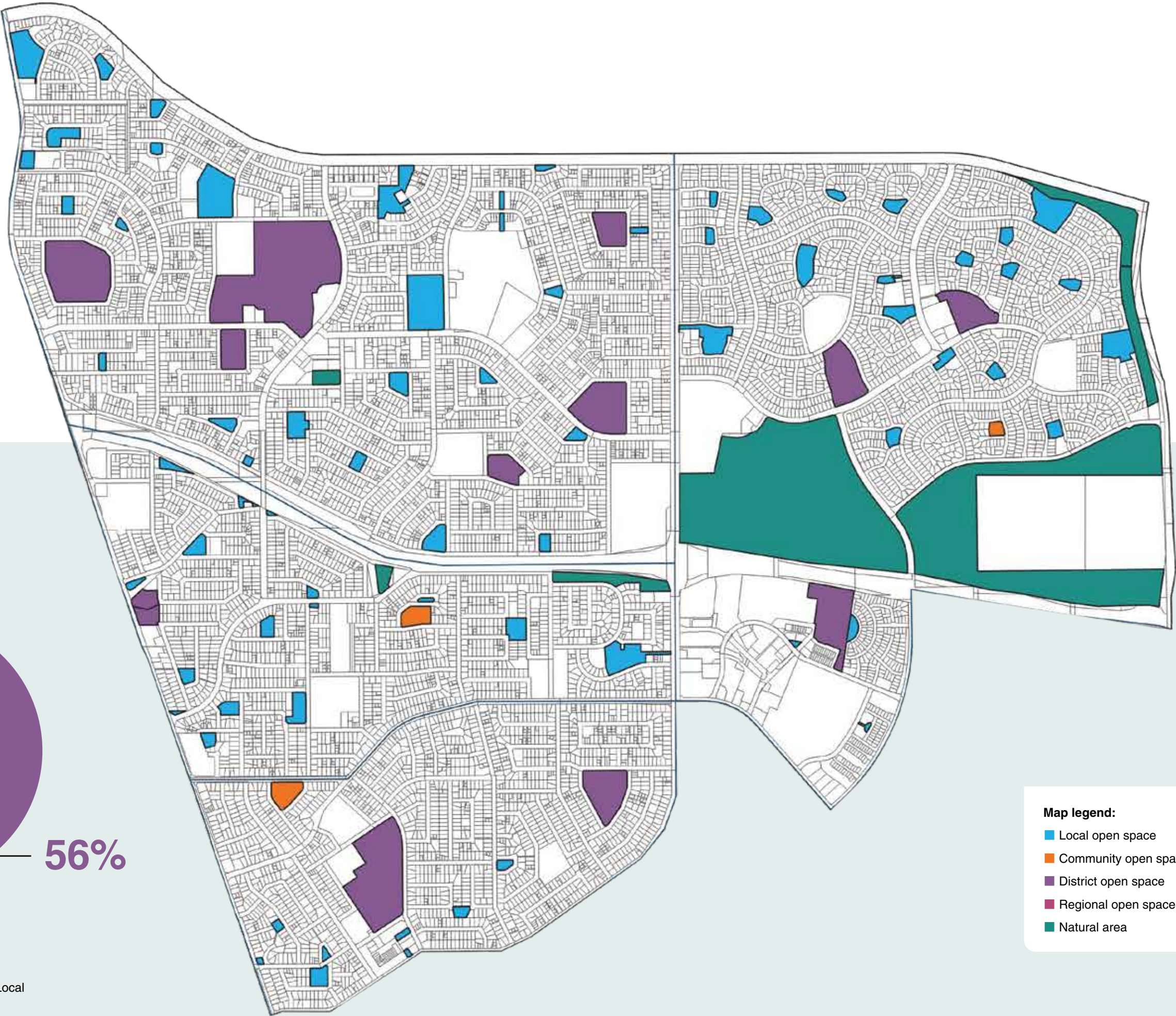
Balga Ward

- The Balga Ward has the second-highest POS in area and number.
- The ward is dominated by district open spaces which make up for the lack of a regional open space and can also provide for local and community functions.
- There is a good distribution of POS with minimal gaps in walkable catchment.
- Princess Wallington Reserve and Des Penman Memorial Reserve are significant district open spaces that also provide for community-level infrastructure and hence a higher level of recreation function.
- There is the opportunity to improve the quality of POS and the equality of function and activities.

POS composition (area)



Legend: Regional District Community Local



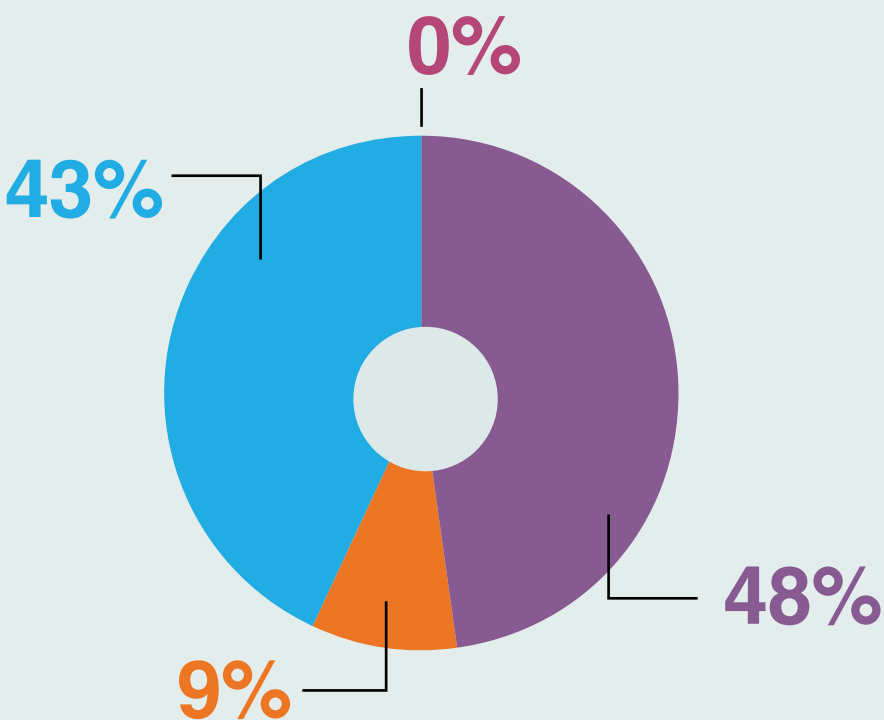
Map legend:

- Local open space
- Community open space
- District open space
- Regional open space
- Natural area

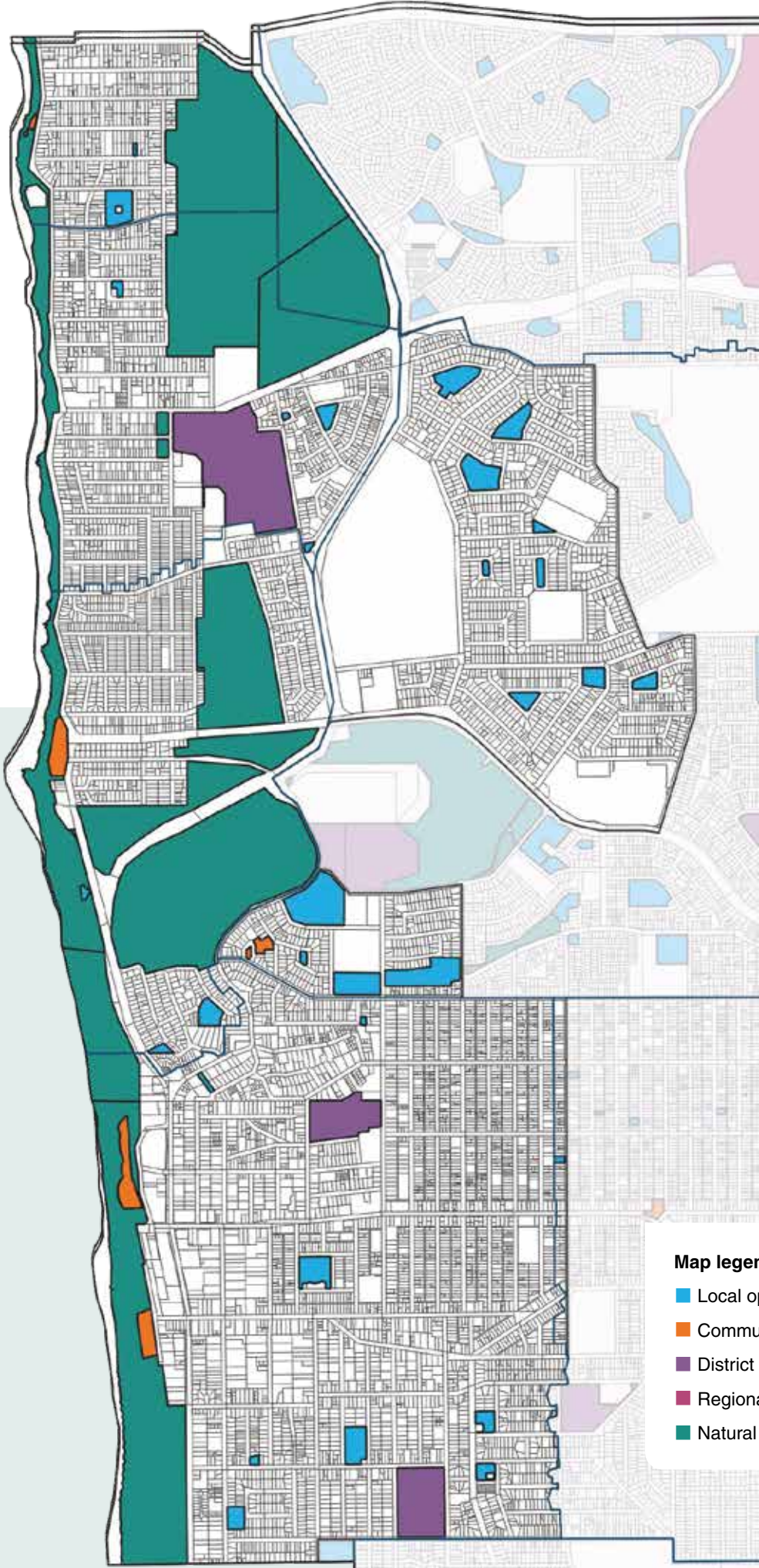
Coastal Ward

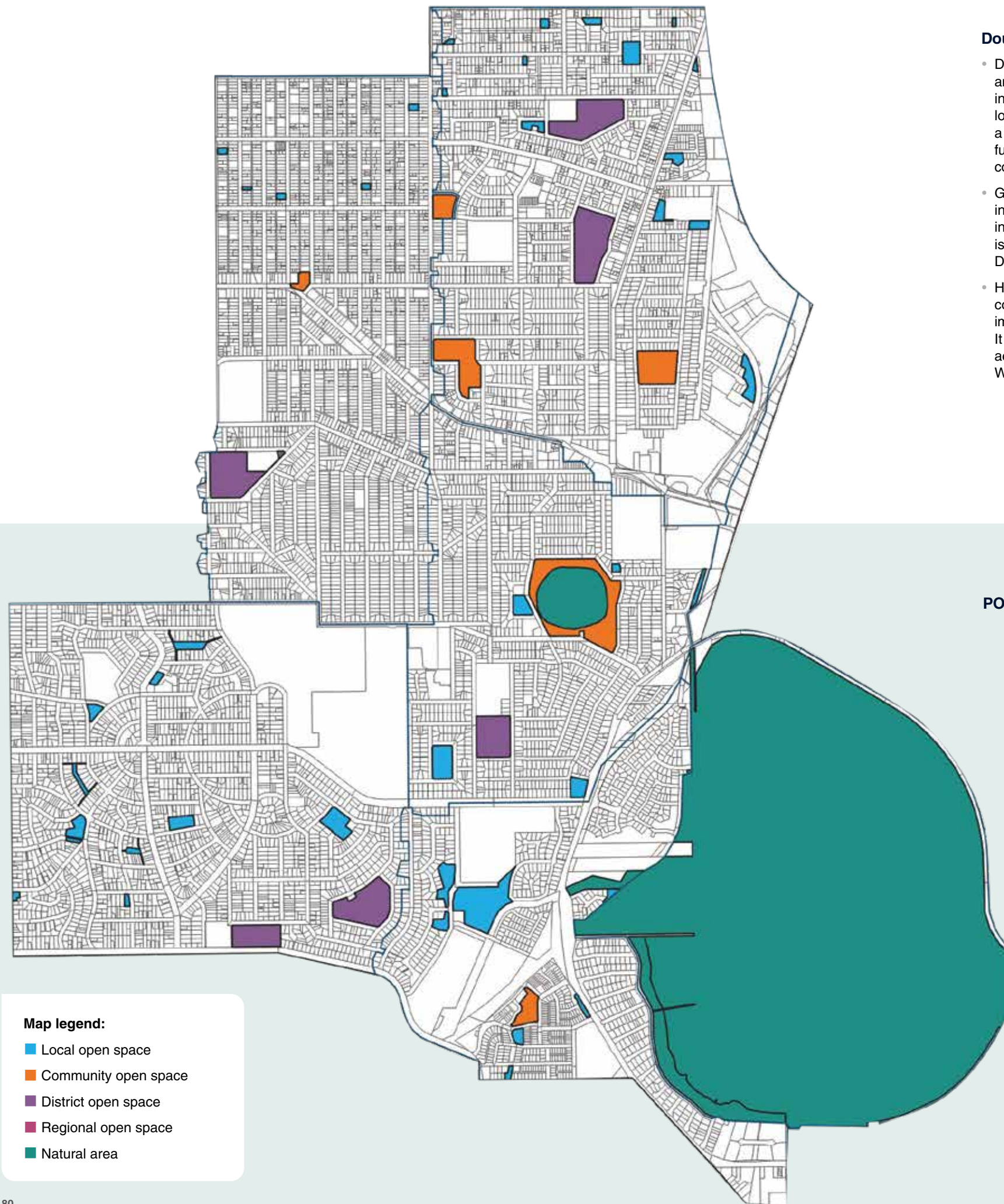
- The Coastal Ward has the lowest number of overall POS (41) with the lowest number of local open spaces (32) and equal lowest number of district open spaces (three). It has the third lowest POS by area.
- Given POS is concentrated in a lower number of spaces, there are gaps in which residential areas do not have access to POS within 400 metres. These areas are mostly in Scarborough and Trigg.
- Trigg, Watermans Bay and Scarborough all have low POS by area / person and under 10 per cent provision under the LPS, with two per cent, five per cent and seven per cent respectively.
- North Beach has the highest amount of POS with 62.8 square metres per person. This contrasts with the percentage of POS by LPS at just 1.4 per cent, given Charles Riley Reserve is an MRS reservation.
- The Coastal Ward is unique due to a high level of natural area spread throughout the ward. This natural area can provide functions such as green relief and low-key recreation (walking) to supplement the lack of POS.

POS composition (area)



Legend: Regional District Community Local

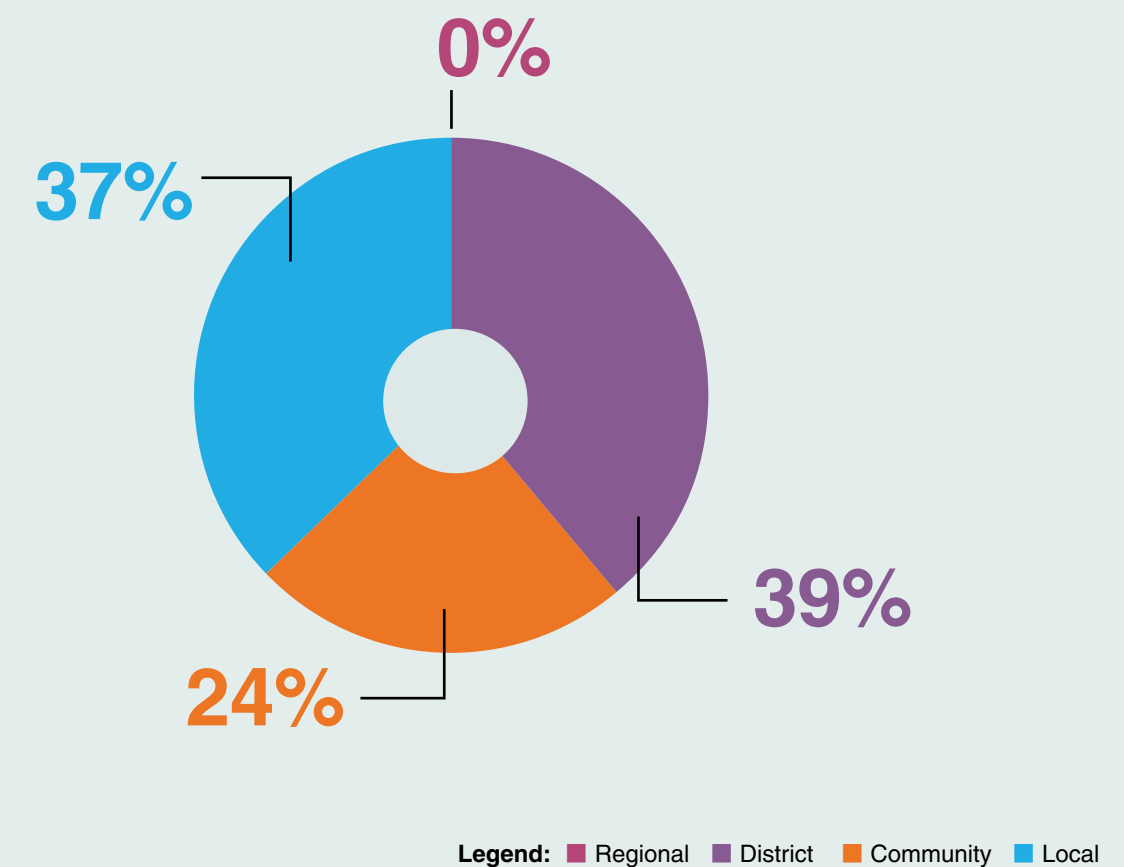




Doubleview Ward

- Doubleview Ward has the lowest amount of POS by area (57 hectares) including the lowest amount of local open space (21 hectares). As a result, much of the ward's POS functions are focussed in district and community open spaces.
- Given the concentration of POS in larger spaces, there are gaps in walkable access to POS. This is particularly true in parts of Doubleview, Woodlands and Innaloo.
- Having safe access, path connections and transport links is important between open spaces. It may also mean more people accessing open spaces in this Ward by car.
- All the suburbs sit below 33.6 square metres per person of total POS and under the percentage of POS for LPS-provided reserves. Doubleview suburb has the lowest with 7.6 square metres per person of POS and 3.5 per cent of POS.
- Doubleview Ward has the highest level of natural conservation area due to Herdsman Lake and Jackadder Lake.

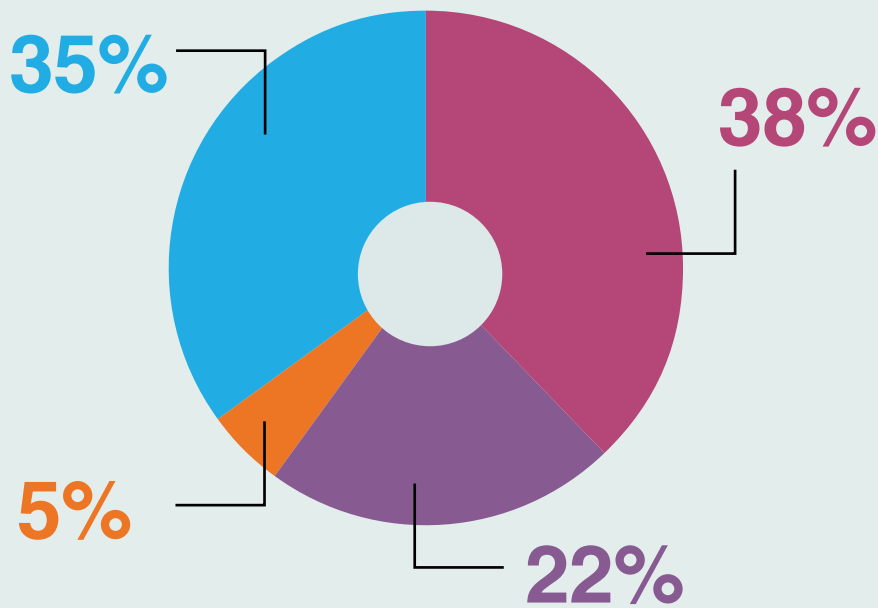
POS composition (area)



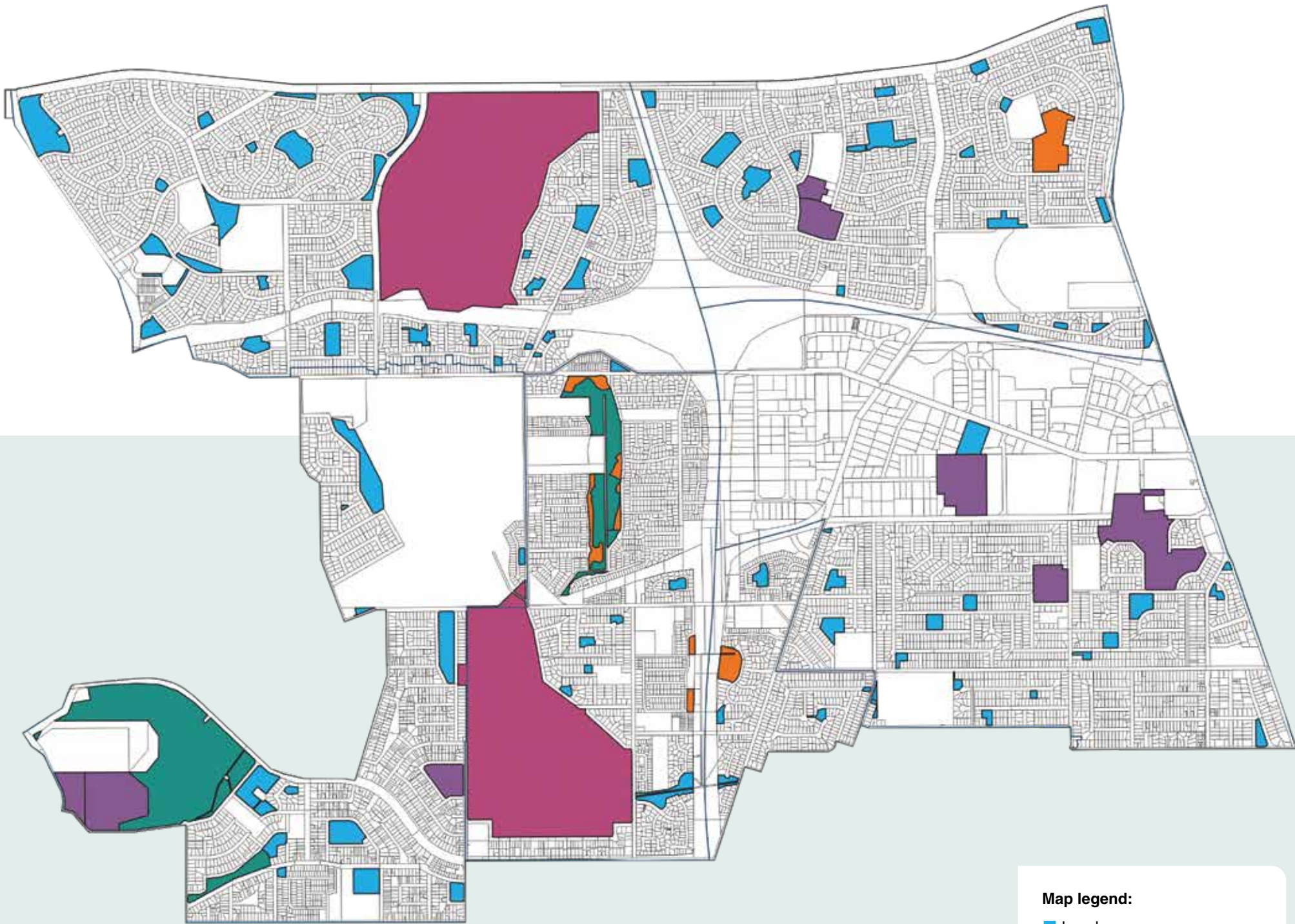
Hamersley Ward

- Overall, Hamersley Ward has the highest amount of POS (202 hectares) due to two regional open spaces, the most area of local open spaces and second-highest area of district open space.
- The high amount of POS is reasonably spread across the ward giving a good distribution and walkable network with minimal gaps.
- Significant road barriers divide Hamersley Ward, including the Mitchell Freeway and Reid Highway which should be considered with determining access.
- All the suburbs within the ward have over 33.6 square metres of total POS per person. When considering the percentage of POS for LPS No 3 provision, Gwelup is the only suburb that sits below the 10 per cent provision, with seven per cent POS.
- The focus for these suburbs is on ensuring a diversity of functions and access to quality POS.

POS composition (area)

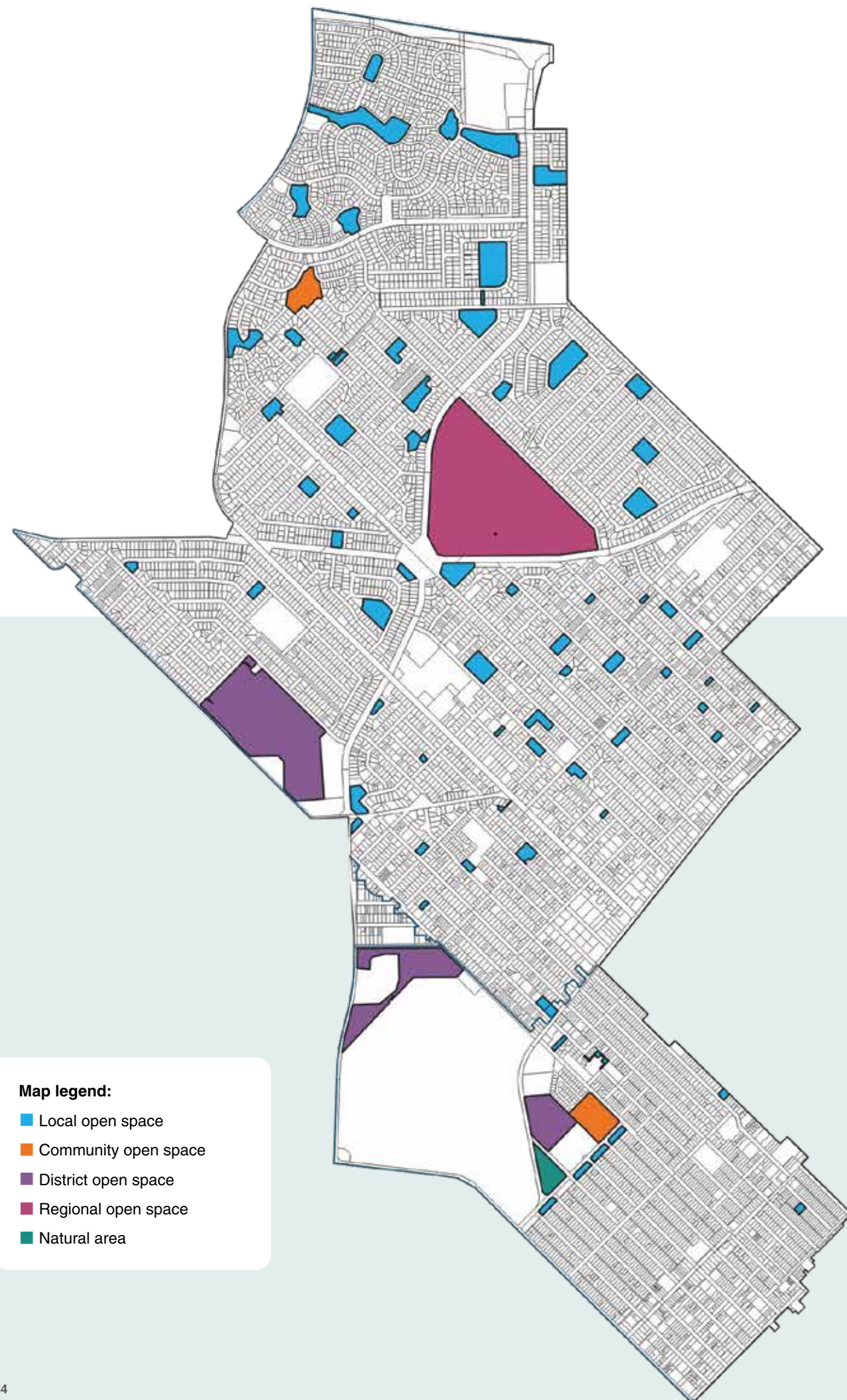


Legend: Regional District Community Local



Map legend:

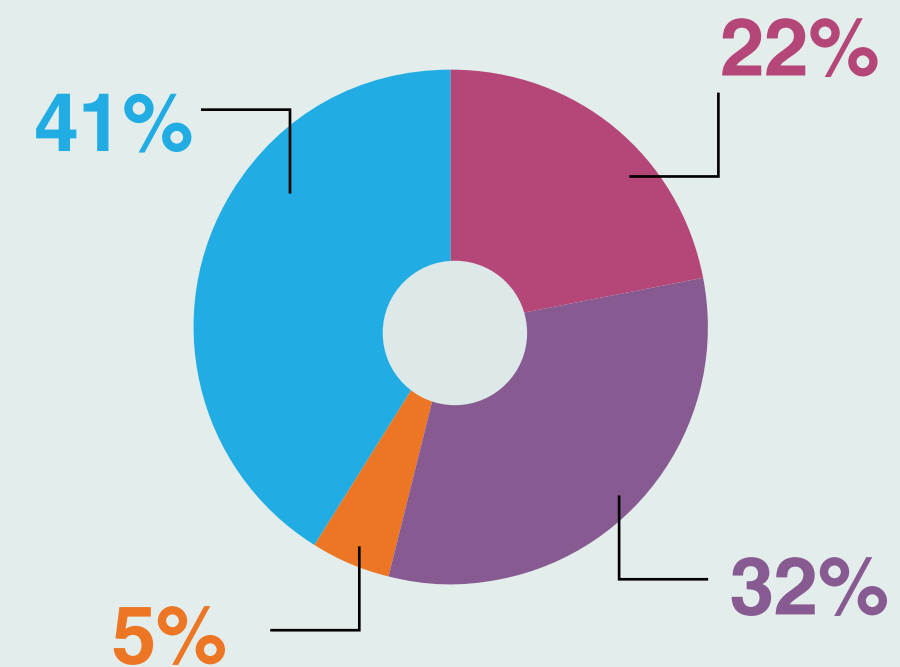
- Local open space
- Community open space
- District open space
- Regional open space
- Natural area



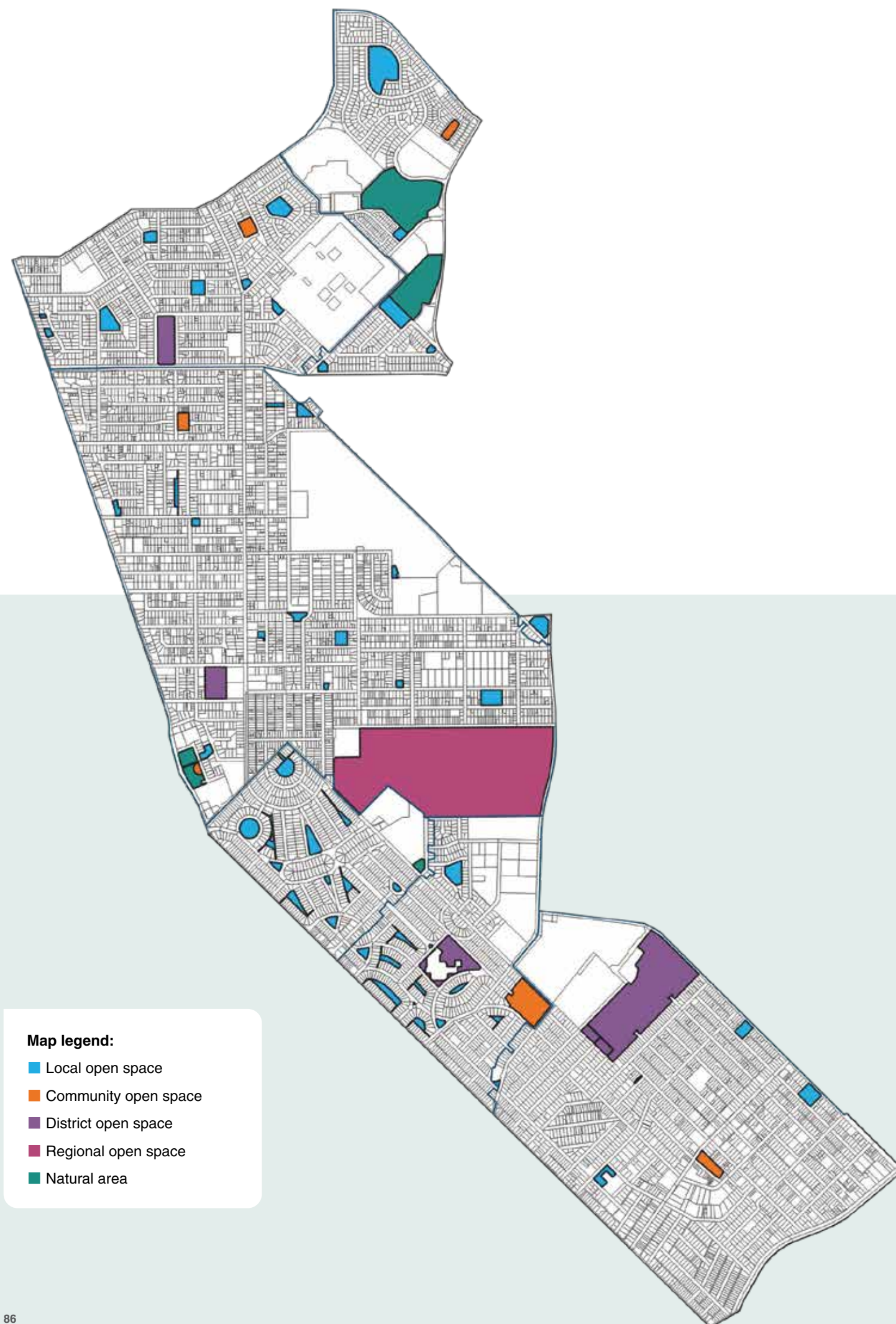
Inglewood Ward

- Dianella has the highest total amount of POS (92 hectares) but also the highest population, resulting in 39.3 square metres per person of POS. Its predominantly made up of Dianella ROS and local open spaces. This high number of local open spaces results in good walkable access. The focus for Dianella is on ensuring a diversity of functions and quality of spaces to meet need.
- The suburb of Inglewood has POS unevenly distributed with a concentration of district, community and local open spaces in the north adjacent to the golf course.
- The distribution of POS creates significant gaps in walkable access for southern areas.
- The majority of POS in Inglewood are also MRS reserves and so it has just two per cent POS when measuring the LPS reserves.

POS composition (area)



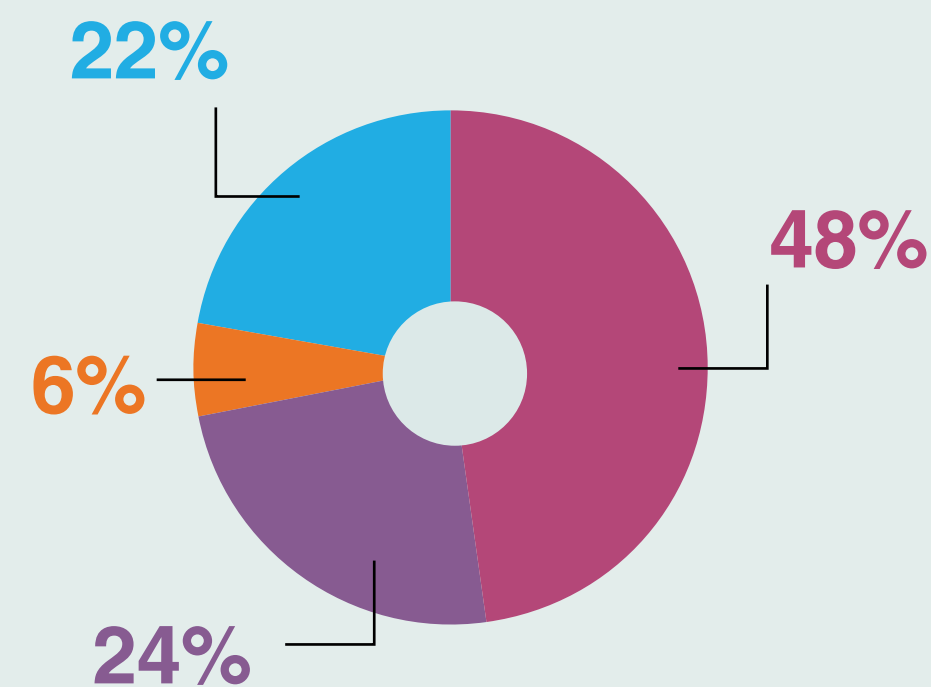
Legend: Regional District Community Local



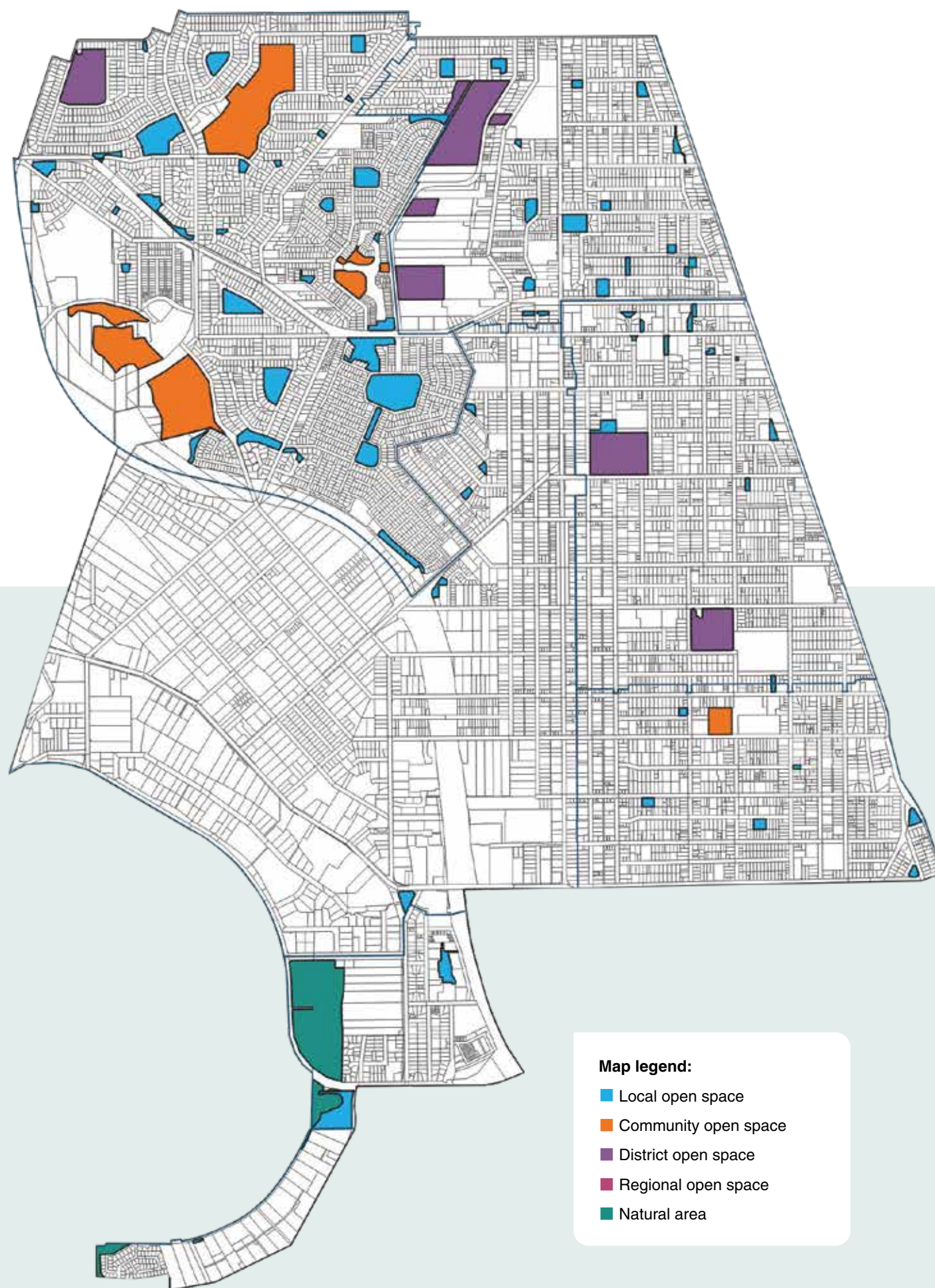
Lawley Ward

- Lawley Ward covers a diverse range of suburbs with varying types, distribution and amount of POS.
- Menora and Coolbinia have a reasonable distribution of POS. They include several POS positioned behind housing. This gives a more personal appeal to POS but can mean poor external visibility and access.
- Nollamara also has a reasonable distribution of POS but also relatively high development and ongoing infill. It currently has 20.3 square metres per person of POS, which is projected to decline by 21 per cent with additional population growth.
- Due to Yokine ROS, Yokine has 53.5 square metres per person of POS. However, this is concentrated in the south of the suburb with potential gaps in access and function to the north. Yokine ROS is excluded from the percentage calculation as an MRS reserve, so Yokine is low in this regard with just three per cent POS. The remainder of Yokine's POS are local reserves, relatively small district reserves and a small community reserve.
- Mount Lawley's POS is also unevenly distributed, with the majority concentrated in Hamer Park/Inglewood oval to the north. This creates gaps in access in the southern areas. The suburb sits at 29.6 square metres per person, but with MRS reserves excluded, it has just two per cent POS provided through the LPS.

POS composition (area)



Legend: Regional District Community Local



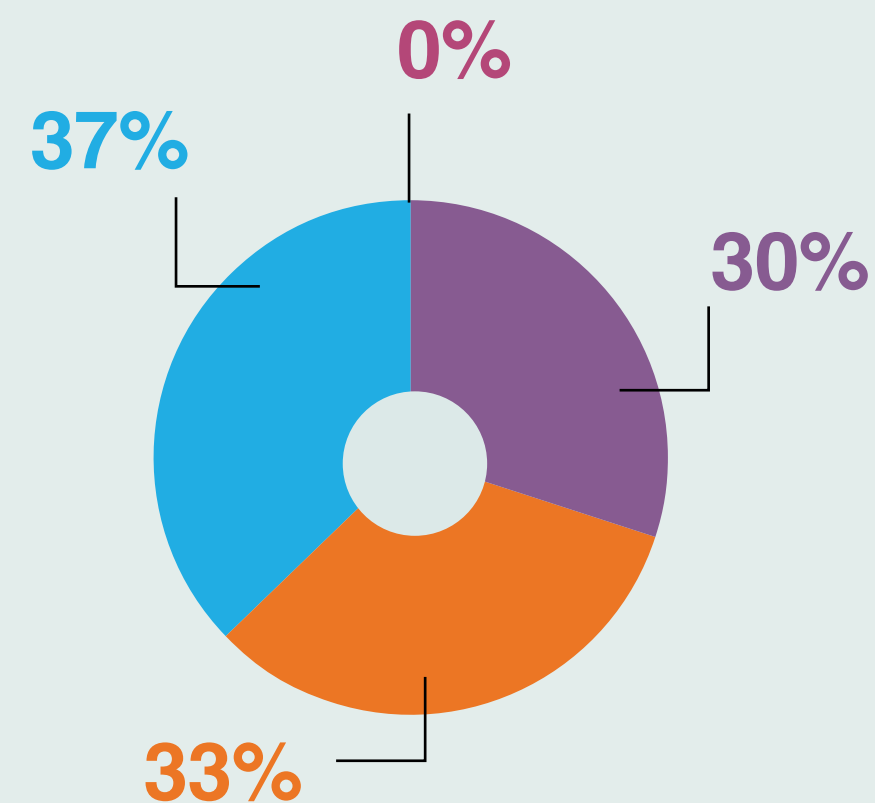
Osborne Ward

- POS is unevenly distributed across the Osborne Ward, with significant variation from north of the ward to the south.
- There is high provision of POS in suburbs of Stirling (60 square metres per person) and Balcatta (50.3 square metres per person).
- Stirling's POS is largely made up of four community open spaces and contains man-made lakes that contribute to the POS amount.
- Stirling's POS provision may be impacted by the future Stirling City Centre Structure Plan and population growth, particularly for Hertha North Reserve and Stirling Civic Gardens.
- The suburbs of Joondanna (5.7 square metres per person) and

Osborne Park (three square metres per person) have some of the lowest provision of POS in the City.

- There is only one community open space in Joondanna, with the remaining spaces being local across both suburbs. This creates gaps in both walkable access, levels of recreational outcomes and function diversity. These suburbs are also not in reasonable proximity to a natural area to supplement the POS functions or provide a green break in the urban environment.
- Tuart Hill's provision is still low at 16.1 square metres per person and is mainly concentrated in two district open spaces. This adds pressure to these spaces to serve local uses as well as district sporting needs and creates potential gaps in walkable access to local reserves.

POS composition (area)

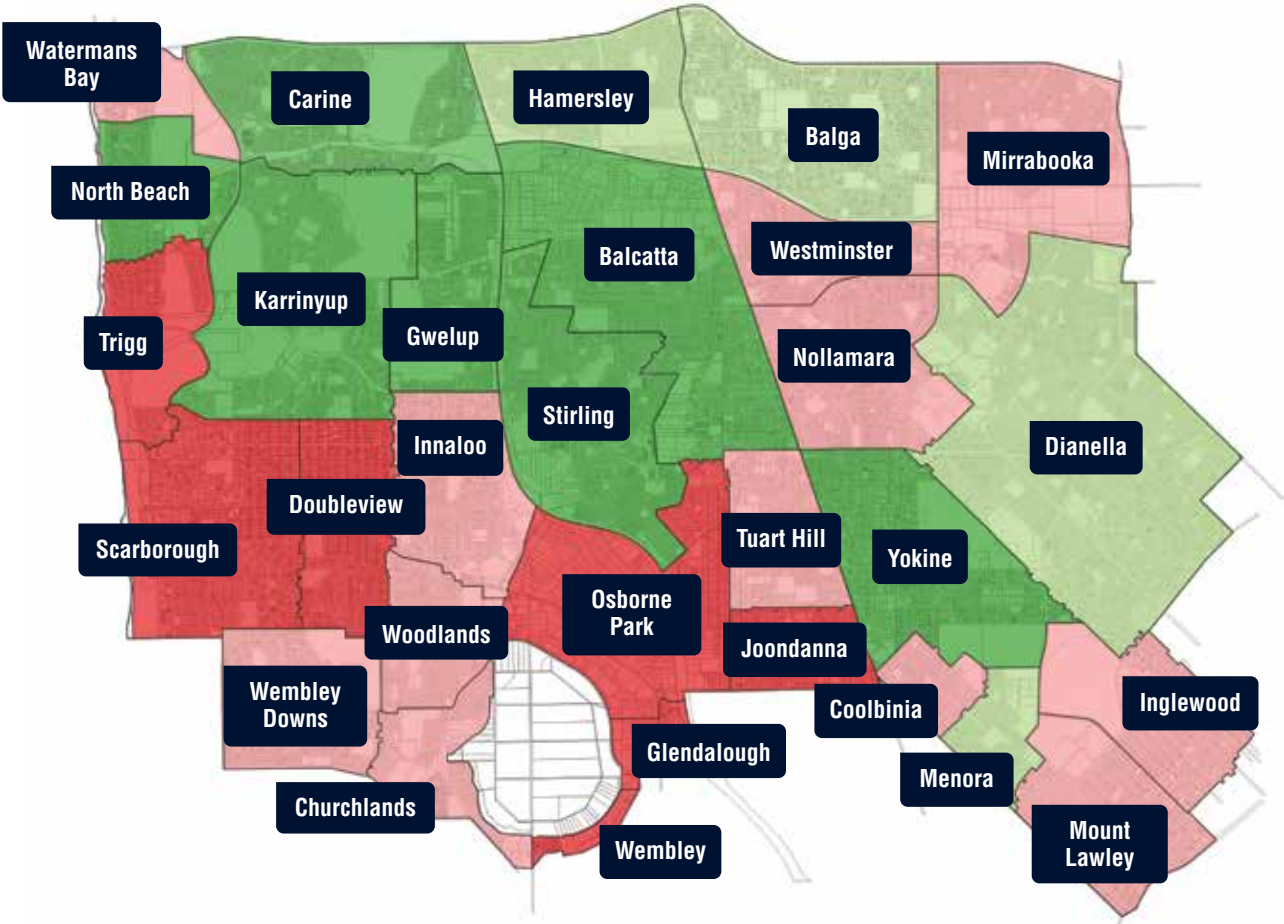


Legend: Regional District Community Local

7.8 POS heat maps

Total POS (square metres per person)

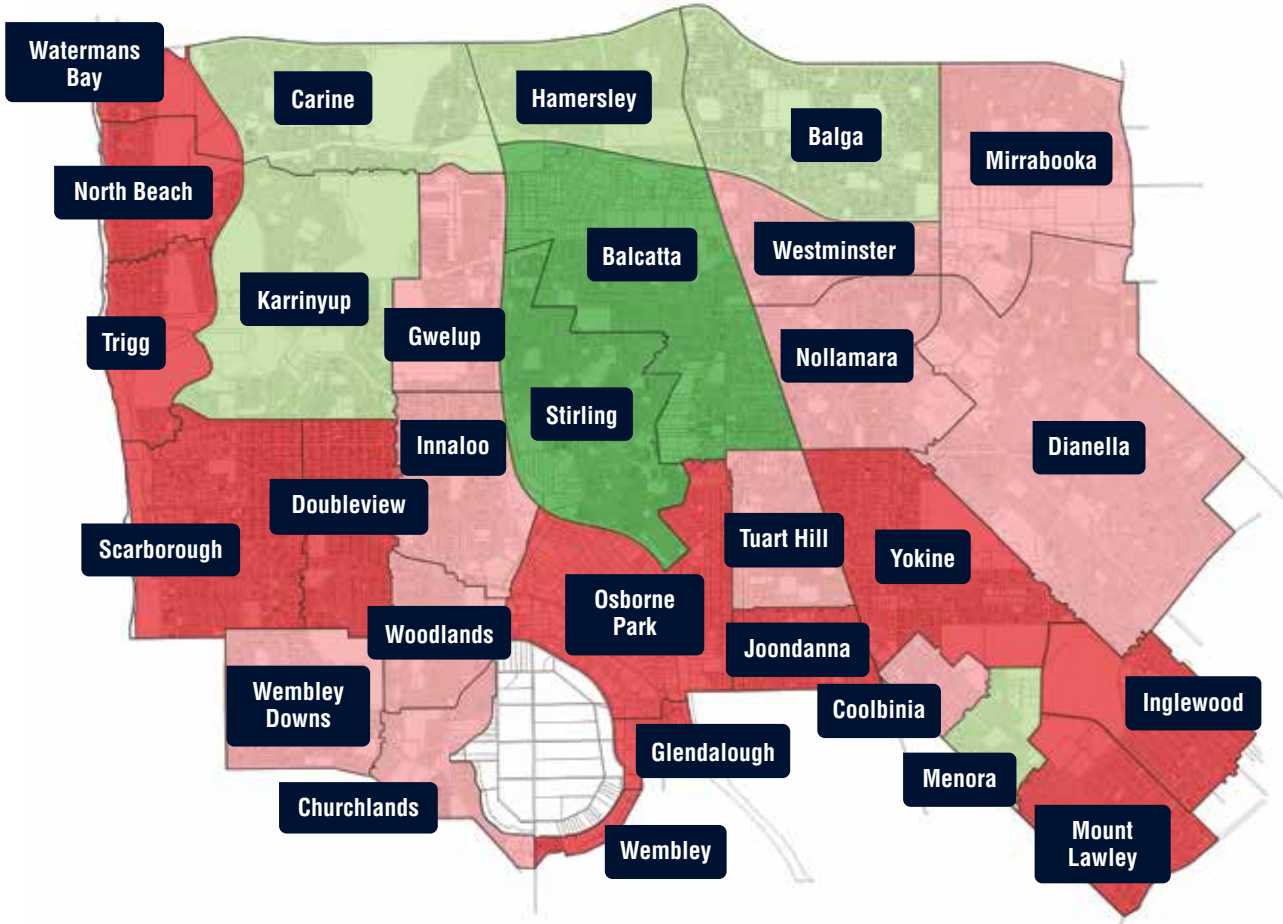
Local planning scheme No 3 and metropolitan regional scheme.



Total POS (m² / person)

- 50m² and over
- 49.9 m² – 33.7m²
- 33.6 m² – 15m²
- 14.9 m² and under

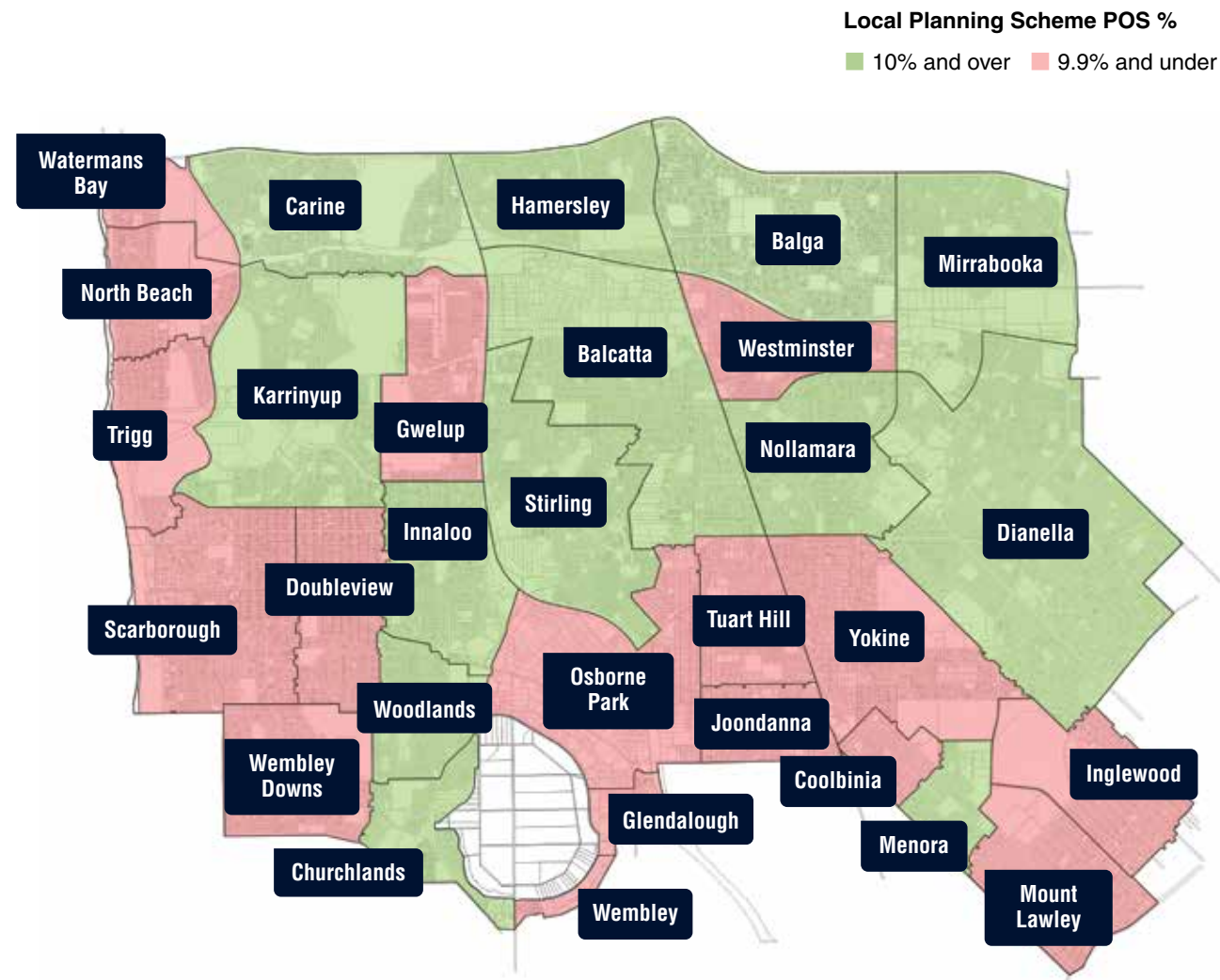
Local planning scheme POS (square metres per person)



Local planning scheme POS (m² / person)

- 50m² and over
- 49.9 m² – 33.7m²
- 33.6 m² – 15m²
- 14.9 m² and under

Local planning scheme POS percentage



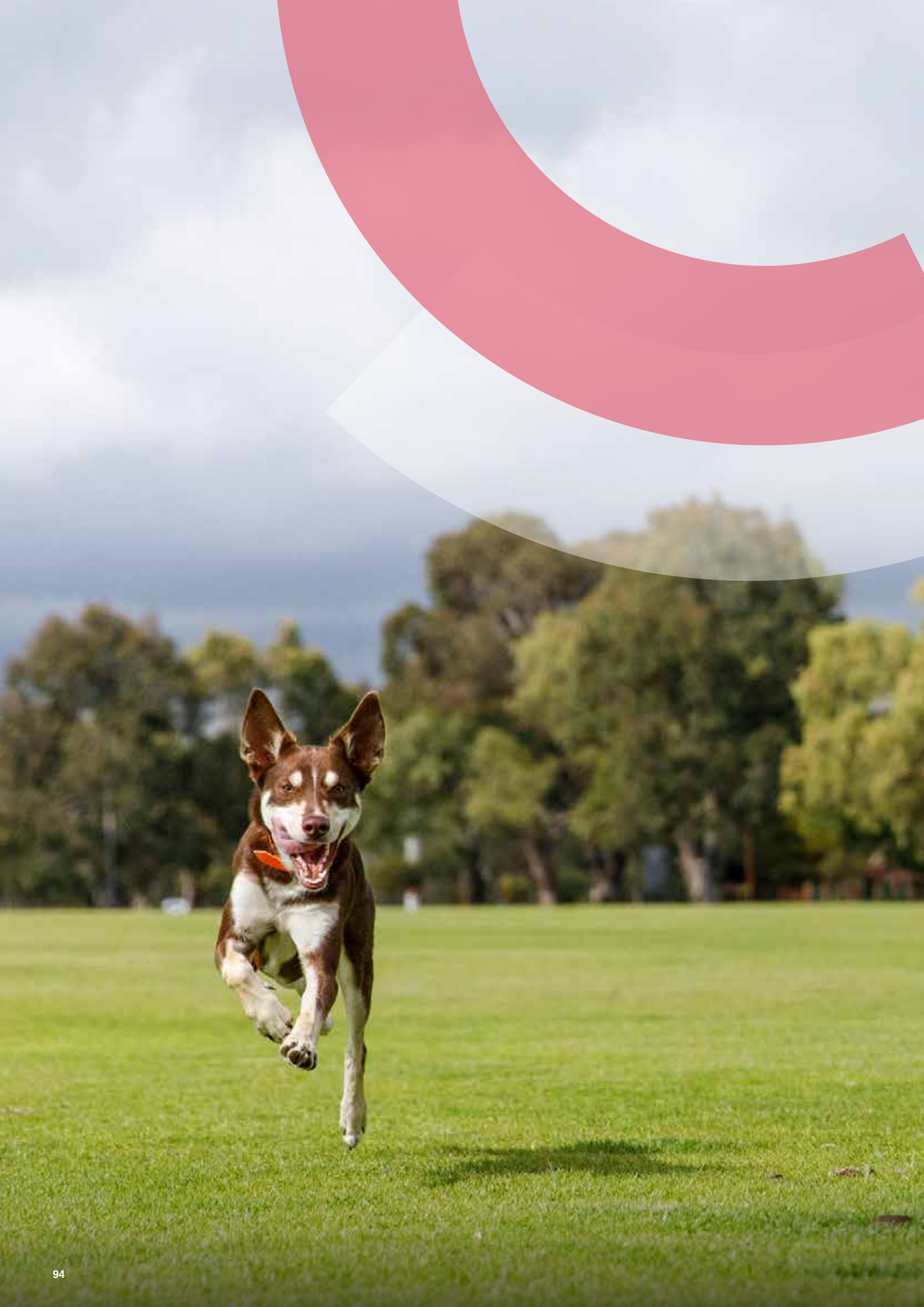
7.9 Total POS: Future projections

This table shows POS by square metres per person for five-year intervals from 2016 to 2031. It also shows the rate of reduction of POS per person as population increases. This is based on the current amount of POS remaining the same.

Suburbs that remain above 33.6 square metres of POS per person are highlighted in green. Suburbs between 33.6 square metres and 20 square metres per person are in yellow, and those under 20 square metres per person are in red.

SA2 level	Total POS area*	2016 Census Data		2021 projections		2026 projections		2031 projections		Reduction in POS per person 2016 – 2036	
	ha	Population	m ² / person	Population	m ² / person	Population	m ² / person	Population	m ² / person	m ² / person	%
Balcatta	52	10,382	50.3	10,669	48.9	10,775	48.4	10,802	48.3	-2	-4%
Hamersley	23	4,982	45.5	5,120	44.3	5,170	43.9	5,183	43.8	-2	-4%
Balga	59	12,685	46.3	13,127	44.7	13,371	43.9	13,637	43.0	-3	-7%
Mirrabooka	25	8,110	30.9	8,393	29.9	8,548	29.4	8,719	28.8	-2	-7%
Dianella	70	23,486	39.3	24,305	38.0	24,756	37.3	25,249	36.6	-3	-7%
Innaloo	18	8,251	22.2	8,800	20.8	9,239	19.8	9,644	19.0	-3	-14%
Doubleview	6	8,404	7.6	8,963	7.2	9,410	6.8	9,823	6.5	-1	-14%
Karrinyup	50	9,283	53.5	10,084	49.2	10,737	46.2	11,551	43.0	-10	-20%
Gwelup	7	4,539	76.2	4,930	70.2	5,250	65.9	5,648	61.3	-15	-20%
Carine	28	6,479	119.3	7,038	109.8	7,494	103.1	8,062	95.9	-23	-20%
Mount Lawley**	22	7,565	29.6	7,742	28.9	7,968	28.1	8,140	27.5	-2	-7%
Inglewood	18	5,674	31.2	5,807	30.5	5,976	29.6	6,105	29.0	-2	-7%
Nollamara	23	11,570	20.3	12,688	18.5	13,712	17.1	14,557	16.1	-4	-21%
Westminster	10	6,203	16.8	6,832	15.3	7,383	14.1	7,838	13.3	-4	-21%
Scarborough	22	15,421	14.6	17,258	13.0	18,781	12.0	20,200	11.1	-3	-24%
Stirling	58	9,676	60.0	10,320	56.2	10,834	53.6	11,310	51.3	-9	-14%
Osborne Park	1	4,120	3.0	4,394	2.8	4,613	2.7	4,816	2.6	-0.4	-14%
Trigg	3	2,794	12.0	3,118	10.7	3,393	9.8	3,649	9.2	-3	-23%
North Beach	21	3,410	62.8	3,805	56.3	4,141	51.8	4,453	48.1	-15	-23%
Watermans Bay	2	1,281	15.7	1,429	14.1	1,555	12.9	1,673	12.0	-4	23%
Tuart Hill	11	7,012	16.1	7,479	15.1	7,852	14.4	8,196	13.8	-2	-14%
Joondanna	3	4,836	5.7	5,158	5.4	5,415	5.1	5,653	4.9	-1	-14%
Wembley Downs	11	6,321	17.2	6,742	16.1	7,078	15.4	7,388	14.7	-2	-14%
Churchlands	8	3,387	22.9	3,612	21.5	3,793	20.4	3,959	19.6	-3	-14%
Woodlands	13	4,145	31.1	4,421	29.2	4,641	27.8	4,845	26.6	-4	-14%
Yokine	7	11,542	53.5	11,812	52.2	12,157	50.8	12,420	49.7	-4	-7%
Menora	10	2,592	39.3	2,653	38.4	2,730	37.3	2,789	36.5	-3	-7%
Coolbinia	5	1,660	29.2	1,699	28.5	1,748	27.7	1,786	27.1	-2	-7%
Wembley**	0.1	791	1.3	922	1.1	1,071	0.9	1,233	0.8	-0.5	-36%
Glendalough	3	2,483	11.9	2,893	10.2	3,363	8.8	3,870	7.7	-4	-36%
Total all SA2	745.1	209,084	35.6	222,214	33.5	232,957	32	243,200	30.6	-5	14%

*Total POS includes all identified in Part 3 (both MRS and LPS reserves).
**Mount Lawley and Wembley – only includes POS and population which falls within City boundaries.
2021 to 2026 uses WA Tomorrow Report 10, 2031 uses WA Tomorrow Report 11. No data available for 2036 – 2051.
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