CITY OF Albany

LOCAL PLANNING STRATEGY

2019 PART 2

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1 STATE, REGIONAL AND LOCAL PLANNING FRAMEWORK

1.1 State and Regional Planning Framework

1.1.1 The State Planning Framework

The State Planning Framework has been prepared by the WAPC to unite existing State and regional policies, strategies and guidelines within a central framework, which provides a context for decision-making on land use and development. It informs the Commission, local government and others involved in the planning process on those aspects of State planning policy that are to be taken into account and given effect to, in order to ensure integrated decision-making across all spheres of planning. The planning and environment framework for the natural environment has considerable State Government legislation.

The State Planning Framework indicates the primary policies and strategies used by WAPC and the Department of Planning, Lands and Heritage in making decisions. Since the preparation of ALPS (2010), there have been a number of changes to legislation along with policies and strategies. There is also Commonwealth legislation such as the *Environment Protection and Biodiversity Conservation Act 1999*.

State planning policies (SPPs) are prepared and adopted by the WAPC under statutory procedures set out in Part 3 of the Planning and Development Act 2005. In the review of the Local Planning Strategy the City must have 'due regard' to the provisions of state planning policies.

Planning and Development (Local Planning Schemes) Regulations 2015 have important implications on future amendments to LPS1 including the names and range of zones and reserves. Schedule 2 of the Regulations contain deemed provisions for local planning schemes. This includes matters the local government needs to consider in assessing development applications such as the suitability of vehicular access, traffic impacts, availability and adequacy of services and impact on water resources.

Some of the key legislative, planning and environment documents that influence the preparation and outcomes of the LPS include:

Legislation
• *Planning and Development Act 2006* • *Planning and Development (Local Planning Schemes) Regulations 2015* • *Planning and Development (Bushfire Risk Management) Regulations* • *Heritage of Western Australia Act 1990* • *Aboriginal Heritage Act 1972* • *Wildlife Conservation Act 1950* • *Environmental Protection Act 1986* • *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*

State Strategies

- *State Planning Strategy 2050* (2014)
- *Great Southern Regional Planning and Infrastructure Framework* 2015
- *Lower Great Southern Strategy 2016*
- *Albany Regional Hotspots Land Supply Assessment* (2015)
- *Great Southern Regional Investment Blueprint* (2015)
- *Albany Regional Vegetation Survey Phase 2 Conservation Planning Report* (draft) (2013)
- *Great Southern Regional Water Supply Strategy* (2014)
- *Carbon Footprint Reduction Strategy* (2014)
- *Western Australian Regional Freight Transport Network Plan (2013)*
- *Better Urban Water Management*

State Planning Policy

- *State Planning Policy 2 Environment and Natural Resources Policy*
- *State Planning Policy 2.4 Basic Raw Materials*
- *State Planning Policy 2.5 Rural Planning*
- *State Planning Policy 2.6 State Coastal Planning Policy*
- *State Planning Policy 2.7 Public Drinking Water Source Policy*
- *State Planning Policy 2.9 Water Resources*
- *State Planning Policy 3 Urban Growth and Settlement*
- *State Planning Policy No. 3.1 Residential Design Codes (2013)*
- *State Planning Policy 3.4 Natural Hazards and Disasters*
- *State Planning Policy 3.5 Historic Heritage Conservation*
- *State Planning Policy 3.6 Development Contributions for Infrastructure*
- *State Planning Policy 3.7 Planning in Bushfire Prone Areas*
- *State Planning Policy 4.1 State Industrial Buffer Policy (draft)*
- *State Planning Policy 4.2 Activity Centres for Perth and Peel – while SPP 4.2 operates within the Perth metropolitan and Peel area, the principles of the Policy have implications for the review of ALPS. This includes support to change shopping centres into activity centres with an associated mixed- use development including medium and higher density residential development*
- *State Planning Policy 5.2 Telecommunications Infrastructure*
- *State Planning Policy 5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning*
- *Liveable Neighbourhoods 2015 (under review)*
- *Government Sewerage Policy 2019*

EP Position Statements and Bulletins

- *Environmental Protection Bulletin 20 - Protection of naturally vegetated areas through planning and development* (2013)
- *Environmental Protection Bulletin 13 - Guidance for the use of the Albany Regional Vegetation Survey in Environmental Impact Assessment*
- *Regional Vegetation Survey in Environmental Impact Assessment* (2011)

1.1.2 State Planning Strategy 2050

The State Planning Strategy provides the strategic context for planning and development decisions throughout the State. It is based on a framework of planning principles, strategic goals and State strategic directions that respond to the challenges and opportunities that drivers of change present for the future land-use planning and development of Western Australia.

Six interrelated State planning principles underpin and inform the State Planning Strategy 2050, which apply across all regions, local government areas and communities.

- Community: Enable diverse, affordable, accessible and safe communities.
- Economy: Facilitate trade, investment, innovation, employment and community betterment.
- Environment: Conserve the State's natural assets through sustainable development.
- Infrastructure: Ensure infrastructure supports development.
- Regional Development: Build the competitive and collaborative advantages of the regions.
- Governance: Build community confidence in development processes and practices.

1.1.3 Great Southern Regional Planning and Infrastructure Framework

The Great Southern Regional Planning and Infrastructure Framework has been prepared to provide strategic regional context in order to guide future land use planning and infrastructure investment in the Great Southern region.

The vision provides a clear statement of the values and aspirations that will guide development in the future:

> *"A future that promotes economic development and diversification; offers an attractive lifestyle and improved quality of life to a growing multicultural population and recognises the important links between economic activity, ecosystem functions and the region's outstanding nature conservation, biodiversity and heritage values."*

Its objectives are as follows:

Economic Growth	A growing regional economy focused on maintaining strong links to current markets and establishing new export markets for agricultural and mining products while developing the tourism product and services that cater to an older demographic and people seeking a regional lifestyle.
Population and Sustainable Settlement	Sustainable communities that are attractive places to live and work provide investment opportunities, offer a wide range of high quality education, training and health services and cultural and recreational activities, are safe and accessible to surrounding rural areas.
Transport Network	Provide an integrated, efficient and safe transport network that services the needs of community, agriculture, forestry, tourism, mining and industry.
Social Infrastructure	Provide a wide range of social services that enhance the community's health and well-being, establish a sense of social cohesion and offer high quality educational opportunities that retain and attract students to the region.

Essential Service and Infrastructure	Secure sufficient power, water, wastewater and telecommunication capacity and distribution systems to support the cost efficient delivery of services to residents, new mining and industrial operations and the agricultural and forestry sectors.
Natural Environment	Provide for the protection and management of key natural assets, in order to secure the foundation of the social, economic and environmental fabric of the region.
Culture, Heritage and Visual Landscape	Recognise the region's cultural, heritage and visual landscape assets and safeguard and manage these assets to retain their intrinsic value and acknowledge their contribution to community well-being and their role in supporting the regional economy.

1.1.4 Lower Great Southern Strategy

The *Lower Great Southern Strategy* states the following vision for the sub region:

> *'In the year 2035, the Lower Great Southern is a productive, innovative and successful area for intensive primary production and downstream processing. It is an attractive business, lifestyle and tourism destination with quality cultural, built and natural landscapes. It is recognised as a centre of excellence in natural resource management and provides a diverse range of health and wellbeing, higher education, training and employment opportunities. It is equipped to respond to local and global challenges and has supportive, vibrant, accessible and safe communities that embrace their Indigenous and historic heritage."*

The following planning objectives and key issues are identified in the draft Strategy:

Economic development	To enable the economic potential and growth of the Lower Great Southern to be planned, utilised, encouraged and achieved.
Infrastructure development	To ensure that well planned and adequate infrastructure is provided in accordance with community and economic development needs of the Lower Great Southern.
Community development	To enhance the Lower Great Southern as a place to live, promote orderly urban growth while recognising environmental and other constraints, and encourage the provision of a range of residential living environments. To ensure that the community is supported by adequate and appropriate community services and facilities.
Environment	To conserve and enhance the natural environment, biodiversity, resources and distinctive landscapes of the Lower Great Southern.

The key planning issues addressed in the strategy are:

- Planning for economic growth and development;
- planning for adaptation to climate change;
- providing sustainable settlements and community development with appropriate services, infrastructure and economic opportunities;
- ensuring sufficient port access and protection of major road corridors is maintained;
- identifying and fostering development strategic industrial sites;
- protecting agricultural land and promoting agricultural diversification, farm forestry and secondary processing of products within the region;
- sustainable development of fisheries and aquaculture;
- securing sustainable access to mineral resources and basic raw materials;
- securing long-term water supplies;
- managing risk of bushfires;
- promoting tourism and protecting significant tourism sites;
- sustainable use, management and conservation of the terrestrial, coastal and marine environments and important cultural heritage areas; and
- determining appropriate mechanisms for securing regional open space.

1.2 Local Planning Framework

1.2.1 Local Planning Strategy (2010)

The City's Local Planning Strategy was endorsed by the WAPC 15 June 2010. It was the first strategy prepared which encompassed the previous Shire and Town of Albany. The Strategy was prepared during the land and housing development boom on the assumption that this growth will continue. The global financial crisis however, grounded economies including that of Regional WA. The City's residential development slowed down significantly and since then has continued on a slow but steady rate. The result is that the land earmarked and zoned for residential development far outweighs the need for land and consequently a need for the review was identified.

The Strategy provides strategic direction on settlement, the environment, the economy and social outcomes. Its objectives, recommendations and actions are considered, and implementation thereof evaluated throughout this document.

1.2.2 Local Planning Scheme No. 1

Local Planning Scheme No. 1 was gazetted on 28 April 2014 and since then 18 amendments have been gazetted (April 2016). The aims of the Scheme are to:

- Support the sustainable management of natural resources, vegetated corridors and creating a sense of place;
- contain a wide ranging provisions that provide statutory backing to matters including development near the coast and the need for appropriate setbacks, vegetation protection, revegetation, uses near conservation areas, flooding, acid sulphate soils, water sensitive urban design and fire protection;

- identify the need to protect Public Drinking Water Source areas, including both potable and non-potable water supplies under LPS1 as Special Control Areas;
- provide statutory requirements for matters the local government is required to consider in assessing development applications including environmental impact, mitigation and risks; and
- statutory provisions relating to many site specific areas and zones.

1.2.3 Local Planning Policies

Several Local Planning Policies are operative under the Scheme. These policies cover matters to be addressed in structure plans, subdivisions and development as follows:

General Development	
Non-Habitable Structures Signs (under review) Ancillary Accommodation Bed & Breakfast Accommodation Significant Tourist Accommodation Sites Temporary Accommodation	Heritage Protection Public Parkland Domestic Wind Turbines Holiday Accommodation Residential Building Policy
Residential Development	
Variations to the Residential Design Codes Relocated Dwellings	Consulting Rooms, Public Worship & Child Care Centres Development Approval Exemption
Commercial and Industrial	
PublicArt	Building Facades in Industrial Zones
General Agriculture, Priority Agriculture and Environment	
Workers Accommodation Extractive Industries and Mining Extractive Industry Flow Chart	Development in Flood Prone Areas Agriculture Protection and Subdivision
Special Development Control Areas (Residential)	
Residential Development on Steep Slopes Albany Historic Town Design Policy Detailed Area Plans Sloping Land Reflective Roofs – Goode Beach The Outlook Estate Bayonet Head Masonic Hall Design Guidelines Thomas Street Design Guidelines Melville Drive View Corridor Woodrise Estate Design Guidelines Lot 100 Grey Street East	Pines Estate Setbacks Frenchman Bay Road Residential Development Area Lake Seppings Drive/Loftie and Wright Streets Modification to Subdivision Guide Plans Catalina – Outline Development Plan Kalgan Rural Village Structure Plan Interim Outline Development Plan – Bayonet Head Brooks Garden – Outline Development Plan Outline Development Plan – Morgan Place Conceptual District Structure Plan

Special Development Control Areas (Non Residential)	
Barker Road Industrial Area	Neighbourhood Centres
Richard Street Light Industrial Area	Middleton Beach Tourist Precinct
Down Road Timber Processing Precinct	Woolstores Redevelopment Site
Albany Town Centre	Emu Point and Big Grove Village Centres
Albany Waterfront	Frenchman Bay Tourist Development Site
Centennial Park Redevelopment Area	Cheynes Beach Planning Policy

In view of the revised Local Planning Strategy and subsequent revision of the City's Local Planning Scheme, some of these policies would require review or will become redundant.

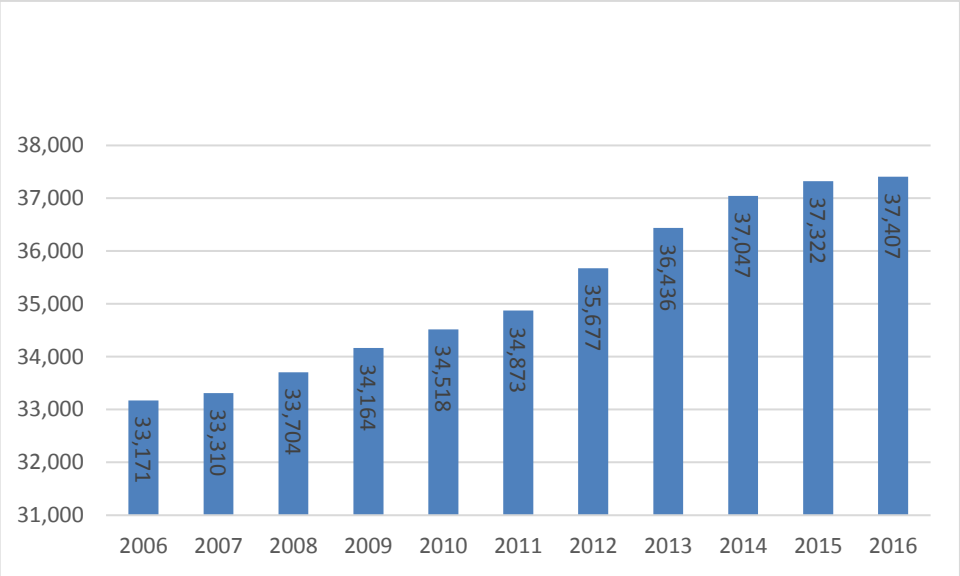
2 POPULATION AND SETTLEMENT

2.1 Population Profile

2.1.1 A Steady Population Growth

At June 2016, the estimated resident population was 37,407. The City's population growth has been steady since the 2001 Census with a five-year Compound Annual Growth Rate of 1.45%, 1.28% and 1.69%. On average, the City experienced a substantial lower population growth rate (1.4%) than Western Australia as a whole (2.4%) over the 10 years to June 2014.

Diagram 1: Estimated Resident Population



Source: ABS

2.1.2 Demographic Forecast

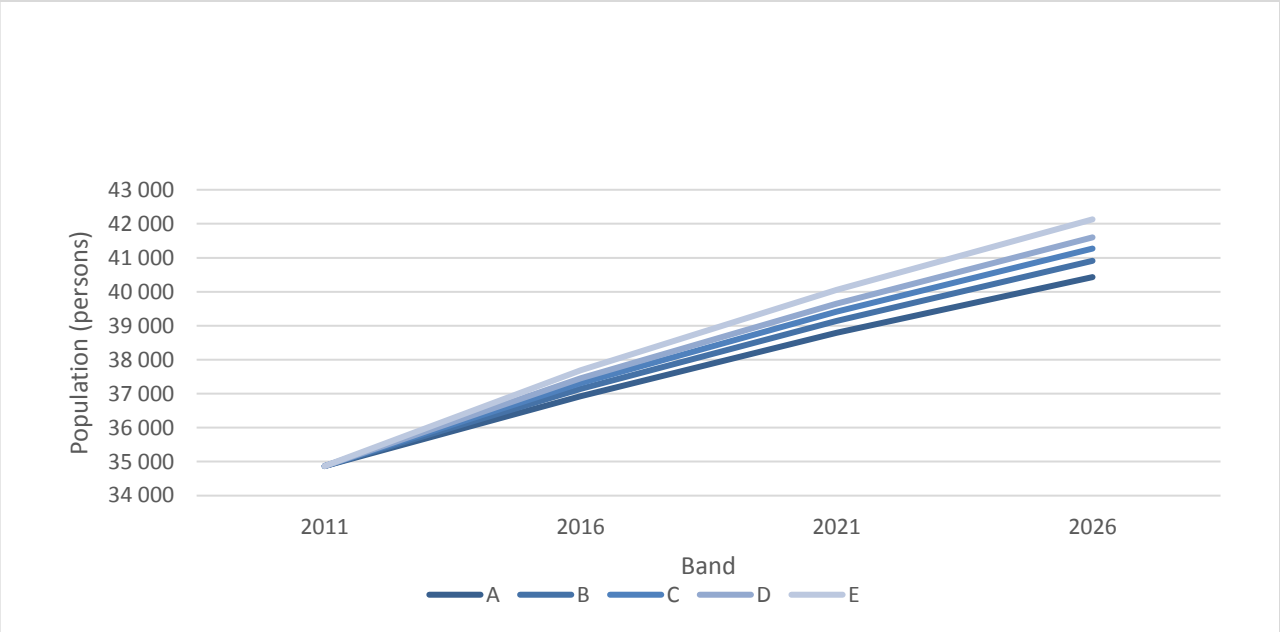
The demographic profile of the City is forecast to change significantly by 2026. Diagram 3 shows the population at the 2011 Census and the median Band C forecast for the City's population profile at 2026. The age cohorts are young children (aged less than 10), young adults (aged 20-35) and residents aged 55 and over.[1] The increase in the age cohort 55 and over follows a national trend in the ageing of communities.

The WAPC prepare population forecast for the State and each local government area.[2] A medium forecast (Band C) is the most likely population growth outcome, which is adopted in housing and land demand

[1] WAPC 2015, Albany Regional Hotspots Land Supply Assessment 2015.
[2] WA Tomorrow forecasts, released in 2015, are prepared using 10,000 different permutations that emulate the variability in population change shown in historical data. Each permutation shows possible growth or decline in a population, based on five variables (birth rate, death rate, net interstate migration, net intrastate migration and net overseas migration) that occur to varying degrees in each simulation.

requirements including subsequent strategies and actions identified in this Strategy. The median Band C forecast for the City shows a population of 41,270 in 2026. Achieving this population (from a 2011 baseline) will require an average annual population increase of 425 residents, or an average annual growth rate of 1.13%.[3]

Diagram 2: Population Projections 2026



Source: Albany Hotspots Report (2015)

2.1.3 Age Structure

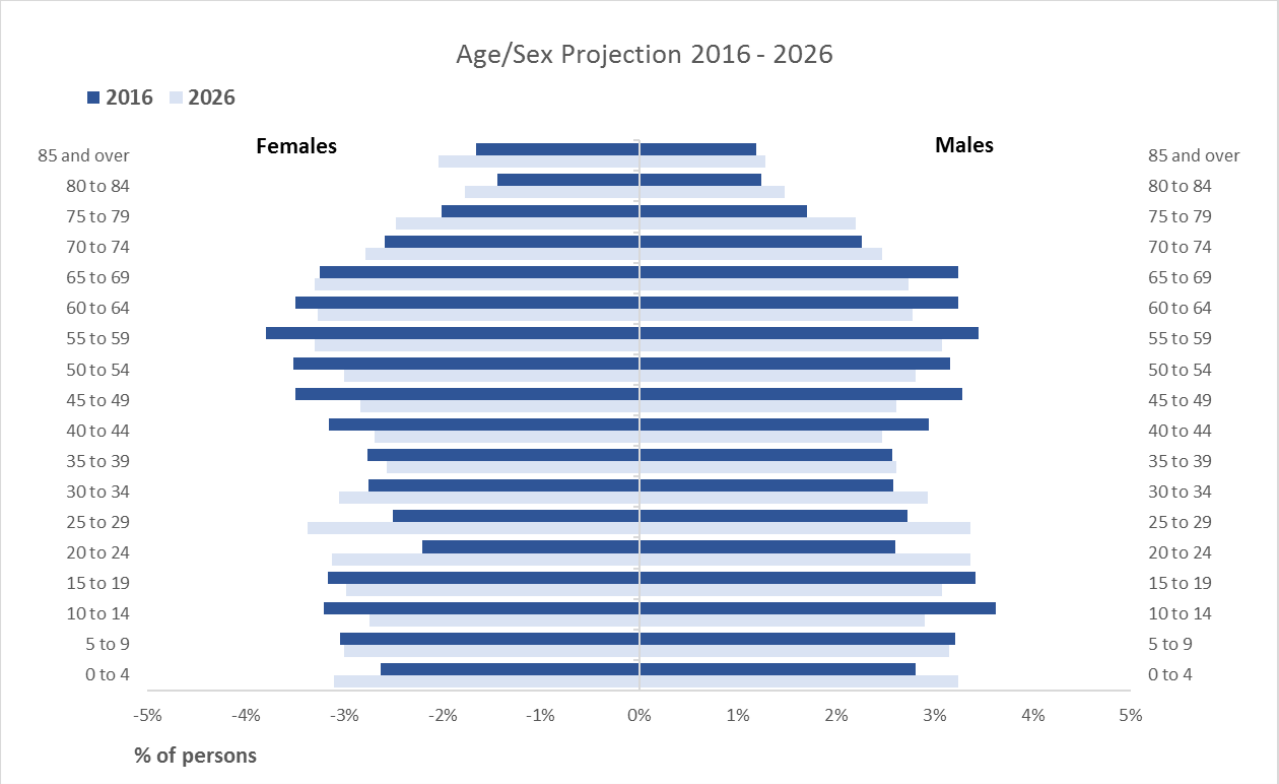
The City had a higher proportion of persons at post retirement age than Regional WA in 2016 (20.6% and 14.6% respectively). Most of the population growth in the City has been driven by older people moving to the City to retire. The largest changes in age structure between 2011 and 2016 were within the five year age groups between 60 and 74 years. In comparison to Regional WA, there is a lower proportion of people in the young adult age groups (25 to 34) and a higher proportion of people in the older age groups (65+).

The range of WA Tomorrow forecasts are divided into five 'bands' based on the projected rate of population change produced by each simulation. Each band includes one fifth of the permutations, with Band A representing the lowest quintile of projected population growth, Band C the median and Band E the highest. The WA Tomorrow documents publish the median value of each quintile to provide five forecasts.

A more detailed description of the methods and outputs of the WA Tomorrow research is available from the Planning WA website at www.planning.wa.gov.au/publications/6194.asp

[3] WAPC 2015, Albany Regional Hotspots Land Supply Assessment 2015. Available from www.planning.wa.gov.au/dop_pub.../Albany_Hotspots_2015_nov.pdf

Diagram 3: Age/Sex Projections, 2016 to 2026



Source: WAPC WA Tomorrow 2015, ABS 2016

2.1.4 Small Households in Majority

At the 2016 Census, the City's average household size was 2.38 which is slightly smaller than the Regional WA figure of 2.43 persons per dwelling.

The City has a higher proportion of lone person households and couples without children compared to Regional WA. Overall, the proportion of lone person households was 25.7% compared to 22% in Regional WA while the proportion of couples without children was 29.6% compared to 26% in Regional WA.

The number of households in the City increased by 1,256 between 2011 and 2016. The largest changes in family/household types in the City were couples without children, lone person households and one parent families (+398, 376 and 67 respectively).

A greater number of people are living alone; the City has 3687 lone person households (53% of the City's population).[4] Most people living alone rent, and there is a decline in homeownership among single households. Single people in housing need, are likely to experience difficulty in accessing social housing and are considered a low priority for housing[5] over families and people with a medical or social welfare needs.[6] Single persons

[4] http://profile.id.com.au/albany/households
[5] de Vas, D, & Qu, L 2015, Demographics of living alone. p. 4. Available from https://aifs.gov.au/publications/demographics-living-alone
[6] ibid, p. 26.

are less likely to have a car for transport and will use public transport[7] while younger single persons are more likely to live in the City centre.

2.1.5 Ethnicity

In 2016, 74% of the City's population was born in Australia and 19% overseas. Of those born overseas, 7% are from non-English speaking backgrounds and 12% from English speaking countries. Between 2011 and 2016, the number of people born overseas increased by 567 (or 9%), the number from non-English speaking backgrounds by 289 and from English speaking countries by 278.

The majority of the people born overseas are from the United Kingdom (constituting 8.7% of the City's population). This is followed by New Zealand (1.8%) and the Philippines (1.5%). Between 2011 and 2016, the largest changes in birthplace countries of the population were those born in Philippines (+103 persons), South Africa (+97 persons), United Kingdom (+87 persons) and India (+76 persons).

2.1.6 Health of Population

Research shows that healthy and active living can be positively encouraged and supported by the way we design and build our communities. Our environment – both natural and built – plays an important role in how much physical activity we do and on our health, including our likelihood of developing heart disease. It's easier to be active if communities are located:

- Close to shops, services, school, and jobs, that are within a walkable and bikeable distance instead of driving;
- has supportive infrastructure such as footpaths, road crossings, cycling paths and public transport; and
- offers quality spaces that improve wellbeing – like plazas, green areas, open space and recreational facilities.[8]

In 2016, 76% of adults (16 years and over) in the City were classified as overweight or obese (which is significantly higher than the State prevalence of 66%) and 44% did not undertake sufficient physical activity[9]. In children (5 – 15 years), these figures are 22% and 60% respectively[10].

A higher percentage of adults in the City (44%) do not undertake sufficient physical activity compared with the State prevalence of 37%; 42% spend more than 21 hours per week in sedentary leisure time; 38% eat fast food weekly, 17% are at high risk levels of long-term health and 24% experience a diagnosed mental health problem (higher than the State prevalence of 16%)[9].

[7] Bennett J & Dixon M 2006, Single person Households and Social Policy: Looking Forwards. p. 18. Available from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.505.6854&rep=rep1&type=pdf
[8] http://www.healthyactivebydesign.com.au/about-healthy-active-design
[9] Epidemiology Branch (2018). Albany (C) Adult Health Profile, 2016, Health & Wellbeing Surveillance System, WA Department of Health: Perth
[10] Epidemiology Branch (2018). Albany (C) Child Health Profile, 2016, Health & Wellbeing Surveillance System, WA Department of Health: Perth

Planning to increase physical activity and access to fresh local food while limiting access to fast food and alcohol outlets can assist in redressing these lifestyle related chronic diseases.

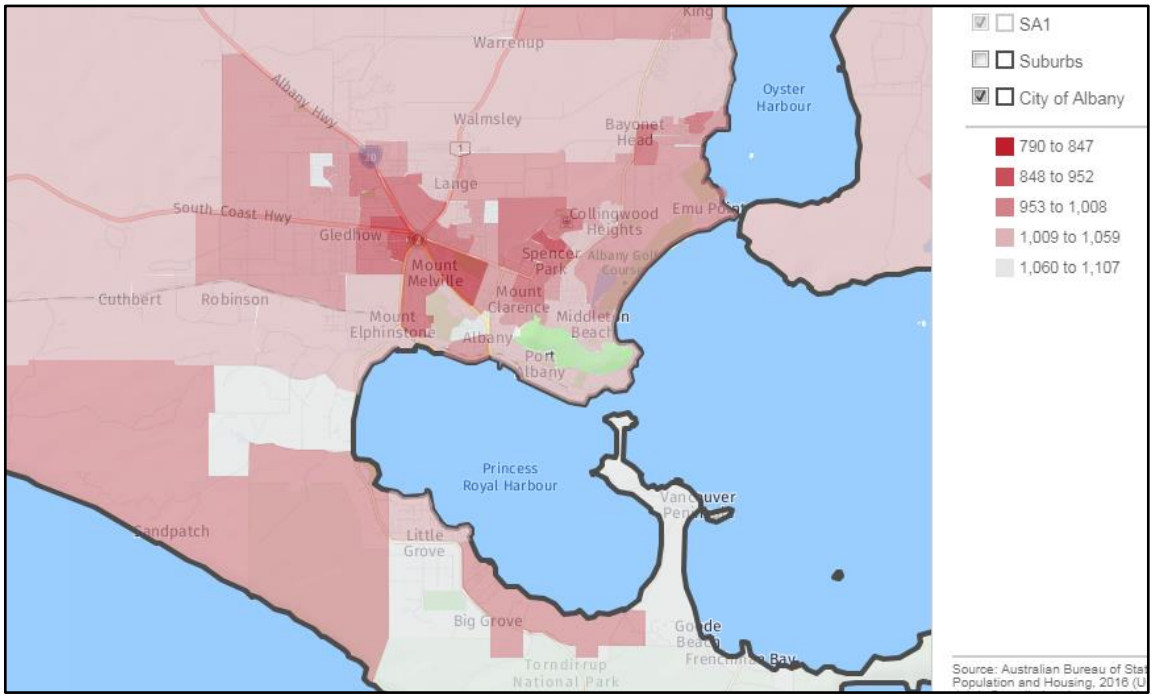
2.1.7 Index of Relative Socio-economic Disadvantage

The Index of Relative Socio-economic Disadvantage summarises a range of information about the economic and social conditions of people and households within a defined area. It assigns a numeric value based on these economic and social conditions, which can then be compared to measure relative disadvantage. The lower the value, the higher the level of relative disadvantage, which is typically the result of lower household income and people holding fewer qualifications or lower skilled occupations.

In 2016, the City was assigned a value of 989 on the Index of Relative Socio-economic Disadvantage. This is similar to other regional cities such as Bunbury (954) and Greater Geraldton (968); however, higher values were assigned to the cities of Busselton (1,014) and Kalgoorlie-Boulder (1,009). Across the state as a whole, the lowest values are assigned to remote shires such as Halls Creek (609), Upper Gascoyne (655) and Wiluna (703), while the highest in affluent suburbs of Perth such as Peppermint Grove (1,123) and Cottlesloe (1,118).

Within the City, the localities with the highest levels of relative disadvantage are Lockyer – Gledhow (872) and Milpara – Orana (889), while the localities with the lowest levels are Robinson – Little Grove and District (1,023) and Lower King (1,016).

Diagram 4: Index of Disadvantage



Source: .idcommunity

Planning Implications

The above information presents the following planning implications:

- The City is a popular retirement destination. Population growth is driven by people in the older age groups (50+) moving to the City.
- The increase in the age cohort 55 and over follows a national trend in the ageing of communities. This is likely to result in greater demands for health and aged care services, aged accommodation and public transport as older people will no longer drive.
- A major issue for the predicted increase in retirees and ageing population is the availability of suitable housing. Factors that need to be considered include location, choice, affordability and design of housing. Typically, older people require housing that is smaller and is closer to services and transport.
- The predicted increase in young adults will similarly require an appropriate planning response in relation to diversity and affordability of housing, location and access to services and facilities.
- The health of the population in the City can significantly be improved by the way we design our built environment. It is easier to be active where services and facilities are within walkable and bikeable distance, with supportive infrastructure such as footpaths, cycle paths and public transport with quality urban spaces.
- There is a link between healthy communities and the planning, design and management of the built environment. Higher densities, greater land use diversity (activity centres), connected movement networks, public transport, cycling and walking opportunities, and access to public open spaces, can all have a measurable impact on the health of a City's community.
- Young people may continue to leave the district unless pre-emptive actions are undertaken by the City and its partners. Supporting employment, educational and training opportunities and youth-oriented facilities offer a greater potential to retain young people in the district.

2.2 Settlement

2.2.1 Urban Growth

Figure 1 shows the extent of the City built area (urban, future urban and rural living) and land zoned 'Future Urban' under Local Planning Scheme No.1.

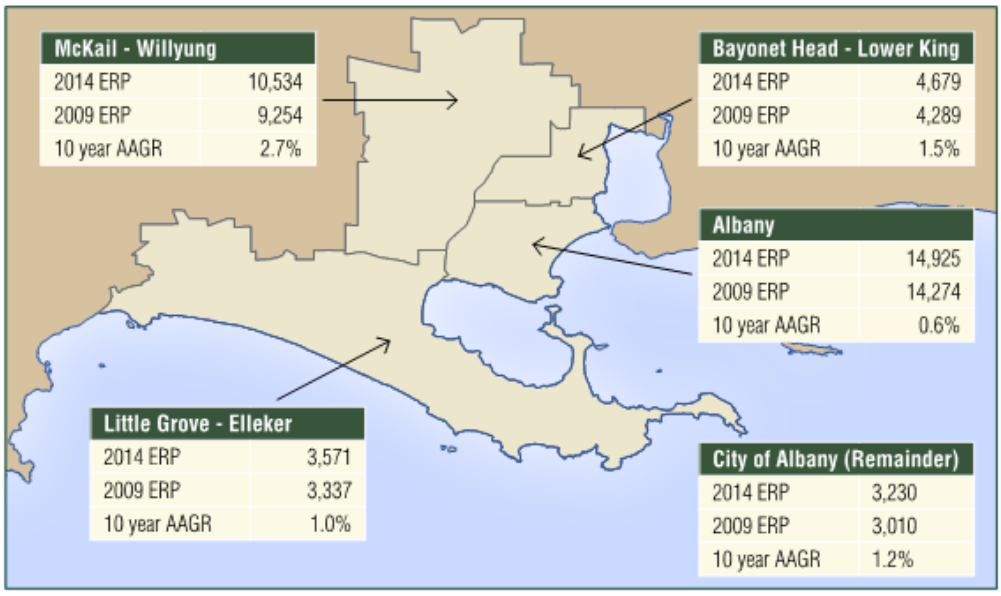
The key aim of ALPS (2010) was to consolidate fully-serviced urban development within defined areas to ensure that future urban growth extends from the existing urban areas within a framework of vegetation/open space corridors. Future urban development areas were identified close to major employment areas to maximise the use of transport systems, existing services and facilities and government services while reducing the impact on existing agricultural areas and protecting high-conservation areas.

ALPS (2010) promotes incremental staged development through the identification of priority areas however, this does not preclude the City or WAPC from considering developer-funded fully-serviced urban nodes within future urban areas that may not be consistent with their current priority classification. Despite a State Government requirement to comply with State Planning Policy No. 3 – Urban Growth and Settlement, many proponents have used the above clause as a justification for rezoning land ahead of the existing urban edge. Such proposals often commit to providing infrastructure, incorporating notional plans identifying local shopping, schools, community facilities, etc.

ALPS (2010) identifies approximately 2,000ha of land for future urban development with a yield of 28,500 dwellings. Only a small fraction of this land has been developed as discussed in detail in the Albany Regional HotSpots Land Supply Update (2015) report.

The *HotSpots Report* investigated the population growth within the urban settlement areas of the City. It concluded that most of the city's residents over the past 10 years have been accommodated in the urban expansion areas around the City urban centre, with 74% of the total LGA population increase in the decade to 2013 occurring in the Statistical Area 2 of Bayonet Head – Lower King, Little Grove – Elleker and McKail-Willyung.

Diagram 5: Population Growth (SA2)



Source: ABS (2014) *Catalogue 3218.0*

The Integrated Regional Information System Land Supply Model (IRIS) was developed by the Department of Planning, Lands and Heritage[11] group's major residential land use zones to provide a snapshot of residential land stocks. As at January 2015, the model showed a stock of 2,392 ha of land zoned for residential purposed, 1,550 ha (65%) was deemed to be developed and 842ha of land is deemed to be available for future development (428ha undeveloped and 404ha unrated). The model however, calculates large parcels of land with a house as developed; the development potential of this land is therefore not accounted for in this

[11] WAPC 2015, Albany Regional Hotspots Land Supply Assessment 2015.

calculation. Further analysis shows that almost half (734ha) considered developed under the model, consist of lots greater than 2000m^2 and therefore deemed not to be fully developed. The available land for future development is therefore 1,576ha.

As at December 2014 there were 1,562 additional vacant residential lots (excluding rural living) in the City which could theoretically provide sufficient sites for more than five years of dwelling construction at a rate consistent with the development trends of the past decade. In comparison, there are approximately 42 lots per 1,000 residents in the City, compared to 27 lots per 1,000 residents in Greater Bunbury.[12]

The Hotspots Report (2015) prepared a development outlook for the City based on LPS1 zoning and amendments, developer intentions, consultation with local stakeholders, subdivision applications/approvals, local government development applications and approvals, and structure planning. A large number of sites have been identified through the process around the Albany urban area. Large residential estates in Bayonet Head, McKail, Lockyer and Gledhow are partially developed with new lots created for residential development as required. Figure 2 shows the location of short, medium and long term future development areas.

Diagram 6: Dwelling Yields from identified future development areas

Suburb	Dwelling yield (<5 years)	Dwelling yield (5-10 years)	Dwelling yield (10+ years)
Bayonet Head	258	513	1,473
McKail	291	195	901
Warrenup/Walmsley	0	0	1,220
Big Grove	0	204	708
Yakamia	0	47	730
Lange	145	44	575
Gledhow	35	107	475
Lockyer	31	267	177
Lower King	18	0	327
Little Grove	11	0	330

Source: *Albany Hotspots Report (2015*)

The anticipated dwelling yield over the next five years based on WA Tomorrow Band C forecasts is 931 which is comfortably higher than 805 dwellings likely to be required under this projection. As the timeframe grows longer, the divergence between forecast demand and stock of development sites grows larger. Medium term (five-10 years) future development areas are anticipated to yield an estimated 1,571 dwellings, almost double the 805 that would be required.

[12] ibid

In summary, there is sufficient land zoned for residential and urban purposes to support population growth for approximately 62 years.

Cost of urban sprawl

The City currently has enough land to supply the market for the next 62 years, however the cost of this urban sprawl can be quite significant for local governments in the form of social, economic, environmental and health related costs. For local governments the cost comes from building community services, emergency services, and recreational facilities, including maintenance of roads. Government departments need to supply upgraded infrastructure and services which then makes it more expensive to service greater distances with fewer people. Infrastructure costs add greatly to development costs, which in turn contributes to the high cost of urban sprawl. Roads are the most expensive infrastructure category accounting for approximately 50% of the total infrastructure costs.[13] Infrastructure costs can be more than four times higher than in more compact urban areas.[14] Much of the infrastructure in established areas already exists so infill development typically has lower capital spending for councils.

Environmental and health costs include toxic exhaust fumes, noise, a car dominated life, stress, no walking, traffic collisions, water pollution, air pollution and sprawling development. University of Toronto researchers found that populations in less walkable neighbourhoods develop higher levels of diabetes,[15] and the City already has a high level of diabetes recorded. Meanwhile, the social costs for residents mean more time stuck in cars and less time for volunteering and getting involved in their communities.[16] Economic costs for residents include using their income on car repayments, fuel, maintenance and insurance. Suburban households drive three times more than households close to the City centre and with increased urban sprawl people have become less mobile with increasing obesity rates. Currently the City has 70% of adults classified as obese or overweight. By increasing housing densities by 50%, significant infrastructure costs can be saved[17] including social, health and lifestyle improvements made for the community.

[13] Department of Planning 2003, Costs of urban form, Discussion paper, May 2003. p. 16. *Available from* www.planning.wa.gov.au/dop_pub_pdf/gpdp7.pdf
[14] Siedentop, S & Fina, S 2010, Urban Sprawl beyond Growth: the effect of Demographic Change on Infrastructure Costs. Available from *https://www.cairn.info/revue-flux-2010-1-page-90.htm*
[15] Sustainable Prosperity 2013, Suburban Sprawl, Cost of roads and highways. Available from http://thecostofsprawl.com/
[16] New Urbanism n.d. Creating Liveable Sustainable communities, Sprawl costs. Available from www.newurbanism.org/sprawlcosts.html
[17] Department of Planning 2003, Costs of urban form, Discussion paper, May 2003. p. 21.

Planning Implications

The above information presents the following planning implications:

- There is sufficient land zoned for residential and urban purposes to support population growth for approximately 62 years. ALPS (2010) therefore designates land for urban expansion which is not required within the lifetime of this Strategy and beyond.
- There is substantial stock of serviced undeveloped vacant residential lots in the City. The consumption of these lots over the lifetime of the Strategy is important for whole of life infrastructure value and protection of agricultural land.
- There are a high social, health and environmental cost associated with urban sprawl and the City cannot sustain the rezoning and development of additional land within the lifetime of this Strategy.
- Future residential development should, as a priority, be directed towards vacant serviced residential lots and land zoned 'Future Urban'.

2.2.2 Urban Consolidation and Infill Development

The Scheme supports urban infill development and the need to maximise the use of existing 'Residential' zoned land. The Strategy identified actions such as precinct planning, providing a variety of residential densities and development of design guidelines.

Various initiatives have been implemented by the City over the last decade to increase densities in built areas:

- Higher density codes were assigned to suburbs under LPS1. These suburbs include Mt Melville, Mt Clarence, Middleton Beach, Spencer Park, Mira Mar, Centennial Park, Yakamia, Lockyer and Orana.
- The Spencer Park Improvement Area was created to facilitate mixed use development as part of an upgrade of the Spencer Park Neighbourhood Centre and to enable higher densities surrounding the area (R40, R60 and R80). The upgrade was an initiative of the Department of Communities and a Memorandum of Understanding was signed between the City of Albany and Great Southern Development Commission in December 2016 to establish a working group to examine revitalisation opportunities for Spencer Park. The Department of Communities has prepared the *'Spencer Park Improvement Area Local Development Plan'* which is in draft form. The LDP guides development and built form and ensures that individual development contributes to the Spencer Park neighbourhood centre as a vibrant village where the whole community feels safe and connected. The LDP includes a vision, precinct objectives and sub-precinct character statements and site and development standards.
- Within the CBD, an amendment was initiated by the City to achieve development consistent with the density and built form of the predominant locality in order to contribute positively to the streetscape and street activity, to encourage conservation of heritage buildings and to encourage conversion of existing buildings to residential use. It also aimed to achieve smoother transition between densities in the central area and the adjoining residential areas. Medium density development (R30/40) areas are located adjacent to the CBD to act as a transition from the higher density (R-AC) in the core to the

abutting lower density R30 residential areas. R40 areas where identified in the more elevated and visually prominent parts of the central area, whilst R60 to lower less exposed lots. As indicated by the below table, five additional lots were created since the gazettal of the scheme.

The following table indicates the density changes under LPS1, subdivision/strata application approved by WAPC and lots created since the gazettal of the Scheme in April 2014.

Diagram 7: Density Changes under Local Planning Scheme No. 1

Locality	TPS1A	LPS1	Additional Lots Approved
Albany (CBD)	R30, R160	R-IC, R30/R40/R60	5
Mt Melville	R20	R25 and R30	2
Mt Clarence	R30	R30?	1
Middleton Beach	R20	R25	4
Spencer Park	R20	R25	1
Mira Mar	R20	R25	40 (see note)
Centennial Park	R20	R30	5
Yakamia	R20	R25	3
Lockyer	R20	R25	0
Orana	R20	R25	0

Notes:

- This figure includes two larger subdivision applications being a strata application of 3 lots into 32 and a subdivision application of 2 lots into 8.
- Data collected April 2016.

Since the gazettal of LPS1, there has been some success in increasing densities in built areas with a total of 61 additional lots conditionally approved by the WAPC.

Albany Hotspots Report investigated the additional lot potential in the City through infill development. Based on the lower R-Code, a lot yield of 13,490 could potentially be achieved and on the higher R-Code 17,002 lots. This however, reflects theoretical infill potential only. Some key issues associated with urban infill are the extent of the current sewer; water and electricity networks; environmental factors such as slope and land capability and the location of the existing house on the block. Other issues include heritage matters; provision of sufficient public open space; achieving high quality design; maintaining a sense of place; location of activity centres and transport modes. A more detailed study which considers these factors should be undertaken to determine a realistic infill potential for the City.

Planning Implications

The above information presents the following planning implications:

- Take up rate of infill development (densification of neighbourhoods) are constrained due to the stock of vacant lots and land available for future urban development.
- Detailed planning should occur around densification of neighbourhoods in the City and associated design guidelines to protect amenity and plan for improved services and facilities. A Housing Strategy is the appropriate mechanism to achieve this.
- The increase demand for community services, including sport and recreational needs, POS provisions, education, public transport, walking and cycling should be considered in preparation of infill development strategies (higher density neighbourhoods).
- There is a need to fully utilise existing land and infrastructure through the identification of "brownfield" sites and under-utilised land in the City and the formulation of appropriate planning responses.
- Centennial Park has for some time been recognised as a locality that could benefit from urban renewal due to its proximity to the regional centre, its accessibility and the potential for increased development density and multitude of additional land uses.
- This Strategy should support the MOU between the City and State Government in the redevelopment of the Spencer Park Urban Renewal Area.

2.2.3 Rural Living

Rural living offers a rural lifestyle in close proximity to the Albany urban area and land zoned 'Residential' (with a density code of R1, R2.5 and R5), special residential and rural residential. Conservation and rural small holdings are also considered to fall within this category. Rural small holdings are larger lots (4ha – 40ha) which offer some opportunities for small scale farming, whereas rural residential (1ha – 4ha) is predominantly earmarked for residential purposes in a rural setting.

The strategic objectives of ALPS (2010) are to encourage the efficient use of existing rural living areas by maximising their development potential and to avoid the development of rural living areas on productive agricultural land, important natural resource areas and areas of high bushfire risk. In general, the Strategy highlighted that at 2010 there was an oversupply of rural living lots which was already identified under the *Rural Planning Issues Review* in 2002. The Strategy makes important recommendations to maximise opportunities in existing rural living areas to achieve higher sustainable lot yields based on land capability and service provision.

Within the City, there are large tracks of land zoned for 'Rural Residential', 'Special Residential', 'Conservation' and 'Rural Small Holding' purposes. Rural residential and special residential areas are located on the fringe of the 'Future Urban' zone, along the King and Kalgan Rivers and around Princess Royal and Oyster Harbours. The

rural small holding areas are located on the western fringe of the Albany urban area and the conservation areas within Big Grove, Torbay Hill and Nullaki.

There is general assumption that there is a substantial demand for rural living property in the City. *The Hotspots Report* (2015)[18] however, points out that since 2006 there has been a substantial reduction in the volume of sales for rural living properties above 1ha. Over the decade to December 2014, there has been a decline in rural living subdivision activity. The IRIS land supply model shows that at January 2015, a stock of 7,665ha of land zoned for rural living purposes of which 3,526ha (or 46%) was deemed to be developed. Land for Rural Living purposes are consumed at an average rate of 252ha per annum in the City. If consumption continues at this rate, it would take approximately 20 years to consume the volume of undeveloped and unrated land.

Subdivision of land for rural living purposes is less efficient in both the use of land and utilisation of services when compared to residential. It may also result in the loss of agricultural land, impact on State Forests and water catchment areas, and prejudice important mineral and stone deposits. The location of rural living on the outskirts of town means the communities live further from services, facilities and employment opportunities perpetuated by a lack of public transport.

Special Residential Zone

The local planning scheme contains the 'Special Residential' zone which aims to achieve protection of landscape quality and visual amenity, remnant vegetation, significant fauna/flora values, rivers, foreshore areas, creek lines and floodplains. It also aims to ensure that on-site effluent disposal systems are appropriately sited and constructed to ensure all nutrients/waste is retained on site.

There are 17 'Special Residential' zone areas under the Scheme which are described under Schedule 15. During the preparation of the Scheme, special provisions in common were listed under Clause 5.5.18. Those unique to each of the areas where retained under Schedule 15 – Special Residential Zone.

The following provides a summary of the areas within this zone and the minimum lot size.

Diagram 8: Special Residential Zones under Local Planning Scheme No.1

	Special Residential Zone	**Min lot size (LPS1)**
SR1	Karrakatta Road, Goode Beach	4000m^2
SR2	Bayonet Head Road, Bayonet Head	1400m^2
SR3	Endeavour Way, McKail	4000m^2
SR4	Warrenup Place, Warrenup	4000m^2
SR5	Moortown Road, Gledhow	4000m^2
SR6	Morilla Road, Lower King	4000m^2
SR7	Rufus Street, Milpara	2000m^2

[18] WAPC 2015, Albany Regional Hotspots Land Supply Assessment 2015.

	Special Residential Zone	Min lot size (LPS1)
SR8	La Perouse Court, Goode Beach	2000m^2
SR9	Gladville Road, McKail	4000m^2
SR10	Nanarup/Kula Roads, Lower King	4000m^2
SR11	Willyung Road, Willyung	4000m^2
SR12	Deloraine Drive/Warrenup Place, Warrenup	4000m^2
SR13	Hayn Road, Goode Beach	6000m^2
SR14	Lancaster Road, McKail	2000m^2
SR18	King River Drive, Lower King	5000m^2
SR20	Henry Street, Warrenup	4000m^2
SR21	Lot 11 Nanarup Road, Kalgan	2500m^2

The Model Scheme Text for local planning schemes under the *Planning and Development (Local Planning Schemes) Regulations 2015* does not make provision for the 'Special Residential' zone. The objective is for these areas to be transferred to the 'Residential' zone or the 'Rural Residential' zone. The appropriate zone will be determined by factors such as location in relation to the town centre, existing lot sizes, provisions of services (in particular sewer), capability to undertake agricultural activities and environmental protection considerations.

The review of LPS1 therefore needs to consider the implications thereof and investigate the appropriate zoning.

Planning Implications:

The above information presents the following planning implications:

- There is an oversupply of rural living lots (20+ years) in the City and planning for additional rural living areas are therefore not required.
- There is substantial stock of serviced undeveloped rural living lots. The consumption of these lots over the lifetime of the Strategy is important for whole of life infrastructure value and protection of agricultural land.
- There is an opportunity to maximise land use efficiency through the densification of rural living areas in appropriate localities. The appropriate level of servicing and community facilities needs to be considered as part of the densification of rural living areas.
- Rural Living areas are located on the outskirts of Albany where there is a lack of services, facilities and employment opportunities.
- The 'Special Residential' zone is not included within the Model Scheme Text under the *Planning and Development (Local Planning Schemes) Regulations 2015*. The review of LPS1 should consider the implication thereof and investigate the appropriate zone.

2.2.4 Rural Villages

Strategic Directions

Rural villages play an important role in the City by supporting the rural hinterland communities. These villages are community hubs which offer services such as a convenience stores, fuel stations, primary schools and sport and recreation facilities. Appendix 1 and 2 provides a detailed description of each of the rural villages.

ALPS (2010) made a number of assumptions and observations:

- Town sites are seen to become sustainable nodes offering a rural lifestyle based around an existing historical area. Some town sites have the potential to support additional residential development, tourist accommodation, retail, small business and community services.
- It predicted that town sites will expand as a result of development projects such as mining or tourism ventures and that their population will rise through lifestyle settlement such as sea change and tree change and more labour intensive agricultural uses.
- Although tourism and low cost housing and the sea change trends have increased the sustainability of some rural communities, population has been lost through increasing farm sizes and labour costs and new agricultural practices such as large-scale tree farming. In some cases, the population loss has compromised the viability of voluntary organisations such as local bushfire brigades, sporting clubs and community groups and loss of health and education services.

Based on these assumptions a number of recommendations were made and were subsequently implemented in LPS1.

- LPS1 to create a new zone to cover growing rural town sites with land use and development principles. The inclusion of Kalgan, Wellstead, Manypeaks and Elleker as 'Rural Village' zones in the LPS and facilitate the completion of structure plans for each. These plans to be developed with the community and key stakeholders and government agencies to determine growth potential. The level of servicing suitable land should accommodate growth and critical constraints to development.
- To establish controls for water supply and effluent disposal standards, lot sizes, permissibility of land uses and community infrastructure. It is proposed to allow flexibility in lot sizes and land uses.

The Strategy further recommends the retention of the existing rural town sites of Redmond, Manypeaks, Youngs Siding, Elleker, Torbay, Torbay Hill, Kalgan, South Stirling and Cheynes Beach as primary rural community focal points and settlement centres of a sufficient size (30-100 lots) to support a local store, community, sport and educational facilities.

Local Planning Scheme Provisions

The objective for the 'Rural Village' zone under LPS1 is to create a strong sense of community by enabling residential, commercial and recreational land uses to occur within the zone; to provide a range of lot sizes and activities, to achieve self-sustaining settlements (with water and effluent disposal) and to provide for the development of existing rural town sites in accordance with an individual Structure Plan prepared for the town site.

The Scheme lists permitted land uses prior to the completion of a Structure Plan as follows: Ancillary Accommodation (D), Bed & Breakfast/Farmstay (D), Civic Use (D), Community Purposes (A), Garden Centre (A), Home Business (A), Home Occupation (D), Home Office (P), Industry Cottage (D), Rural Pursuit (D) and Single House (P).

The Scheme zones Elleker, Kalgan, Manypeaks and Wellstead Rural Villages (RV) under LPS1. In accordance with clause 5.5.17.3, subdivision within the 'Rural Village' zone will be supported in accordance with an adopted Structure Plan prepared under clause 5.9 of the Scheme.

Planning Implications

The above information presents the following planning implications:

- Growth of rural villages as predicted under ALPS (2010) to support mining activity (for example Grange Resources) and sea/tree change retirement has not occurred. Based on population protections for the City, growth in rural villages over the next decade is likely to be slow. Subdivision in Elleker is constrained by its location in a sewerage sensitive area under the *Government Sewerage Policy (2019).*
- Elleker has little growth and subdivision potential and the requirement under LPS1 for the preparation of a Structure Plan should be reviewed. Structure Plans would however, be required for Manypeaks and Wellstead. A Structure Plan has been approved for Kalgan.
- The ability to allow for diversification of land uses which support self-sufficiency and diversification of economic land uses in rural villages is limited by the 'Rural Village' zone. A review of the land use permissibility under the 'Rural Village' zone under LPS1 should occur.
- Rural villages have an important role to play in supporting the agriculture, tourism and the resource industry. Horticulture could develop in areas with good soil and water availability, tourism in areas of high scenic value such as Torbay and Kalgan and resource industries such as Southdown Magnetite proposal in Wellstead.

2.3 Housing

2.3.1 Housing Profile

Dominance of Single Detached Housing

There were 16,930 dwellings in the City at the time of the 2016 census. Most dwellings in the City (88.5%) were detached dwellings compared to 82.5% in Regional WA. There is no high density housing available in the City with 8.9% of the City's dwellings being medium density.

Dwellings with three bedrooms were the most common in the City in 2016 (42%), followed by four bedroom dwellings (30%). One- and two-bedroom houses constitute 17% of the City's housing stock. The largest change in the number of bedrooms per dwelling between 2011 and 2016 were in four bedrooms (+457 dwellings) and four bedrooms (+235 bedrooms). An additional 79 one-bedroom units were constructed in this time period.

The changes in dwelling structure in the 2011 and 2016 Census years were dominated by the construction of detached houses with no additional medium or high density houses constructed. High density development delivers small dwellings which are required for the high number of one- and two-person households in the City thus meeting the needs of young people, seniors and retirees.

Lack of Small Units

The *Great Southern Housing Needs Analysis*, commissioned by the Department of Communities, Landcorp and the Great Southern Development Commission, identified unmet demand for one- and two-bedroom dwellings in the region. A focus on smaller, high amenity housing close to services and employment will help to increase both the affordability and diversity of housing stock, as well as catering for the needs of the ageing population.

This shows a need for more diverse housing products including apartments and smaller dwellings in the City. The Department of Communities has completed projects in 2013/2014 with the development of 12 x 2-bedroom units in Mira Mar for the elderly and people with disabilities. They have also completed 7 x 2-bed units in McKail and 5 x 2-bed units in Spencer Park. Another 16 homes were constructed by the end of June 2017, seven are currently under construction or completed.

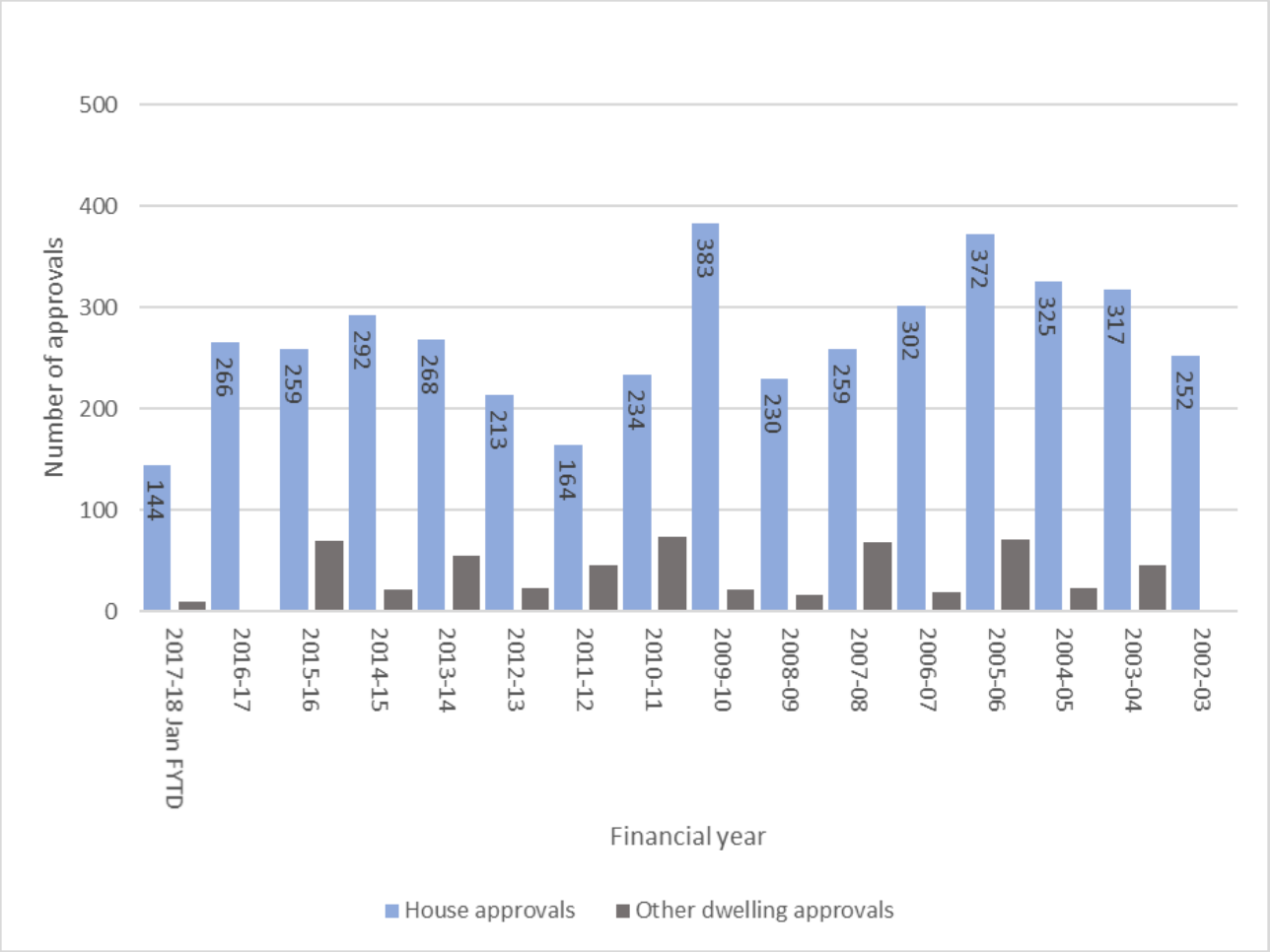
Dwelling Approvals

Dwelling approvals are the key demand indicator, representing either owner-occupied demand or investor confidence. As most dwelling approvals proceed to construction and eventually completion, they also provide a leading indicator of dwelling supply. Dwelling approvals peaked over the growth period 2004-2007 and again during the First Home Owners Grant boost period (2010). The number of dwellings constructed has been steady in recent years (259 approvals in 2015/2016 and 266 in the 2016/2017).

Building approvals fell in Perth between 2015-16, and regional WA also had a decrease in the number of commencements which have been declining since 2014.[19] The Housing Industry Forecasting Group has predicted that dwelling commencements will continue to fall until 2017-18 and then start to increase below the 2015-16 level.[20]

[19] Housing Industry Forecasting Group 2016, Forecasting Dwelling commencements in WA 2016-2017. p. 14, 19. Available from https://www.planning.wa.gov.au/dop_pub_pdf/HIFG_Report_201617.pdf
[20] ibid, p. 25.

Diagram 9: Residential Building Approvals



Source: ABS, Building Approvals, Australia (8731.0)

High Rate of Unoccupied Houses

Of the 15,949 houses recorded at the 2016 Census, 15.8% (2524) were unoccupied. This is likely to be related to the large number of dwellings in the City used as holiday homes. The City's records however, indicate that 135 houses were registered in 2014 and a number of houses in the City are used as holiday homes by farming communities. This however, does not explain the full extent of the vacancy rate.

Journey to Work

The majority of the City's working residents are employed locally (94%). The remainder commute to Plantagenet (3% or 490 people), Denmark (1% or 142 people), and the remainder to surrounding Shires and mining centres such as Laverton, East Pilbara, Ashburton, Karratha and Boddington.

Analysis of car ownership in 2016 indicates 57% of households in the City had access to two or more motor vehicles, compared to 54% in Regional WA.

Youth Homelessness

WA has seen an increase in housing affordability stress and increase in homelessness with 9,592 people identified as homeless in Western Australia (2011) and 35% of this group are identified as Aboriginal. This represents a 16% increase from 2006. Data indicates that rural localities have experienced increased homelessness. Family domestic violence and financial difficulties are the two major drivers for homelessness. The flow on effect to local economy and community participation in regional localities is significant, impacting largely in reduced work force participation and increased transience. Housing diversity in the City continues to present as a major population issue with limited options for affordable housing and lacking an affordable housing strategy. Partnerships between local governments and community providers haven't been used as extensively or been as successful as possible.

2.3.2 Trends in House and Land Prices

The *Albany Regional Hotspots Land Supply Assessment (2015)* identified the following trends with regard to house and land prices in the City:

- Median house prices in the City rose sharply between 2004 and 2007, increasing from $192,750 to $415,000 in 2007. The price increases where driven by favourable economic conditions of the time.
- The latest information released from the Housing Industry Forecasting Group shows the median house price is $370,000 as of November 2016.[21]
- The median house price slumped after 2007, and by 2014 the medium house price was still significantly below the 2007 level by approximately 10%.
- During the period of rapid increasing prices in 2007, the City prices were tracking a similar trajectory to those in the Perth metropolitan area. Since 2007, the difference between median prices in the two centres has widened considerably. At 2016, the median house price in Perth was approximately $142,000 more than that of the city.
- Similarly, the median lot price in the City increased nearly three-fold, from $74,000 in 2004 to $213,000 in 2007. The median lot prices slumped after the global financial crises and in 2014 it was 25% lower than in 2007.
- At the end of 2014, there were 790 residential properties listed for sale with REIWA agents (including 315 lots). The average selling time for properties in the City during the December quarter 2014 was 140 days. In comparison, the more populous Bunbury had 922 listing (including 154 lots) with an average selling time of 98 days.
- The cost of housing in the region is lower than other regional locations in WA but the median income is also lower which creates an affordability issue. For example, based on sales up to June 2017, the median house price in the Albany urban area was $375,000 and the median unit price was $276,000.

[21] Housing Industry Forecasting Group 2016, Forecasting Dwelling Commencements in Western Australia. p. 10.

2.3.3 Affordable Housing

Housing affordability is predominantly an urban problem with many households in the City in housing stress. Having a job does not insure against housing affordability with lower income households experiencing housing stress. Low rental housing stock has declined particularly in inner urban areas, with the losses not being offset.

Notwithstanding the median house prices in the City being lower than that of other regional locations in WA, the median income is $62,860, which allows for an affordable purchase price of $317,042 (based on 30% of income allocated to housing costs, a 10% deposit and a 30 year home loan at 5.27%). This leaves a shortfall of nearly $58,000 for those earning the median income and an even greater affordability issue for those earning lower incomes.

The City's median rental price is $348 per week for the September quarter in 2016. The HIA–Commonwealth Bank index on housing affordability in Western Australia for the September quarter of 2014 was 107.5, up 2.9 index points on the previous quarter but down 3.0 points on the year. The report found that housing affordability was more favourable than in New South Wales, Victoria and Queensland. The National Rental Affordability Scheme continued adding to the supply of affordable rental housing with 2,989 dwellings throughout Western Australia. However, this program has since been cancelled.

There are a number of vacant lots located in the centre of town, Mira Mar, Spencer Park and Yakamia. Locations such as these that are in close proximity to central Albany are highly desirable for higher density, affordable housing due to access to services, facilities and employment opportunities within walkable distance and/or public transport routes. A large number of lots in Bayonet Head, McKail and Warrenup are vacant with close shopping facilities nearby, however they are located further away from the City centre.

Given the City's strong tourism, hospitality and agricultural focus, consideration should also be given to housing that caters for the needs of seasonal, casual or low income workforces. Solutions may include purpose-built key worker housing which would ensure the availability of affordable housing and help to attract and retain key workers in the region.

State Policy Context

State Affordable Housing Strategy 2010 - 2020

The State Government's *Affordable Housing Strategy 2010-2020: Opening Doors to Affordable Housing* identified actions to provide new opportunities along the entire housing continuum, with a focus on low and moderate income groups. The State Government has also set minimum targets for the construction of 20,000 affordable homes by 2020 in WA which was met in 2015. They have now set a new target which will provide another 10,000 affordable houses in the next five years. Within the Great Southern region the State Government delivered 190 social housing dwellings, 55 discounted private rentals, 180 Keystart loans and 40 shared equity programs.

The Department of Communities will continue to look at housing models and policy settings which provide an opportunity for people to improve their social and economic circumstances, as well as facilitating the market to deliver housing. The Department will continue to work with the various levels of government, including the City of Albany, and with the private and not-for-profit sectors to access funding and leverage land and housing assets to increase the supply for affordable housing in the region.

Affordable Housing Action Plan 2017/18 to 2019/20

The State Government's Affordable Housing Action Plan commits to delivering 7,700 homes for people on low to moderate incomes, as well as investing in new construction that will support $2.3 billion in economic activity and almost 6,000 jobs over the three-year plan. It also increases affordable housing opportunities to a minimum of 35,000 by 2020.

The Plan reflects the Department of Communities focus on the connections between People, Place, Home – placing greater emphasis on where and how people live, not just what they live in. It delivers additional crisis and social housing for vulnerable citizens, expands transitional rental housing, and continues to support Keystart loans and shared home ownership for aspiring low to moderate income home buyers.

WAPC 'Planning Provisions for Affordable Housing'

The Western Australian Planning Commission released the *Planning Provisions for Affordable Housing* paper in 2013. It focused on developing changes that enable local governments to introduce voluntary incentives into their planning schemes to encourage affordable housing in new developments.

The paper highlights that there are points in the development process where planning does (and does not) have an influence. Planning can influence or control development outcomes by rezoning land or by placing conditions on the approval of the subdivision of land and the development is complete. It has very little if any role in monitoring the price of the home or the circumstances of the occupants, which are the two things that have the greatest influence on affordability. As a result, any changes to the planning system will need to be accompanied by changes to the housing system, which will need to provide the means to implement, measure and monitor affordable housing land or housing once it has been built and planning's role has concluded.

The paper reveals important issues that need to be considered to respond to affordable housing such as:

- Planning conditions need to be clear and easily understood;
- planning's role should be restricted to development assessment;
- housing delivery mechanisms must be in place before policies are implemented;
- land subdivision and housing development present different challenges; and
- the type of affordable housing that is appropriate will depend on the location and nature of the development.

Planning Implications

The above information presents the following planning implications:

- There is a dominance of single detached dwellings in the City.
- There is a lack of affordable housing in the City.
- There is a need to increase housing diversity across the City to meet the needs of small households, ageing population and the predicted increase in youth. Housing diversity also offers a range of house prices and occupancy type and therefore assists in housing affordability and homelessness and alleviates intra-city inequities.
- A focus on smaller, high amenity housing close to services and employment will help to increase both the affordability and diversity of housing stock, as well as catering for the needs of the ageing population.
- There is a need to prepare a Housing Strategy in partnership with relevant State Government agencies. The Strategy should investigate incentives such as bonuses and concessions for the delivery of affordable housing and opportunities to partner with the State Government and community housing providers.

2.4 Community Services and Infrastructure

The City is expected to experience gradual population growth and there will be a need to review, upgrade, extend and possibly rationalise the provision of social infrastructure including those provided by the City based on changing demographics and community needs.

The City provides a range of social infrastructure facilities including the Albany Public Library, Albany Regional Day Care Centre, community centres and halls. Some of the City facilities are leased or licenced to community, service, religious, leisure, and sporting groups.

2.4.1 Sport and Recreation Facilities

Sport and recreation facilities both informal and formal open space contribute significantly to the community's quality of life. The district has significant active recreation assets and the Centennial Park Sporting Precinct is the premier sporting precinct catering for a wide range of indoor and outdoor sport facilities. The Albany Leisure and Aquatic Centre is the region's premier indoor leisure and aquatic facility.

The Centennial Park Sporting Precinct upgrades have shown a greater need to plan for the growing population and sporting hubs in other areas around the City. The City is therefore undertaking the preparation of a Sports and Recreation Future's Plan which will provide a strategic planning framework when completed and will include:

- Current facility infrastructure and programs;
- identify trends which can impact future sport needs;
- identify future facility requirements and support through sustainable funding;
- focus on infrastructure and formal club based sports;

- greater programs and services to give positive health outcomes; and
- partnerships beyond sport and recreation (transport, education, tourism).

In 2016, the City of Albany undertook a demand study into the need for a multi-use motorsport park that demonstrated a strong need and desire for such a facility in the region. The draft *WA Motorsport Strategy* [22] identified the proposed Albany Motorsport Park as a regional level facility also serving local needs. The strategy further recommended detailed planning and feasibility of developing the Motorsport Park should be undertaken. Recognising the interest in motorsports in the Great Southern, the WA Government has committed $250,00 to undertake the preliminary planning[23] and a further commitment of $5.75 million in the 2020/21 forward estimates for its development. The Motorsport Park will be constructed 20km north of Albany town centre on Down Road with regional access off Albany Highway.

2.4.2 Public Open Space

The City offers a range of recreation opportunities and POS which cater for people of all ages. The City is currently responsible for managing 486 parcels of land declared as natural reserves along with 80 developed reserves. The developed reserves include infrastructure such as playground equipment and walking paths.

The City contains parks, ovals/playing fields, playgrounds, multi-use games areas, skateboard parks, indoor sports facilities and areas for informal recreation (walking, cycling and horse riding). The Local Planning Policy on Public Parkland undertakes an audit of the City's recreation facilities and POS and a supply and demand assessment thereof.[24] Albany is overall well served by parks and open spaces and in most areas there is an adequate amount of parkland available.

2.4.3 Health

Albany is serviced by a range of health facilities and services including the Albany Health Campus, medical centres, doctors' surgeries and other health practitioners.

The City is a popular retirement destination attracting increasing numbers of people aged over 60. A growing and ageing population will require additional expanded health facilities, services and aged care units. Regional documents seek an upgraded health service with intended outcomes including that 'Access to health infrastructure and services will be comparable to that in the metropolitan area. The region will have comparable health outcomes to the metropolitan area'.[25]

Most of Albany's medical centres are located within at 3km radius of the central business district (CBD) but most residents live further than 5km from the CBD. The lack of medical centres in the suburbs is partly addressed by diversification of retail-centric shopping centres into mixed-use activity centres which will in the

[22] DLGSCI, 2018. Western Australian Motorsport Strategy (Draft). Department of Local Government, Sport and Cultural Industries.
[23] Watson, P. 2018. "Great Southern Motorsport Park, Albany WA, Australia".
[24] City of Albany 2014, Public Parkland Policy. Available from City offices.
[25] GSDC 2015, Great Southern Regional Investment Blueprint. p. 9.

future allow for services such as medical centres to establish outside of the CBD. This is discussed in more detail under Section 3.2.

The land use planning system can assist in the provision of health services through statutory support of new proposals and through identifying future land requirements through precinct and structure plans.

2.4.4 Education

The provision of education facilities is a key requirement for the district and the growth of the City. Accordingly, it is important that land use planning encourages the setting aside of land to establish new schools in appropriate locations. Within the timeframe of the Strategy two additional primary schools will be required at McKail (site zoned for this purpose under LPS1) and Bayonet Head.

There is a wide variety of education and life-long learning opportunities in the City. These include kindergartens to tertiary education, incorporating both public and private providers. The City generally has an adequate number of schools catering for primary and secondary education. Tertiary providers are the Great Southern Institute of Technology (TAFE), the University of Western Australia Albany Centre along with wide-ranging on-line learning providers.

The Department of Education is a key stakeholder in planning and developing public schools.

The provision and quality of education facilities has a strong influence upon the vitality and viability of communities. Access to education plays an important role in the social and economic development of the district. The Great Southern workforce development plan stated that there are a limited number of units available for year 11 and 12 students when compared to metropolitan schools.[26] The WAPC[27] note that the 'provision of high quality education services is critical for retaining people, and particularly young people' locally.

The Great Southern Development Commission notes that:

> 'Despite a significant tertiary education presence in the region, the trend is for young adults to leave the Great Southern to pursue education and employment opportunities. This loss of young people has an effect on the region's post-school education participation rates.'[28]

There are opportunities for shared community and school use of ovals and facilities. The Department of Education policy states that school facilities and resources must be made available for use by the community and other potential users. The design of new schools should seek to locate facilities such as ovals, courts, and other recreation and facilities in areas accessible to the community, while still maintaining the security needs of core school facilities.

[26] Department of Training and Workforce Development 2013, Great Southern workforce development plan 2013-2016. Available from http://www.dtwd.wa.gov.au/sites/default/files/uploads/Great-Southern-workforce-development-plan-2013-2016.pdf
[27] Department of Planning 2014, Great Southern Regional Planning and Infrastructure Framework (draft). p. 15. Available from http://www.planning.wa.gov.au/dop_pub_pdf/Great_Southern_Regional_Planning_and_Infrastructure_Framework_Part_A.pdf
[28] GSDC 2015, Great Southern Regional Investment Blueprint 2015. p. 49.

Support to enhance tertiary education growth is outlined in various regional planning and economic documents, for example: 'opportunities exist for public and private investment in the education sector including in secondary education and tertiary education and training' and the region will have a 'vibrant tertiary education sector'.

A visionary and strategic approach with State and regional partners is required to establish a regional university. As the concept moves towards a reality, there will be a need to address a range of matters including the provision of a wider range of housing diversity, supported by the LPS and LPS1, for more diverse population (e.g. student housing, apartments etc.) in suitable locations close to facilities and public transport.

Land use planning can assist in the provision of tertiary education through the preparation of structure plans, local development plans, activity centre plans and master plans, to coordinate land use and transportation and in the approach to matters including parking provision.

Planning Implications

The above information presents the following planning implications:

- *The Sport and Recreation Future's Plan* will provide an assessment of current and future recreational needs of the community. Based on the outcomes of this plan, the planning implications and spatial requirements should be identified under future updates of the Local Planning Strategy.
- There is a shortage of public open space in the suburbs of Bayonet Head, Lower King and Orana. *The Public Parkland Policy* addresses planning matters to improve provision in these suburbs.
- There is a lack of medical centres outside of the CBD. This is addressed through the planning direction provided for activity centres (discussed under Section 3.2). There is a need to provide statutory support for such services in the interim.
- Co-location of sport facilities with schools initiatives should be promoted in structure plans.
- Supporting growth of the tertiary education sector will assist in retaining young people in the region. Land use planning can assist in the provision of student housing within close proximity to existing tertiary education facilities with walkable and/or public transport access through planning mechanisms such as structure plans, local development plans and activity centre structure plans.
- Consideration of the proposed regional motorsport facility in the planning of the Mirambeena Strategic Industrial Expansion Area.

2.4.5 Planning for Future Facilities

Structure Plans

Structure plans and related local development plans, activity centre plans, precinct plans and master plans can assist to support the provision of social infrastructure. The need for social infrastructure, its location, relationship with surrounding uses and how it will be accessed can be considered. Background details relating to structure plans are set in various WAPC documents. Structure plans are an important tool in allocating land uses, densities, coordinating infrastructure and promoting orderly and proper planning.

The structure plan process is set out in *Planning and Development Regulations 2015 (Local Planning Schemes).* Structure plan content is guided by wide-ranging WAPC and City requirements. For instance, there is a legislative and policy framework for POS through the subdivision process including the City's Public Parkland Policy.

There are opportunities to promote co-location and shared use of recreation and community facilities on school sites. This can be considered through the structure plan and more detailed planning processes.

Developer Contributions

The City, as in many other parts of WA, is facing increasing pressures on the services it provides. These pressures arise from population and economic growth, and increasing community expectations for new and upgraded infrastructure. The capacity of local governments to provide the additional infrastructure and facilities necessary to accommodate future growth and change is limited. As a result, local governments are increasingly seeking to apply development contributions for the construction of infrastructure and facilities beyond the standard requirements such as car parking, community centres, recreation centres, sporting facilities, libraries, childcare centres and other such facilities.

The City seeks contributions from developers, where appropriate, at the subdivision and development stages. LPS1 contains provisions consistent with the Model Scheme Text relating to Development Contribution Areas, while Schedule 13 of LPS1 sets out the Development Contribution Area for the Bayonet Head Outline Development Plan. Developer contributions are a mechanism for the sharing of infrastructure costs associated with subdivision and resulting development. For instance, obtaining land as POS or as cash-in-lieu payment is a standard planning requirement. Development contributions can be sought for items of infrastructure that are required to support the orderly development of an area.

Draft State Planning Policy (SPP) 3.6 Infrastructure Contributions (July 2019) set out the principles and requirements that apply to infrastructure contributions in new and established urban areas. It also provides a system that enables the coordination and delivery of infrastructure that will provide opportunities for development of new communities in greenfield locations, infill locations, activity centres, corridors and high frequency public transport routes, industrial nodes and station precincts. The *Draft SPP 3.6 Infrastructure Contribution Guidelines (July 2019)* provides guidance on the practical application of the infrastructure contributions system in WA and additional information on aspect of the infrastructure contribution system for Local infrastructure as established in SPP 3.6 Infrastructure Contributions.

Local Infrastructure is fundamental to the economic and social wellbeing of any community. For the purpose of SPP 3.6, local infrastructure includes development infrastructure, infrastructure required to facilitate

development and to support the orderly development or redevelopment of an area and community infrastructure, infrastructure required for communities and neighbourhoods to function effectively.

Planning Implications

The above information presents the following planning implications:

- There is a need to meet the recreational (active and passive including public open space), educational and community services needs in existing and planned neighbourhoods.
- There is a need to investigate the establishment of a Development Contribution Area across the entire Scheme area to ensure that the provision and sharing of infrastructure costs associated with new development, including infill is equitable.
- The land use and spatial implication of various community strategies such as the *Sport and Recreation Futures Plan*, *Age-Friendly Albany Plan, Youth-Friendly Albany Strategy, Healthy Albany* and the *Access and Inclusion Plan* should be implemented under the local planning scheme.

2.5 Heritage and Culture

The City of Albany recognises that it has a rich and diverse heritage and as a result has a number of initiatives in place to identify, protect, manage and promote the City's heritage. Our heritage includes Indigenous, cultural and built which can be used as a portfolio for development in terms of marketing, awareness and education to the wider community. Culture can be tangible in the form of buildings or artefacts or intangible as customs, in their way of life, dress, food, and values.

Heritage places contribute to the quality of life and cultural identity of our communities and can be the focal point for community gatherings. There are many reasons to protect Aboriginal heritage:

- Heritage needs protecting - with effective management and clear guidelines to assist decision making by prioritising and budgeting for conservation and other protection measures.
- Encourage opportunities - for communities to value their heritage and develop partnerships with Aboriginal and natural heritage stakeholders, this will allow for an inclusive approach to understand local heritage. Facilitate and encourage the proactive conservation and management of heritage in the district by managing private and government owned heritage assets.
- Communicating and promoting - raising the appreciation, awareness and understanding of the social, environmental, community and economic benefits. Embedding heritage in policy and planning will ensure the sound conservation, successful adaption and harmonious development of the district's heritage.
- Address challenges – including climate change, loss of knowledge of genealogies, loss of Indigenous stories or traditional language. Challenges such as the lack of specialised and/or skilled staff, with students not encouraged to study cultural heritage fields, are addressed. It also assists in the correct interpretation of resources to provide the tourist with a quality experience.

2.5.1 Aboriginal Heritage

Noongar people of the Menang group are the traditional owners of Albany and have occupied the area for at least 18,000 years. They called the area Kinjarling, which means the 'place of rain'. The Noongar descendants of the early Menang hold a proud and respected place in the City of Albany of today. The Menang people were sea people as opposed to river and land people who inhabited the regions of Wardandis and Bibbulumn.[29] Their heritage holds a strong tie to the sea.

The Noongar people have a close association with their country (boodja). Noongar heritage and country are interconnected. Noongar heritage encompasses laws and practices, connection to boodja and traditional ecological and cultural knowledge of country and its biodiversity. Noongar heritage also includes the archaeological records of Noongar people, areas of mythological or ceremonial importance, places where traditional and cultural events took place, and the ongoing physical and spiritual involvement of the people with country. Noongar heritage provides an essential emotional, physical and spiritual link to traditions, culture, practices and identity[30].
Under traditional laws and customs, Noongar people have responsibilities for looking after country. It is recognised that heritage places are still used today and provide a means of maintaining Noongar culture and heritage. The protection of Noongar heritage is therefore a matter of protecting Noongar cultural identity, and facilitating access to country to look after these heritage places and values. This interconnectedness is explained through traditional laws and customs, creation stories, songs, and other cultural practices transferred through generations to explain Noongar 'world view' and knowledge of country. Through accessing country Menang people seek to promote and retain connectivity with the landscape, and connecting with country is a cultural practice to foster spiritual renewal[31].

The City commissioned the Aboriginal Heritage Survey (2005) in conjunction with the former Department of Indigenous Affairs to address Aboriginal heritage matters and create a database for use in assessing planning proposals. While Aboriginal people used the whole of the biosphere, they however preferred certain zones. Areas such as woodlands, the coastline, rivers, estuaries, lakes and granite caps were preferred locations that were frequently visited and areas near water were often where major camp sites were located. The report found that Aboriginal settlement flourished near rivers, coastal and estuarine areas which were used for hunting, gathering and ceremonial purposes. The report identified specific settlement sites and recommended that developers undertake archaeological surveys before submitting any proposals involving these sites.

The Department of Aboriginal Affairs has identified a number of places throughout the district as having Aboriginal heritage value that are registered on the Register of Aboriginal Sites. The *Aboriginal Heritage Act 1972* protects all Aboriginal sites in WA whether they are known to the Department or not. The Department recommends that prior to proposed development/ground breaking disturbance, suitably qualified consultants be engaged to conduct ethnographic and archaeological surveys for the development area. This should ensure that all Aboriginal interest groups are consulted so that all Aboriginal sites on the particular land are avoided or identified.

[29] GSDC 2010, Great Southern Strategic Plan for Maritime Heritage Tourism. p. 11. Available from GSDC.
[30] Conservation and Park Commission, Albany Coast Parks and Reserves Management Plan 2017
[31] ibid

Noongar heritage sites, which link Noongar cultural tradition to country and people across time, hold great meaning and significance to Menang people in the area. There are 40 known registered Aboriginal sites, and 85 more sites listed as 'other heritage places', including artefact scatters, mythological sites, engravings, grinding areas, food and ceremonial sites. Based on the location of existing sites, potential sites are more likely to be located on the coast, near a water source (fresh, salt or seawater), and in areas surrounding lakes (Goode et al. 2005). However, it is likely that registered sites only represent a small proportion of the actual sites within the planning area. Under the *Aboriginal Heritage Act 1972*, Noongar heritage sites are protected whether registered or not, and it is an offence to, in any way, alter a Noongar heritage site or object unless permission is granted in accordance with the Aboriginal Heritage Act. If proposed management actions may disturb a site, an assessment is required before the operation proceeds. The department will work with the Department of Planning, Lands and Heritage and Noongar people and apply the State Government's *Aboriginal Heritage Due Diligence Guidelines* to guide management actions to ensure Noongar heritage sites are not adversely impacted[32].

2.5.2 Native Title

Planning and development in the City of Albany is both informed and constrained by Native Title considerations. Native Title has not yet been determined in the region through the South West Native Title Settlement. Native Title is the set of rights and interests in land or waters based on traditional law and custom, which have been formally recognised by Australian law. The rights typically include the right to use and occupy certain areas, to undertake traditional ceremonies, to protect sites and areas of significance, and to take traditional flora and fauna (including by hunting, foraging and fishing). Unless Native Title has been determined to be extinguished, procedural rights under the Native Title Act 1993 (NTA) – such as the right to be negotiated, consulted or notified (as the case may be), are typically required to be adhered to by developers before substantive development can validly occur.

There are two registered native title claims within the City of Albany: Southern Noongar (WC96/109) and Wagyl Kaip (WC98/70), as well as the unregistered Single Noongar Claim (Area 1) (WC03/6). The Wagyl Kaip/Southern Noongar claim area is one of six regional claim groups within the South West Noongar area, and all claim groups have approved Indigenous Land Use Agreements (ILUA) under the South West Native Title Settlement (SWNTS). The SWNTS is the largest and most comprehensive agreement to settle Aboriginal interests over land in Australia since colonisation. Involving around 30,000 Noongar people and covering about 200,000km^2, the SWNTS provides an opportunity for the WA Government to work in partnership with the Noongar community to improve their economic, social and cultural development. The SWNTS provides Noongar people with recognition as traditional owners of the south-west of WA, establishes a Noongar Land Estate, implement a standard heritage process, and provides a range of economic and community development outcomes, in exchange for the surrender of native title and resolution of native title claims[33].

The Native Title Act will continue to apply over the Settlement Area until the ILUAs are conclusively registered and native title is surrendered.

[32] Conservation and Park Commission, Albany Coast Parks and Reserves Management Plan 2017
[33] ibid

It should also be noted that there are a number of other factors that will need to be addressed including land tenure, especially lands pertaining to Part III of the *Aboriginal Affairs Planning Authority Act 1972* (AAPA).

An *Indigenous Land Use Agreement (ILUA)* is a voluntary agreement between a Native Title group and others about the use of land and waters. These agreements allow people to negotiate flexible, pragmatic agreements to suit their particular circumstances.

An ILUA can be:

- Over areas where Native Title has, or has not yet, been determined;
- entered into regardless of whether there is a Native Title claim over the area or not; and
- part of a native title determination or settled separately from a Native Title claim.

ILUAs can cover topics such as:

- Native Title holders agreeing to a future development;
- how native title rights coexist with the rights of other people;
- access to an area;
- extinguishment of native title;
- compensation;
- employment and economic opportunities for native title groups;
- cultural heritage; and
- mining.

2.5.3 Historic Heritage

Historic heritage places are shown in Figure 3.

Albany is WA's first European settlement and home to many historic heritage assets including buildings, streetscapes, monuments and trails. These historic heritage assets enhance the community's links to its past and boost tourism.

Albany is the starting place of the Anzac legend, given it has the distinction as being the point of departure for Gallipoli. It was also the site of the first ever Dawn Service. The City contains many important historical links including the National Anzac Centre, Princess Royal Fortress, the Desert Mounted Corps Memorial, Ataturk Channel and Anzac Peace Park.

The City of Albany's heritage assets have social, aesthetic, cultural and economic values which are appreciated by locals and visitors. There is support to conserve heritage assets including 'By protecting heritage buildings, and ensuring new developments respect the heritage and character of streetscapes'. There is also support for the sensitive adaptive re-use of heritage buildings.

Heritage lists are kept by all three levels of government, reflecting the national, state and local heritage significance of various places. The *National Heritage List* relates to places of outstanding national heritage value. At a State level, there is the *State Register of Heritage Places*, while at the local level; the City has a *Heritage Survey* (formally known as the *Municipal Heritage Inventory*) and a *Heritage List*. The *Heritage Survey* in itself has no statutory force but informs and underpins the Heritage List.

The City reviewed its *Heritage Survey* which is based on guidance from the State Heritage Office including *Criteria for the Assessment of Local Heritage Places and Areas*. The review ensured that the evaluation of each place is accurate, consistent and up-to-date, and may include new places and precincts. The City now needs to prepare and adopt a Heritage List incorporating places recommended for protection under the Heritage Survey. The City will undertake appropriate community and stakeholder input and consultation in finalising the review and Heritage List.

The *Planning and Development Regulations 2015 (Local Planning Schemes)* enable local government to designate Heritage Areas. LPS1 via the Regulations enables opportunities to vary standards to achieve positive historic heritage and planning outcomes.

2.5.4 Heritage and Character Protection

The *Planning and Development (Local Planning Schemes) Regulations 2015* requires a development application for a single house where it is included on a heritage list or is within a heritage area. Any additions or alterations to a place on the heritage list or located within a heritage area are therefore subject to assessment which will protect the heritage value of the place/area.

Under the Regulations, development approval is not required for the erection of a single dwelling or a group dwelling if the R-Codes apply to the development and the development satisfies the deemed-to-comply requirements of the R-Codes. This may have implications on the heritage character on parts of Albany. Accordingly, there may be a need to introduce planning policy or Special Control Areas in the Local Planning Scheme relating to character areas (as oppose to heritage areas) for land subject to the R-Codes. If approved, this would require a development application for single houses (even where it satisfies the deemed-to-comply requirements of the R-Codes) but where it is inconsistent with associated Local Planning Scheme character criteria.

2.5.5 Port and Rail Culture

Albany has a strong link with our port being the first in Western Australia in 1826[34] and the rail line providing a valuable service for passages for many years. The port was the first and the only deep-water port for 70 years until Fremantle was opened in 1897. Albany was an important arrival point for many migrants with over 40,000 people arriving between 1839-1925.[35]

The Great Southern Railway operated from Beverley to Albany from 1886. The construction was significant for the development of economic activity in the region and lead to the establishment of grain and sheep grazing. The withdrawal of steam locomotives from mainline work in 1971,[36] had serious economic effect upon some towns along the line, with many businesses closing down. A passenger train called the Albany Progress was an overnight train which ran between Perth and Albany three times a week, from 1961 to 1978.[37] The Albany

[34] Western Australia Museum 2016, History: Migration to Fremantle. Available from http://museum.wa.gov.au/welcomewalls/history
[35] State Records Office of Western Australia n.d. Passenger lists and immigration records.
[36] WAGR n.d. The Great Southern Railway of Western Australia. Available from http://members.westnet.com.au/rapalmer/wagr/gsrhist.htm
[37] Morrison, L 2016, Albany to Perth by train? Yahoo 7 The West Australian. Available from https://au.news.yahoo.com/thewest/regional/great-southern/a/31797456/cost-barrier-for-train-service-in-albany/#page1

Weekender departed Perth on a Friday night, and returned on Sunday night operated as an additional service which consisted of sleeping berths and sit-up facilities. It could be possible to run similar overnight journeys from Perth to Albany and return, showing the history of the train line and Albany.[38]

Customs House, Old Bond Store and the Boat Shed are other assets (fishing shacks) connected to the maritime history.[39] There are 29 shipwrecks[40] located around Albany, however it is unknown if they are suitable for dive wrecks. The port remains part of our identity and heritage for the City and should be recognised as an opportunity for key tourism.

2.5.6 Heritage Tourism

Heritage tourism is the City of Albany's key focus. The region's heritage-based tourism attractions include national parks, Aboriginal culture assets, sites of early European settlement, and a nationally-recognised Anzac connection.[41] The City has significant Aboriginal Heritage value, with stone fish traps located at Oyster Harbour, which are in a good state of preservation.[42] The Kalgan Hall site is of significant archaeological interest for Aboriginal Heritage as it has been dated at 19,000 years old.[43] The main Street of Albany (York Street) and Stirling Terrace contain many historical buildings. Albany was the first European Settlement in WA. The Point King lighthouse built in 1989[44] was the first navigational light for the port and the second lighthouse to be built on the Western Australian coastline. Another first for the City was in 1893 with Princess Royal Fortress being the first Federal defence facility in Australia.[45] Albany has significant connections with the Anzac story as the place where troops last departed Australian shores for Gallipoli in 1914 and where the first Dawn Service was conducted in 1932. Albany is home to the newly-opened National Anzac Centre which is Australia's foremost museum honouring the Anzac legend. The current literature shows there is value in maritime heritage, the City wants to develop this as a tourism product[46] as the City has had links with maritime history since 1627.[47] The whaling industry has had a strong past in Albany for 178 years, [48] the history of Albany's whaling past has been preserved at Discovery Bay (Albany's Historic Whaling Station) with stories of the workers, photographs and the economic and social history of whaling in Albany. The Kinjarling Trail is linking natural environment, Indigenous and non-Indigenous culture along the foreshores of Princess Royal Harbour, King George Sound and Oyster Harbour.[49] The project links the Waterfront, a Memorial Peace Park and surrounding trails into a new maritime story for the region.

[38] The Great Southern Railway of Western Australia. Available from http://members.westnet.com.au/rapalmer/wagr/gsrhist.htm.
[39] GSDC 2010, Great Southern Strategic Plan for Maritime Heritage Tourism. p.20.
[40] ibid, p.22.
[41] Ceda 2016, State of the Regions Series: Regional development in Western Australia. p 43.
[42] Department of Aboriginal Affairs n.d. Oyster Harbour Fishtraps. Available from http://www.daa.wa.gov.au/heritage/site-preservation/projects/oyster-harbour-fishtraps/
[43] Department of Education 2016, Aboriginal education. Available from http://www.det.wa.edu.au/aboriginaleducation/apac/detcms/navigation/regional-websites/albany/about-the-region/
[44] Albanygateway 2016, Point King lighthouse, accessible from the boardwalk, below Marine Drive. Available from https://www.albanygateway.com.au/visitor/historical/point-king-lighthouse
[45] GSDC 2010, Great Southern Strategic Plan for Maritime Heritage Tourism. p. 3.
[46] GSDC 2010, Great Southern Strategic Plan for Maritime Heritage Tourism. p. 17.
[47] Wolfe and Associates Heritage Consultants 1994, The Albany Maritime Heritage Survey 1627-1994. p. 2. Available from http://trove.nla.gov.au/work/31726785?selectedversion=NBD11433710
[48] Discovery Bay 2014, Whaling History. Available from http://www.discoverybay.com.au/historic-whaling-station/whaling-history/
[49] GSDC 2010, Great Southern Strategic Plan for Maritime Heritage Tourism. p. 14.

Planning Implications

The above information presents the following planning implications:

Aboriginal Heritage:

- Consultation with Aboriginal groups should occur early on in the planning process to ensure that known and unknown heritage places are protected.
- As part of reviewing the development footprint, the LPS should consider the location of registered Aboriginal sites.

Historic Heritage:

- There is a need to review and continuously update the Heritage Survey and update the Heritage List in the local planning scheme.
- There is a need to identify heritage areas and to prepare development/design guidelines to conserve the heritage fabric of these areas; and
- There is a need to identify planning and other appropriate incentives to support historic heritage conservation.

2.6 Public Transport, Walking & Cycling

2.6.1 Local Policy Context

City Cycle Plan

The Cycle City Albany Strategy (2014 – 2019) aims to provide strategic guidance to enable Albany to become one of Australia's primary cycling destinations including both on and off-road cycling. This will be achieved by improving cycling infrastructure, encouraging cycling as a legitimate mode of transport, improving the culture surrounding cycling, and by encouraging more cycle tourism.

The City wants to become one of Australia's primary cycling destinations by improving commuting and recreational cycling facilities; providing infrastructure and programs which will encourage cycle tourism and support the community to become more active by linking to key community hubs.[50] The plan will build on the cycling network with connected and accessible routes, while increasing participation in both cycling and walking. By promoting Albany as a regional cycling destination, environmental, economic, social and tourism benefits are gained for the community.[51] There is a need to provide more end-of-trip facilities in new and

[50] City of Albany 2014, Cycle City Albany 2014-2019. Available from City offices.
[51] Ibid, p. 27.

existing developments, including secure short-stay bicycle parking, a secure place to park a bicycle inside the workplace, showers, lockers and ironing facilities to freshen up before work.[52]

Trail Hub Strategy

The Trail Strategy will inform the development of nine areas for new recreational cycling trails. Some of the areas to be included are the Heritage Park, Torndirrup National Park and Vancouver. The Trail Strategy includes broad objectives and a variety of integrated and interdependent trails initiatives which provide a framework to assist the planning of trails and trail related products within the City for the next 10 years.[53] The aim is to:

- Improve the quality, type and number of trails;
- focus strategic investment and support in facilities and services to optimise access to and use of trails; and
- maximise the promotion of the trails and outdoor adventure experiences to a broad visitor market.

2.6.2 Public Transport

Transport plays an essential role in the economic and social development of our societies. Transport provides access to jobs, housing, services and recreation, and opens up peripheral and isolated suburbs. Public transport provides a base level of mobility for many who cannot, or choose not to, commute by private motor vehicle. It reduces pollution and congestion, requires less land use than road infrastructure, and encourages a more active lifestyle, as well as enabling the development of knowledge economy–based centres because of their greater spatial efficiency[54].

Effective transport systems are an essential part of a healthy built environment, and help in the management of traffic congestion, health and the environment. Access to transport remains a critical social equity consideration, particularly for the outer suburbs. These areas generally have an undersupply of transport services (especially public transport) and of local employment. Transport disadvantage therefore occurs in specific geographical locations such as outer-urban ('fringe') areas and reliance on private motor vehicles in outer-urban particularly affects lower-income groups. Rising fuel prices, combined with poor public transport infrastructure and the need to travel further distances to employment, can result in 'transport poverty' for these groups. Transport disadvantage is also experienced by certain subgroups in the population (e.g. families with young children, people with a disability, Indigenous Australians).

Public transport use is partly influenced by the level of accessibility to public transport. Good accessibility to public transport also promotes walking for active transport. The RESIDE project, conducted by the University of Western Australia's Centre for the Built Environment and Health, found that:

- Having a bus stop/train station within a 15-minute walk meant that residents were 50% more likely to walk for active transport;

[52] ibid, p.111.
[53] City of Albany 2015, Trails Hub Strategy 2015 – 2025. Available from City offices.
[54] https://soe.environment.gov.au/theme/built-environment/topic/2016/livability-transport

- participants with better access to more bus stops were 88% more likely to walk for active transport; and
- residents with public transport stops close to both home and work were 16 times more likely to use public transport than those with neither.

There are opportunities in the LPS, LPS1 and through structure plans to further support 'walkable' neighbourhoods and promote mixed-use development. Making neighbourhoods more walkable (and suitable for cycling) promotes safety, assists to enhance community health, and increases accessibility to social infrastructure and other services. It is suggested that people are more likely to walk, cycle or take public transport when they can conveniently undertake multiple activities at one destination.

Past urban development in Albany has occurred in various areas and fronts. This pattern of development has resulted in a heavy reliance on private car use and has not supported the use of public transport.

Albany's public transport service is limited to a few routes and infrequently operates around school pick up times. There are also limited services outside business hours and on weekends. Public transport services are subsidised by the State Government and the level of service provided is regularly reviewed by the Department of Transport.

Bus services link Albany to Perth and to other centres. There is no passenger rail service to Albany. In addition to public transport, Albany is served with a taxi service.

Reducing car use and increasing the use of public transport, walking and cycling is a key component of sustainable development. Accordingly, there is support to facilitate the increased use of public transport in existing and future urban areas. There are opportunities as part of LPS, LPS1 and in structure plans to identify the potential for public transport. For instance, opportunities may exist to improve adequacy of public transport with urban consolidation and infill. New residential, school and commercial development should be designed to allow efficient access to these services in the future. There is scope to encourage volunteer and community based transport schemes including businesses to sponsor community shuttle buses. Additionally, there is scope for car-share services to provide choices for people without access to a car.

2.6.3 Walking and Cycling

There is a growing international recognition among policy-makers and academics that urban environments are an important determinant of health behaviours and outcomes. Neighbourhood and locational choices may affect health through a range of mechanisms. In recent years, medical research has drawn attention to relationships between walkability and health. 'Walkability', and its association with individual physical activity, is based on land-use patterns, residential densities and street layouts, as well as access to public transport.

Creating walkable environments encourages active travel (e.g. walking and cycling for transport purposes, use of public transport) by providing opportunities to habitually engage in physical activity. This, in turn, protects

against many non-communicable diseases and obesity, and there is now considerable evidence showing associations between walkability and health outcomes[55].

Since World War 2, the standard in Australian cities has become sprawled, low-density suburban development, particularly on the urban fringe. A report commissioned by the Heart Foundation in 2014[56], found consistent cross-sectional evidence that:

- Those living in lower-density neighbourhoods, or who perceive they live in lower-density areas, undertake less walking than those living in higher-density neighbourhoods (and vice versa);
- living in lower-density areas is associated with increased overweight and obesity in adults and adolescents (although the relationship with weight status in younger children is less clear); and
- there are positive associations between people's perceptions of higher densities, and walking and cycling.

There is also relatively consistent cross-sectional evidence that residential density is associated with '… transport mode choice; with higher residential densities positively associated with active transport modes, and (in general) negatively associated with car dependency outcomes. Hence, living in lower density developments is likely to increase car dependency with residents using fewer active modes of transport'[57].

Promoting walking and cycling has wide ranging benefits including creating more liveable areas, reducing traffic and improving fitness. Albany is well served by pedestrian and cycling pathways, while the district contains part of the Bibbulmun Track and the Munda Biddi Trail.

The land use planning system can support the provision of a safe, convenient and easy-to-navigate network for pedestrians and cyclists through the structure plan process and through new road construction projects such as a dual-use path parallel to the Ring Road. There are opportunities to encourage walking and cycling through promoting development close to activity centres and in the design of new communities. Residential street networks should be designed to be conducive to walking and cycling, in accordance with the WAPC's *Liveable Neighbourhoods Policy*, with an adequate provision of footpaths and cycle paths.

There are also opportunities to provide bicycle parking and shower facilities to encourage cycling as part of new development.

[55] Badland et al. 2015
[56] Giles-Corti et al. 2014
[57] ibid

Planning Implications

The above information presents the following planning implications:

- Public transport is a crucial factor to enable walking and cycling, especially in a sprawling city where places of work and live are separated with long commuting distances.
- Good public realm is a crucial factor for public transport, walking and cycling. The improvement of the public realm of access roads to activity centres and within the centre is therefore an important consideration.
- Public transport is outside the direct sphere of influence of local government and improvements to transport systems will require collaboration and partnerships with State Government agencies.
- Integrated transport planning should be considered in existing neighbourhoods and in the preparation of structure plans to consider the interrelation between land use patterns and interconnected transport infrastructure for different transport modes.
- The land use and spatial implication of various community strategies such as the *Trails Hub Strategy* and *Cycle City Albany* should be implemented under the local planning scheme.

3 THE ECONOMY AND EMPLOYMENT

3.1 Economic Profile

The City is a central service provider for the surrounding Great Southern region with a diverse and stable local economy. It has a substantial resource base in the size of its existing population of 37,233[58] and offers an established market of goods, services and industry.

The City's Gross Regional Product (GRP) is estimated at $1.91 billion, which represents 0.7% of the state's Gross State Product.

The City has many comparative advantages (the ability to carry out activity more efficiently than another activity), which include lifestyle, natural amenity, primary production, tourism, and tertiary education.[59] Leveraging our comparative advantages as the main drivers of opportunity and, at the same time, addressing the challenges that are the significant barriers to growth will benefit our economy.[60] The City is well established with the current industries performing well and they will be the basis for any future growth.

While the City's competitive advantage is in agricultural, forestry, fishing, infrastructure and human capital,[61] this puts the City in a favourable or superior business position. The City ranked low in business sophistication mainly due to lack of large employers in the region and low for labour market efficiency due to a high proportion of welfare dependent, aged persons and lack of skilled labour.[62] There is strong potential for growth in human capital, technological readiness, and innovation. A focus on education, training and employment is vital to address a significantly higher overall level of disadvantage in terms of socio-economic status.

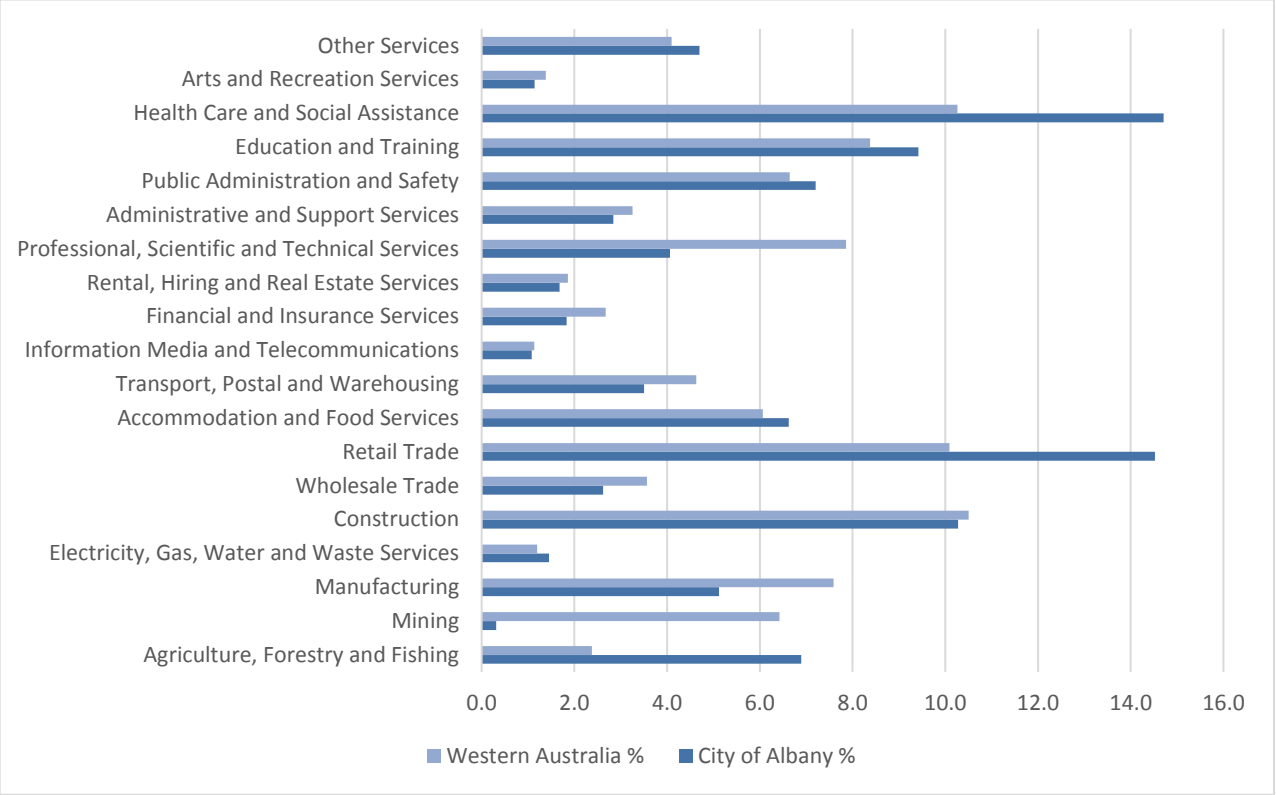
3.1.1 The City's Largest Industry

The largest industries in the City based on jobs held by workforce were health care and social assistance (14.7%), retail trade (14.5%), construction (10.3%) and education and training (9.4%). Substantial labour groups are also evident in public administration and safety; agriculture, forestry and fishing industries and accommodation and food services.

In comparison to WA, the City has a larger percentage of persons employed in health care and social assistance (14.7% compared to 10.3%) which reflects the services required by the City's substantial ageing population. Retail trade is also above the WA average (14.5% compared to 10.1%) which is an indication that the City's economy is predominantly structured around servicing its population. Agriculture, forestry and fishing also employs more workers that WA (6.9% compared to 2.4%).

[58] Australian Bureau of Statistics 2015, Estimated Residential Population (ERP). June 2015. Available from http://stat.abs.gov.au/Index.aspx?DataSetCode=ABS_ANNUAL_ERP_LGA2015
[59] GSDC 2015, *Great Southern Regional Investment Blueprint.* Available from http://gsdc.wa.gov.au/activities/stratplan/blueprint
[60] ibid, p. 7.
[61] Regional Australia Institute 2015, Cities Beyond Perth (Profiles Report). p. 10, 11. Available from www.regionalaustralia.org.au
[62] City of Albany 2013, Economic Development Strategy 2013-2017. Available from City offices.

Diagram 10: Employment by total industry 2015/2016



Source: National Institute of Economic and Industry Research 2016, Compiled and presented in economy .id by .id

The largest changes in the jobs held by the workforce were those employed in health care and social assistance with an increase of 84 persons. In all other industries there has been a reduction in persons, most notably persons employed in education and training, retail trade and construction and manufacturing.

3.1.2 The City's most Productive Industry

Value added by industry is an indicator of business productivity in the City. It shows how productive each industry sector is at increasing the value of its inputs. It is a more refined measure of the productivity of an industry sector than output (total gross revenue), as some industries have high levels of output but require large amounts of input expenditure to achieve that.

The analysis of value added by the industry sector in the City in 2016/17 shows that the four largest industries are:

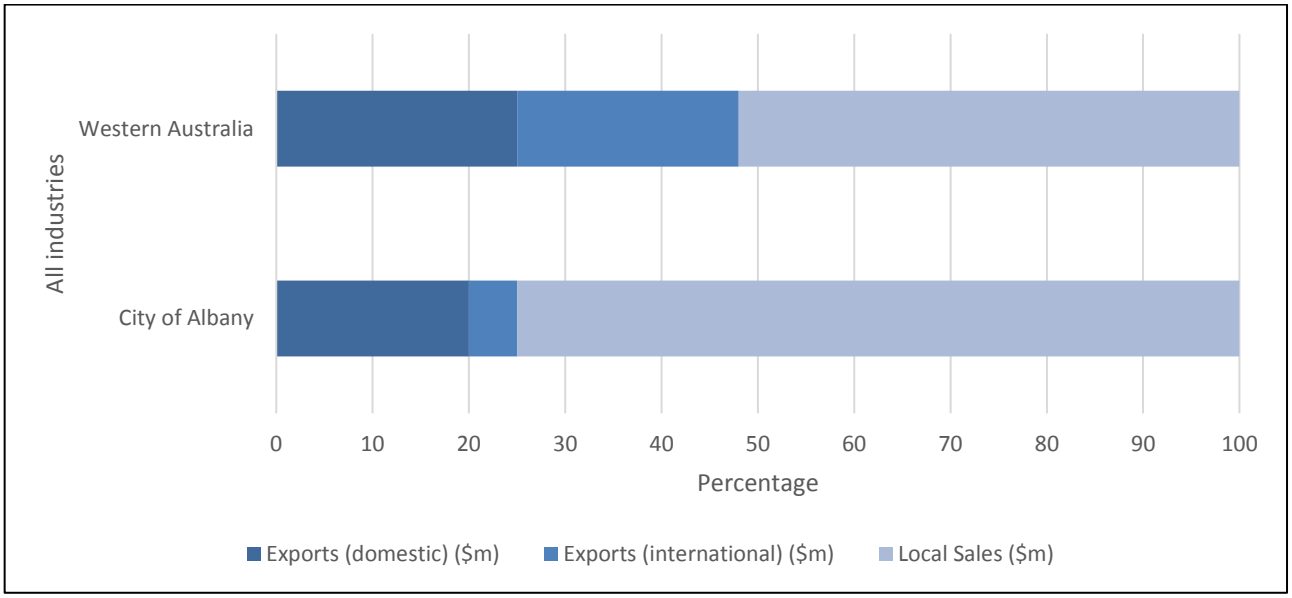
- Health care and social assistance (11.2%);
- agriculture, forestry and fishing (10.4%); and
- construction (9.6%).

In combination these three industries accounted for $537 million in total or 31.2% of the total value added by industry in the City.

3.1.3 An economy that predominately serves the local population

An analysis of economic output reveals the way in which each industry contributes to the economy in the City. It shows that the industry structure in the City is predominantly focussed on servicing the local population with a smaller output of domestic and international exports.

Diagram 11: Economic output by destination



Source: ABS 2016 Census

3.1.4 Employment Capacity

The employment capacity is a simple way of looking at whether the City could theoretically provide jobs for all its residents if they were to choose to work locally. A goal of economic development is often to maximise the employment opportunities locally, leading to a more socially and environmentally sustainable community.

The jobs-to-resident ratio for the City in 2014/2015 was 0.97, meaning that there were fewer jobs than employed residents. Health care and assistance had the highest ratio (1.12), most other industries were around 0.9 or 0.8. The lowest ratio was found in mining (0.2), followed by manufacturing (0.72). In 2011, 79.3% of the City's working residents were employed locally and this proportion decreased in 2016 by 3.8%. Between 2009/10 and 2014/15 there were 119 more local jobs and 230 more people employed[63] showing that most jobs are not fulltime, continuing the current trend to part-time or casual positions.

[63] .id 2016, City of Albany: Employment capacity. Available from http://economy.id.com.au/albany/Employment-capacity

3.1.5 The Role of Agriculture

Agriculture is the primary land use (in area) and the largest industry in the Lower Great Southern (City of Albany, Shires of Denmark and Plantagenet).[64] Within the City, it is the third largest industry when measured in value adding ($177.8 million) which represents 11.3% of the City's value by industry sector (2010/11).

The total value of agricultural production (excluding forestry) for the City was $99.1 million for the 2010/11 production season.[65] This almost represents 2% of the states' agricultural production. Approximately 55% of this is derived from either broad acre crops or horticulture with the remaining 45% being derived from livestock or livestock products. Relative to other areas of the state, the City is significant in terms of the diversity of products produced, which is a product of the landscape, the variation in rainfall and the availability of soils and water.

Employment in this sector reduced between 2009/10 to 2014/15 by 313 jobs (1,045 and 732 jobs respectively), the total value of agricultural output increased from $81 million to $99 million over the same period. One of the factors that contributed to these job losses was the restructuring and consolidation within the agriculture industry.[66] Some farmers left tree plantations due to decrease in profitability while technology has increased input into the agriculture industry, as production increases with less effort, reducing the need to employ more staff. However, these jobs will not easily be replaced with most jobs lost in the sheep, beef cattle and grain farming industry.[67]

The port plays a critical role in the agricultural sector exporting products around the world. Albany Port recorded decrease in trade for 2016.[68] Exports of grain, silica sand, woodchips and imports of petroleum and fertiliser combined to create $1.5 billion[69] worth of products moving through Albany Port. Port facilities also have a large cold storage complex on site and direct rail access from Mirambeena Industrial Estate,[70] which could be utilised with greater efficiency in the future.

3.2 Activity Centres

Activity centres can be regarded as the basic building blocks of urban form and range in size and intensity of use from local neighbourhood shopping centres to universities and major regional shopping centres. In essence they are a commercial focal point. It is crucial that activity centres are linked to good transport networks, and include higher housing density. The design and appearance should emphasis public and civic values with proper planning the key to reducing car dependence. A good activity centre design will include quality public environment, have street-based connections, improved safety, mix of uses, good pedestrian and

[64] Pracsys 2015, City of Albany: Activity Centre Planning Strategy. Available from www.albany.wa.gov.au/business/building-planning/planning-strategies/
[65] .id.profile 2011, City of Albany: Economic profile. Available from http://economy.id.com.au/albany/value-of-agriculture
[66] Pracsys 2015, City of Albany: Activity Centre Planning Strategy.
[67] Pracsys 2015, South Coast Industrial Ecology Mapping and Industry Attraction Strategy, p. 5. Available from www.albany.wa.gov.au/.../SouthCoastIndustrialEcologyMappingv320151020.pdf
[68] Southern Ports Authority 2016, Southern Port Authority: Annual report 2016. Available from http://www.southernports.com.au/publications
[69] Southern Ports Authority 2015, Annual Report 2015. Available from http://www.southernports.com.au/publications
[70] ibid

cycling amenity, have a public transport focus, increase accessibility and encourage environmental sustainability.

ALPS (2010) recommends that the Central Business District remain the primary multi-purpose centre for administrative, social, cultural, retail, office, community and entertainment facilities. The Strategy promotes the continued viability of the Albany City Centre as the regional commercial and retail centre of the district and Lower Great Southern.[71] It promotes retail as the primary focus of neighbourhood and local centres and identifies Centennial Park, Orana and Chester Pass Road suitable for development of mixed business area.

The *Albany Activity Centre Planning Strategy* prepared in 2009 and endorsed by Council in 2010 was reviewed in 2015. The review acknowledges a significant shift that has occurred in the way Activity Centres are planned. The introduction of *SPP 4.2: Activity Centres for Perth and Peel (2010)* moved the focus away from retail-centric planning to include a broader spectrum of activities and interactions taking place in activity centres.

The draft *Activity Centre Planning Strategy 2015* was not adopted by Council but served to inform the review of ALPS. Key outcomes, findings and recommendations of the 2015 review are summarised under sections 3.2.1 – 3.2.4.

3.2.1 Hierarchy of Activity Centres

Activity Centres are comprised of a unique set of spatial and functional parameters however, classification can be useful to better understand or plan for future activity. The City Activity Centres hierarchy is shown in the following table and spatially depicted in Figure 4.

Diagram 12: Current Activity Centre Hierarchy

Centre Type	Function	Typical Land Uses	Centre/s
Regional Centre	The largest of activity centres, providing the most intensely concentrated development in the region. It has the greatest range of high order services and jobs, and the largest commercial component of any activity centre.	Full range of convenience and comparison retail (e.g. full range of speciality shops, supermarkets, convenience goods, and personal services), Regional Government Offices, Strategic Business, Professional and services offices, Strategic regional infrastructure, Major education and health services, Tourism retail and services (including accommodation), High density residential, Entertainment, Civic uses and Community purpose.	• Albany City Centre

[71] City of Albany 2010, Albany Local Planning Strategy 2010. Available from City offices.

Centre Type	Function	Typical Land Uses	Centre/s
District Centre	Multipurpose centres that provide a diversity of uses. These centres provide a large range of economic and community services necessary for communities in their catchments.	Convenience and comparison retail (e.g. speciality shops, supermarkets, convenience good, personal services) Local professional and services offices, Education and health services, Medium density residential, Entertainment, Civic uses and Community purpose.	N/A
Neighbourhood Centre	A focus on servicing the daily and weekly needs of residents. Their relatively smaller scale catchment enables them to have a greater local community focus and provide services, facilities and job opportunities that reflect the particular needs of their catchments.	Convenience retail (e.g. speciality shops, supermarkets, convenience goods, personal services) Local professional and services offices and Community purpose.	• Bayonet Head • Spencer Park • Brooks Garden • North Road • Orana • Oyster Harbour (future) • Big Grove (future)
Local Centre	Some daily and weekly household shopping needs, community facilities and a small range of other convenience services.	Convenience retail, Personal services, Local offices and Community purpose.	• Emu Point • Little Grove • Lockyer • Lower King • McKail General Store • Middleton Beach • Clydesdale park (future) • McKail North (future)
Specialised Centre	Provides for a regionally significant strategic purpose or service industry. The function will be unique for each centre.	Industrial or light industrial, Bulky good and large format retail, Convenience retail, Offices and Other uses as appropriate to the unique function of the centre.	'Highway Commercial' Zone along: • Albany Highway (Centennial Park),

Centre Type	Function	Typical Land Uses	Centre/s
			• Albany Highway (Orana) • Chester Pass Road

Note: Typical land uses is what optimally should be located in centres. The activity centres located in Albany developed historically and are spatially and functionally unique for example, the Albany Regional Hospital is a major health services but not located in the regional centre.

3.2.2 Activity Centre Performance

The *Albany Activity Centre Planning Strategy* was prepared in 2010 under *SPP 4.2 Metropolitan Centres Policy* in 1991 and the mechanisms used under this policy reflect the provisions of this SPP, in particular regulating retail activity through restricting the maximum amount of floorspace allowed in each activity centre.

The policy shift instigated by *SPP 4.2 Activity Centres for Perth and Peel* in 2010 has guided the removal of retail floorspace caps as a means to control development in favour of a performance-based approach, using key indicators of centre performance. Under the performance-based approach, the scale of retail development in itself is not considered to be 'good' or 'bad'. Rather, retail development that provides for the needs of the catchment community is encouraged along with other desirable outcomes, while the potential negative consequences of scale are dealt with. This approach allows for greater flexibility in delivery of solutions, and the creation of decision-making frameworks that are more closely aligned with community aspirations. While implementation of an ACPS is more complex than for previous commercial strategies, this approach prioritises the needs of end-users, and better reflects the varied ways in which residents, workers, visitors and businesses undertake transactions within the physical environment of an activity centre.

The conversion from maximum floorspace under LPS1 to performance-based criteria is not a well-established planning practice and limited case studies where positive outcomes have been achieved are available. The transformation towards performance based criteria is however desirable to achieve an urban form which supports the services and needs of population.

3.2.3 Performance-based Criteria

Emphasis will need to be placed on performance-based decision making. Stakeholders will need to have a clear understanding of the City's expectations, as well as an understanding of the opportunities implicit within the strategy to deliver more flexible and innovative developments. Future development will be expected to meet some of the performance-based criteria, including the scale of development and whether major or minor, rather than using an arbitrary measure of scale. The impact of the proposed development on the function of the activity centre is the primary consideration. Any major development will need to meet a greater number of criteria than a minor development otherwise would.[72] The Strategy recommends investigation of

[72] Pracsys 2015, Activity Centre Planning Strategy.

appropriate means to introduce performance-based criteria in the Local Planning Scheme to diversify neighbourhood and local centres into true activity centres.

3.2.4 Retail Floorspace Supply and Demand

The City's retail floorspace is affected by a number of drivers from the local communities of Kojonup, Gnowangerup, Denmark and Mt Barker. Residents who live further away will travel less frequently to the activity centre. Other demand drivers are consumer behaviour: residents prefer local services instead of travelling to Perth or online shopping, and natural population growth, residential development and catchment expansion with increased retail or entertainment, will result in more users.[73]

Diagram 13: Current floorspace supply under Local Planning Scheme No. 1

Centre Type	Centre Name	Maximum net lettable area (NLA)
Regional Centre (CBD)		+ 50,000 (see note)
Neighbourhood Centre	Bayonet Head South	5,000m^2
	Brooks Garden	5,000m^2 retail uses 8,005m^2 bulky goods/showrooms uses 500m^2 office use
	North Road	5,000m^2
	Orana	5,000m^2
	Spencer Park	5,000m^2
	Bayonet Head North (future)	5,000m^2
	Oyster Harbour (future)	5,000m^2
	Big Grove (future)	5,000m^2
Local Centre	Emu Point	600m^2
	Little Grove	600m^2
	Lockyer	600m^2
	Lower King	600m^2
	McKail General Store	600m^2 NLA 200m^2 NLA Restaurant 400m^2 Non shop/retail Commercial and professional uses
	Middleton Road	600m^2
	McKail North (future)	600m^2
	Clydesdale park (future)	600m^2

Note: Net lettable areas in the regional centre as estimated by Pracsys[74]

[73] Pracsys 2015, City of Albany: Activity Centre Planning Strategy. p. 40.
[74] Pracsys 2015, Activity Centre Planning Strategy.

As part of the review of the Activity Centre Planning Strategy, retail floorspace modelling was carried out to assess the amount of retail floorspace required in the City to the year 2025. The modelling is based on a gravity model which allows for the measurement of spatial interaction as a function of distance to determine the probability of given customer shopping at a centre, and to provide an approximation of trade area and sales potential for a development. The trade area is City of Albany, Shires of Plantagenet, Denmark, Kojonup and Jerramungup.

Based upon the current estimation of demand against known supply, modelling suggests that city retailers are currently operating at an average floorspace productivity of approximately $6,900 per m^2. This falls within the supportable floorspace bounds[75] and suggests that the current floorspace supply is productively meeting the demand of the community. Given the anticipated population growth and no net increase in floorspace, it is anticipated that turnover would naturally increase to above $7,500 per m^2 by 2025.

For the activity centre network to remain vibrant, competitive and attractive to investors, the overall productivity of floorspace in the City should improve (increase) over time. This means that retailers have the opportunity to attract more turnover with centre owners able to realise more income through rent. The community is ultimately served as it ensures high quality tenancies and centres that are able to competitively operate and employ locally.

Diagram 14: Estimates plausible future retail floorspace

Supportable Floorspace	**2015 (m^2)**	**2026 (m^2)**
Maximum supportable floorspace (productivity – $5,500/$m^2$)	124,000	139,000
Current floorspace supply (actual)	99,000	
Minimum supportable floorspace (productivity - $7,500/$m^2$)	91,000	102,000

Current floorspace productivity for the City was estimated at $6,900 m2 (net lettable area). The floorspace requirements to maintain business as usual productivity are presented in Diagram 15.

The impact on the overall activity centre network should be considered in the expansion of floorspace above the current supply. Where major retail expansion (as defined under SPP 4.2) is proposed, a Retail Sustainability Assessment (RSA) is the appropriate method to assess the potential economic and related effect on the network of activity centres. It addresses such effects from a local community access or benefit perspective, and is limited to considering potential loss of services, and any associated detriment caused by the proposed development.

Clause 6.5.2 of SPP 4.2 specifies that RSAs should be required for floorspace areas of Neighbourhood Centres where the floorspace total is 6000m^2 or where an expansion of over 3000m^2 is proposed. A regional variation to the SPP which requires a RSA be prepared for proposals with floorspace of a lesser area may be warranted. Clause 6.4 of SPP 4.2 also notes that activity centre structure plans are not needed for neighbourhood or local

[75] Supportable floorspace includes the area of all floors in the internal finished surfaces of permanent walls excluding public space. The floorspace productivity is calculated by taking the net annual store sales divided by total productive floorspace, alternatively known as sales per square metre.

centres, however a regional variation requiring activity centre structure plans for these types of centres may also be warranted.

Diagram 15: Estimated retail floorspace

Supportable floorspace	**2015 (m^2)**	**2026 (m^2)**
Business as usual (productivity - \$6,900/m^2)	99,000	110,000

Planning Implications

The above information presents the following planning implications:

- The City's central business district functions as an activity centre and offers a wide diversity of employment, retail, entertainment, services and facilities and residential in walking distance. The Strategy should continue to protect the primacy of the regional centre and build upon its unique identity, facilitate new mixed-use developments, increase density and diversification of housing, protect the heritage character, support the location of regional facilities in the centre and improve access to public transport, walkability and bikeability.

- Shopping centres within the City are retail-centric and planning should facilitate the redevelopment thereof into true activity centres.

- Within the context of likely population growth scenario, the floorspace supply could increase by up to approximately 10,000m^2 net lettable area. This floorspace is allocated within the planned future centres, being Big Grove and Oyster Harbour Neighbourhood Centres and Clydesdale Park and McKail North Local Centres. Any additional floorspace outside of these centres is likely to reduce productivity of existing floorspace of the activity centre network.

- During the review of the local planning scheme there is a need to:
    - investigate introducing performance-based criteria to diversify neighbourhood and local centres into true activity centres;
    - determine criteria for the preparation of a Structure Plan or Local Development Plan for major redevelopment of activity centres;
    - clarify criteria for the requirement to prepare a retail sustainability assessment as set out under SPP 4.2; and
    - rationalise the regional centre zones.

3.3 Industry

3.3.1 Industrial Profile

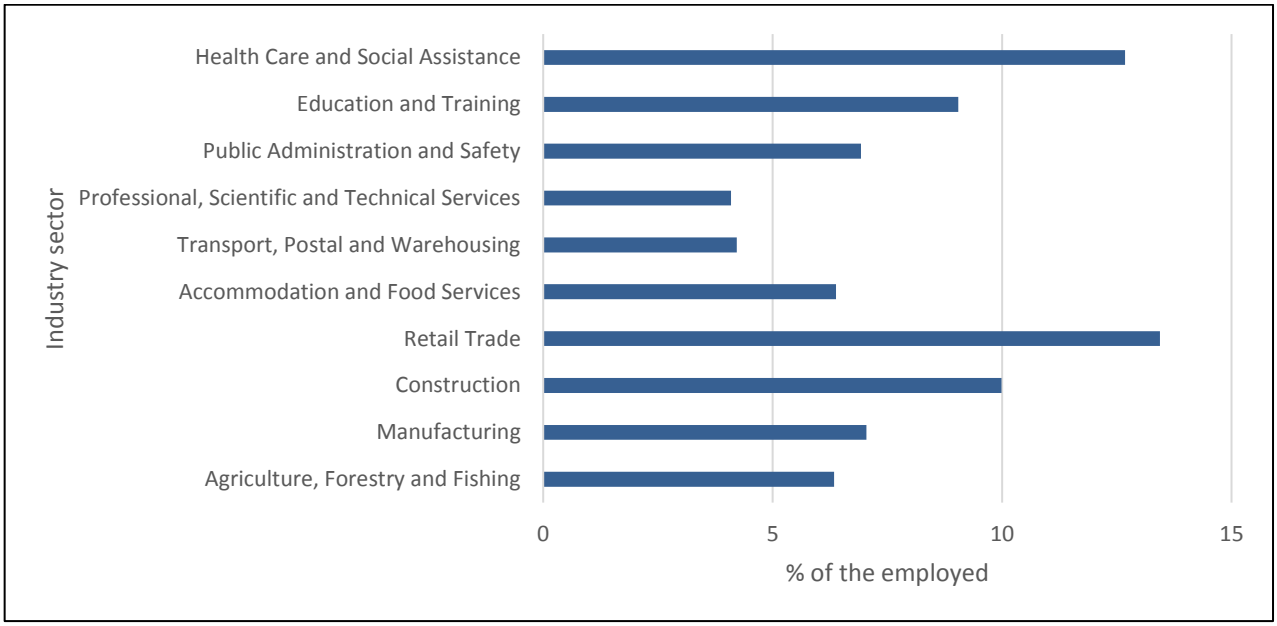
Local vs Traded Industries

Industrial land use and land requirements are driven by local and traded industries. While driving the majority of employment, local industries do not drive economic growth.

- Local industries provide goods and services for a local catchment. They tend to be distributed evenly with growth in these industries only available when local population increases.
- Traded industries provide goods and services for markets beyond their immediate catchment. As export-oriented industries they respond to wider market drivers. Growth in traded industries provides the conditions for wider population and economic growth.

In 2015 local industries accounted for a significant proportion of employment in the City of Albany, with the top five industries being health, retail, construction, education and public administration. Census data for 2011 indicates that seven of the top 10 industry sectors by employment are concentrated around the provision of goods and services. Tourism (accommodation), manufacturing and agriculture are the only traded industries which feature in the top 10. Traded industries provide economic growth for the City which has been falling since 2012, therefore more traded industries should be encouraged to boost employment and economic growth.

Diagram 16: Top ten industry sectors by employment



Source: ABS Census 2011

Total employment has decreased from 2011 to 2015 with agriculture, construction, education, manufacturing and wholesale trade losing a total of 1268 jobs. The largest increase was in health care with an extra 769 jobs created, showing the city to have higher medical and social service needs because of the older demographic.

Industrial Land Based Industries

The Draft Industrial Land Strategy investigated industries located on industrial zoned land[76]. Industrial land-based industries account for approximately 27% of the total employment in the City. The top 10 employment industries within the City of Albany are mainly population driven in nature, with the exception of freight and logistics activities associated with the Port of Albany. The dominant local employment industries include construction, other services (e.g. automotive repair and maintenance), and electricity, gas, water and waste services.

Of this industrial land-based employment, traded industries account for approximately 42% with manufacturing, transport, postal and warehousing and wholesale trade being the three main traded industrial land based industries. Top growth traded industries emerging between 2006 and 2011 include fabricated metal product manufacturing and wood chipping.

Notwithstanding, the higher levels of employment in local industries, a relatively higher proportion of industrial land is occupied by traded industries (63%) compared to local industries (37%). This can in part, be attributed to land use permissibilities under the local planning scheme which allows some local industries to be accommodated within a range of land use zones including commercial and mixed-use zones and partly to the larger lot size requirement of traded industries.

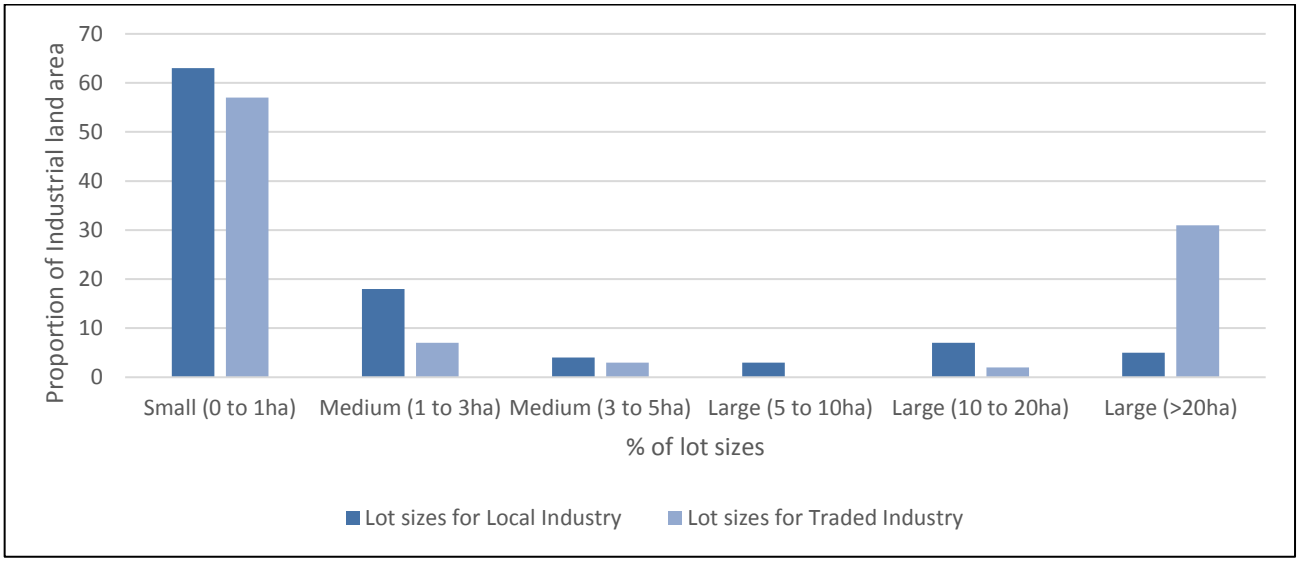
Industrial Lot Sizes

Lot sizes were investigated under the Draft Industrial Land Strategy[77] for both local and traded industry, which are associated with 'light industrial' and 'general industrial' zoned land.

The results are shown in Diagram 17 and indicate a tapering of lot sizes for local industry. However, traded industry displayed a potential gap in mid-sized lots, which may require further investigation. Traded industry also displayed a requirement for large lot sizes (<20ha).

[76] GHD 2016, Albany Industrial Land Strategy. (Draft) p. 11
[77] ibid

Diagram 17: Lot sizes for local and traded industry



Source: Industrial Land Strategy 2016

Traded industry need larger sized lots zoned 'General Industry', Pendeen and Lower Denmark Road have no lots larger than 5ha, while Mirambeena has lots which are greater than 5ha. However these lots are for strategic industrial activities which may exclude potential traded industries from the precinct. Milpara and Lower Denmark Road have vacant lots to 4ha which are zoned 'General Industry' and 'Light Industry', future population growth will decide the growth of local industrial land.

3.3.2 Industrial Areas

Figure 4 depicts the location of existing light and general industrial areas in the City.

Mirambeena Strategic Industrial Area

Zoning		**Area**			**Lot sizes** (x) indicates number of undeveloped lots			
Light Industry	General Industry	Developed	Undeveloped	**Total**	Small 0-1ha	Medium 1-5ha	Large >5ha	**Total**
-	163ha	37ha	126ha	**163ha**	0	6	4 (2)	**10**

The Mirambeena Strategic Industrial Area is identified as one of 12 significant industrial areas in WA. The area is under the management of Department of Jobs, Tourism, Science and Innovation. To support the establishment of strategic industrial activities, the Department of Jobs, Tourism, Science and Innovation leases the land to LandCorp who are responsible for managing development of the land. Mirambeena is made up of a core strategic area, surrounded by complementary industrial land. The core land supply is only available via leasehold to ensure development of strategic industry. Preferred activities within the precinct are strategic and downstream processing industries, with benefits to the region and the state.

Mirambeena has a buffer to protect industries that make noise, odour or other industry processes, which allows industries to operate as normal.

Mirambeena has good road and rail accessibility, being located on Albany Highway and in close proximity to the airport. Mirambeena has been identified as a potential inland storage and/or operations associated with the Port of Albany. The *Mirambeena Rail Spur Extension Rail Study Report* (2016) has shown extending the rail line to Mirambeena is not viable in the life time of this strategy, there needs to be a substantial increase in freight on the rail line. The report identified a preferred rail corridor which requires protection for longer term planning.

Mirambeena is serviced by high voltage (1kV to 33kV) overhead power along Down Road and does not have reticulated sewerage or gas. As new industries come on stream, upgrade to power and water will be needed to meet industry requirements. Alternative energy sources, in particular gas, should also be investigated in order to provide the impetus for the establishment of major industries, in particular downstream processing. Power supplied to both the Mirambeena SIA and Down Road via the Albany town substation, means that electricity supply is a constraint to the development of various power intensive industries. Water supply may also constrain water intensive industries[78].

Any future industrial development further west along Down Road of the existing industries will be affected by the need to protect the Marbellup Brook Water Reserve Public Drinking Water Source Area. Only industry with no waste discharges and minimum risk to the environment would be acceptable in the Marbellup catchment[79].

The location of Mirambeena near the Albany airport means industrial development needs to take into consideration height and heat constraints due to the airport's obstacle limitation surface. Development of industries likely to affect local atmospheric conditions (e.g. heat plumes) or requiring a structure greater than 110m in height should not be developed beneath the northern approach to the airport. The obstacle limitation surface requires development that may affect the airport to be referred to the Civil Aviation Safety Authority. The potential impact of this on strategic industrial development at Mirambeena needs further examination[80].

Pendeen

Zoning		**Area**			**Lot sizes** (x) indicates number of undeveloped lots			
Light Industry	General Industry	Developed	Undeveloped	**Total**	Small 0-1ha	Medium 1-5ha	Large >5ha	**Total**
-	69ha	60ha	9ha	**69ha**	26 (8)	13 (4)	2	**41**

The Pendeen Industrial Estate on Chester Pass Road was initially developed for transport and logistics services however, is also being used for agricultural processing. The majority of lots within the estate are approximately 1ha, although there is a pocket of smaller square lots located within the north-west of the estate. The Pendeen

[78] WAPC 2016, Lower Great Southern Strategy 2016.
http://www.planning.wa.gov.au/dop_pub_pdf/Lower%20Great%20Southern%20Strategy%202016.pdf
[79] Ibid.
[80] Ibid

Estate is the only existing industrial area that can provide relatively unconstrained larger lots for industries such as logistics and transport businesses.

Pendeen is not connected to reticulated gas or sewerage, with the closest gas connection approximately 2km to the south along Chester Road. There are Telstra mains and connections as well as high voltage overhead/underground power throughout the site. A large water main runs along Chester Pass, with smaller mains accessible within the estate. The land has infrastructure constraints and LPS1 supports land uses without significant effluent or waste disposal requirements. Additional servicing is likely to be required for any further intensification of industrial activity or development.

The location of the estate along major transport routes (Menang Drive and Chester Pass Road) coupled with its proximity to the airport provides increased opportunities for transport and logistics related industries.

LPS1 identifies an industrial buffer around the site which prohibits the development of sensitive land uses. The site is privately owned and developed, which affects the timing and pricing of lot releases. The availability and affordability of land within the estate can be restrictive on the ability for new industries or existing industries to relocate and/or expand within Pendeen Estate.

Milpara

Zoning		**Area**			**Lot sizes** (x) indicates number of undeveloped lots			
Light Industry	General Industry	Developed	Undeveloped	**Total**	Small 0-1ha	Medium 1-5ha	Large >5ha	**Total**
20 ha	54ha	66ha	8ha	**74ha**	90 (16)	6 (1)	8	**104**

The Milpara industrial area is situated along Chester Pass Road, with the majority of the estate set behind 'Highway Commercial' zoned lots. The estate is located within an urbanised area with residential to the north, west and south. It is highly accessible being serviced by Chester Pass Road and Albany Highway, and is close to the town centre. It consists of two areas, the 'Light Industry' zoned extent to the north and the 'General Industry' zoned portion to the south. Main Roads access restrictions limit vehicular ingress and egress to Chester Pass Road.

Existing utilities servicing the area include a water connection to the western verge of Chester Pass Road and a main along John Street. Southern sections of Milpara are well serviced by wastewater and water reticulation. A wastewater connection point near Anthony Road provides limited servicing. There are servicing limitations, specifically reticulated sewerage, for the northern portion of the estate. High voltage overhead and underground power exists throughout the site, with low voltage overhead available on secondary roads. Telstra connections exist throughout the site. While there are no gas connections currently, the gas main along Chester Drive could be considered where required for further expansion/intensification.

There are some land use conflicts between residential and industrial uses and should be managed.

Lower Denmark Road Industrial Precinct

Zoning		**Area**			**Lot sizes** (x) indicates number of undeveloped lots			
Light Industry	General Industry	Developed	Undeveloped	**Total**	Small 0-1ha	Medium 1-5ha	Large >5ha	**Total**
170 ha	87ha	232ha	25ha	**257ha**	58 (21)	31 (9)	7	**96**

The Lower Denmark Road precinct is made up of several distinct industrial areas, including the CSBP Fertiliser Depot, the Wool Stores, Boundary Road/ Kitson Street and the Lower Denmark Road Industrial Estate (see Figure 4). The majority of industrial land facing onto Cuming Road is Light Industry while, with the exception of the CSBP Fertiliser Depot, land fronting onto Lower Denmark Road is General Industry. The following sections discuss each area individually to respond to the fragmented nature of the sites within the precinct.

- **CSBP Fertiliser Depot**

The CSBP Fertiliser Depot, zoned 'Light Industry', is located to the west of Hanrahan Road and bounded by Lower Denmark Road to the south. The site is just under 120ha in size. The plant is no longer in production, and is used for storage and distribution only, with permissible land use restricted under LPS1.

The site is serviced by water, reticulated sewerage and electricity. The closest gas connection is approximately 1km to the north along Hanrahan Road. An open drain traverses the area, which is suggestive of a high water table.

The site has good transport connectivity via Hanrahan and Chester Pass Roads. Completion of the southern section of the proposed Albany Ring Road would provide greater connectivity.

There is known and potential contamination of the site as a result of historical uses. LPS1 places therefore places restrictions on Lot 2 Hanrahan Road, and requires assessments prior to development, including soil, vegetation and hydrology assessments.

- **Wool Stores**

The Wool Stores Industrial Precinct is zoned 'General Industry' and consist of a conglomeration of six lots with a total area of 12ha. The site is located along Frenchman Bay Road and therefore easily accessible via several arterial roads including Hanrahan Road and Lower Denmark Road.

A steel supplier currently occupies the southern portion and a railway runs from the port to the north of the site. Permitted uses on the site are restricted, and although the Wool Stores have not been formally listed as a contaminated site, historical land use suggests the possibility of contamination and potential need for remediation. Proximity to Princess Royal Harbour will also place restrictions on the type of activity and management of run-off.

There is existing water, high voltage overhead power and Telstra connections to the site and reticulated sewerage and several water mains are within close proximity to the site. There is no gas connection to the site, with the closest connection point approximately 1.5km to the north.

The Wool Stores coastal proximity may offer opportunities for transition to mixed use development optimising the waterfront location. This is supported by a local planning policy 'Wool Stores Redevelopment Site' that promotes mixed use development including housing, commercial and retail components within the existing industrial area. LPS1 notes that no additional development is to be supported on the site, and all activities are to be totally contained within existing built form.

- **Gledhow Industrial Area**

Gledhow Industry Area comprises approximately 100ha and consists of 'General Industry' zoned land to the north and Light Industry to the south. The site is accessed via a connection to Lower Denmark Road from Old Elleker Road to the south. Lower Denmark Road connects to the Port and broader regional transport network. The land is mostly cleared and there are several residences within the area. Industrial activity within this area is generally limited to a scrap metal merchant.

Power, sewerage and water services are available to the eastern portion of the site, with servicing in the western portion limited to power which runs along Lower Denmark Road. Any increase in industrial activity will require extensions of all utilities in order to be serviced. An open drain channel bisects the site from north to south. Open drains throughout the site may present challenges/costs if underground services are required.

Environmental constraints specific to the site include a small creek line and high water table in western part where a wetland is located. It is also partly located within a sewer sensitive area under the *Government Sewerage Policy (2019).* These constraints may curtail industrial activity on the lots.

- **Robinson Industrial Estate**

Robinson Industrial Estate is located south of the Lower Denmark Road and comprises just under 19ha of 'General Industry' zoned land. Its close proximity to the port, central business district (CBD), rail and road networks provide connectivity opportunities where appropriately managed. In addition, the Albany Ring Road, when constructed will provide greater access to the airport.

All lots within the estate are less than 1ha, limiting the potential for significant industrial activity. While the majority of lots within the precinct are occupied, the use of this land for 'General Industry' is not optimised. Although the site is well serviced by power and water, it is constrained by a high water table and by its locations within a sewer sensitive area under the *Government Sewerage Policy (2019*); and lack of gas and reticulated sewerage.

Historical uses within the estate were considered 'noxious' industry, and the area may be subject of resultant contamination. The South Coast Water Reserve Public Drinking Water Source Special Control Area under LPS1 is located to the south and west of the estate.

The comparative advantages of the Lower Denmark Road Industrial Estate are limited, with significant environmental constraints, amenity concerns and a lack of diversity in lot sizes. Nevertheless, the location of the estate and existing activities present an opportunity for the site to provide those population driven service industries, which ideally should not be located within the town centre.

Centennial Park Light Industry Zone

Zoning		**Area**			**Lot sizes** (x) indicates number of undeveloped lots			
Light Industry	General Industry	Developed	Undeveloped	**Total**	Small 0-1ha	Medium 1-5ha	Large >5ha	**Total**
30ha	-	28ha	2ha	**30ha**	157 (14)	1	0	**158**

The inner city locality of Centennial consists of a mix of land uses, including light industry, business, office, retail, residential and the Centennial Regional Sporting Complex. The diversity of land uses in this locality offers inner city urban vitality and employment opportunities.

The light industrial component of Centennial is dispersed through the locality predominantly between Sandford Rd and along Cockburn Road. Due to its accessibility, the majority of activities established within the 'Light Industry' zone service the local community and encompass vehicle repairs, sales and wash, supply stores and small manufacturers.

Centennial Park is well serviced by all services and utilities. Due to the nature of the precinct and the predominance of population driven industries, it is unlikely to attract significant intensification of industrial uses. Where intensification of industrial activity occurs, the current capacity of infrastructure would need to be assessed including the need for underground power supplies. The central location of this mixed-use locality has facilitated land use change and residential opportunities. The City's local planning policy on Centennial promotes transitioning of areas to mixed-use. The local planning scheme notes the need to provide a zoning over the precinct to facilitate the conversion of industrial sites and introduction of appropriately designed and located residential uses in selected areas subject to satisfactory traffic, environmental and acoustic analysis.

Other Industrial Areas

- **Ardess Estate**

  Ardess is zoned 'Light Industry' and is situated along Chester Pass Road with good access to the State and regional road network. The estate is in single ownership with a number of industrial businesses which are subject to leases.

  There is potential for expansion as the estate has previously been cleared of remnant native vegetation activities and contains no environmental assets. The estate does not have access to reticulated sewerage and is suitable for dry industries only. A water main and gas main run adjacent to the precinct along Chester Pass Road.

- **Mueller Road**

  The Mueller Road industrial area is situated in Lockyer. It consists of a four lots clustered within a residential area. Low level industrial activity occupies three of the lots, one is vacant. The site is well serviced by all services and utilities.

- **Bakers Junction**

  Bakers Junction is situated on the junction of Chester Pass Road and South Coast Highway. The site is zoned 'Rural' and has developed into agricultural based industrial activities. There are established land uses in Bakers Junction that serve to support the needs of the rural hinterland farming community on Lots 6, 7 and 157, (46428) South Coast Highway, King River and Lots 150 (978) and 156 (980) Chester Pass Road, King River. It is an agri-business enclave with a number and variety of light, service and rural industries.

- **Wellstead**

  Wellstead is located approximately 100km North East of Albany on the South Coast Highway. Two clusters of 'Light Industrial' zoned land are located in the town consisting of four lots with a total land area of 10ha.

- **Highway Commercial Zone**

  The 'Highway Commercial' zone under LPS1 provides for a range of services and activities that support the main central business district that cannot be accommodated in other commercial or industrial relates zones. The zone cross-over is between the regional centre zones and the 'light Industry' zone. This zone permits light and service industrial land uses and commercial uses such as medical centre, motel, service station, showroom, storage, trade display etc. The zone therefore provides important alternative locations for light industrial and commercial uses along the City's main transport routes i.e. Albany Highway and Chester Pass Road.

- **Lots 12 – 15 Albany Highway, Milpara**

  Lots 12, 13, 14 and 15 Albany Highway, Milpara is zoned 'Residential' under LPS1 with non-conforming rights from established industrial/commercial land use operations. These lots have been developed with non-conforming use approvals as stockfeeds and landscape/garden supply. The landowners have expressed a desire to expand or redevelop which is not possible under the existing 'Residential' zoning. Expanding commercial or light industrial land uses on this site requires further consideration during the review of LPS1.

3.3.3 Supply and Demand Analysis

Total industrial land supply in the City of Albany is estimated at 633ha (excluding port industry), of which 463ha is currently developed, leaving 170ha of industrial land available for future industrial development (Table 1). However, while there may be 170ha of land that is undeveloped and appropriately zoned, it should not be construed that this land is development ready. Further detailed studies may be required to assess the suitability of the sites for industrial activity, including an infrastructure needs assessment, remediation, market appeal etc. Of the undeveloped industrial land, 20ha is zoned 'Light Industry' and the remaining 150ha is zoned 'General Industry'.

Diagram 18: Albany industrial land supply mix

Zoning		**Area**			**Lot sizes** (x) indicates number of undeveloped lots			
Light Industry	General Industry	Developed	Undeveloped	**Total**	Small 0-1ha	Medium 1-5ha	Large >5ha	**Total**
260ha	373ha	463ha	170ha	**633ha**	336(59)	60(14)	23(2)	419

The City of Albany Local Planning Scheme No. 1 contains three industrial zones; 'Light Industry', 'General Industry' and 'Port Industry'. For the purposes of this report, land zoned 'Port Industry' has been excluded from any calculations of future demand of industrial zoned land on the basis that it constitutes a specific land use and zone under LPS5 that does not contribute to general and light industrial land supply for the City.

An analysis of Landgate data indicates that within these industrial zonings the majority of Local Industry is accommodated within the 'Light Industry' zone (80%) with only 20% being accommodated in the 'General Industry' zone. Approximately 36% of traded industries are located within the 'Light Industry' zone and 64% are within the 'General Industry' zone.

Traded industries have a higher land requirement than local industries and occupy approximately 45% and 86% of the 'Light Industry' and 'General Industry' zones, respectively.

Based on the current industrial land use mix it is possible to estimate potential industrial land requirements, using the following assumptions:

- Local Industry will grow in proportion to predicted population growth (distributed 80% and 20% on 'Light Industry' and 'General Industry 'zoned land, respectively); and
- Traded Industry will grow in response to external drivers (distributed 36% and 64% on 'Light Industry' and 'General Industry' zoned land, respectively). External drivers relate to trends or influencing factors in these external markets. They can be either economy wide or industry specific. Examples of external drivers (or that respond to external factors) are industry competitiveness, macro-economic factors (e.g. exchange rates), political factors, environmental factors, growth in markets, access to these markets and technology improvements.

Future demand for Light Industry

Based on a business as usual growth rate, the City would require a total of 286ha 'Light Industry' zoned land by 2031, this exceeds current supply of appropriately zoned land by 26ha. By 2040, the demand will increase to 316ha, which exceeds current supply by 56ha.

At a high growth scenario, the demand for 'Light Industry' zoned land would exceed the current supply within the short term. The shortfall will increase to 69ha by 2031 and 139ha would be required by 2040.

While the shortfall could be accommodated on undeveloped land within existing estates such as Lower Denmark Precinct for the short term, additional land will need to be identified for Light Industry to meet demand in the future at both a business as usual and high growth scenario

Future demand for general industry

Based on a business as usual growth rate, the City has sufficient land zoned for 'General Industry' to meet demand to 2031, and further to 2040. Using a high growth scenario, the demand for General Industry will exceed supply by 2040, with an additional 23ha required. Based on predicted population growth under WA Tomorrow, the City will adopt the business as usual growth rate.

Notwithstanding the above, the City needs to designate land for General Industry in a suitable location which is appropriate to meet projected future demand beyond the timeframe of this Strategy. This will ensure that the land is not is protected for this use until the demand arise. In addition, the supply of land is not the only determinant of future demand. The locations, road access, availability of services and infrastructure and environmental factors also influence the supply of land.

Planning Implications

The above information presents the following planning implications:

- At a business as usual growth scenario, the following industrial land is required to the year 2031:
  - The current supply of General Industry land meets the demand for appropriately zoned land to 2031. Nevertheless, it is important to ensure that existing sites suitable for General Industry activity are identified, maintained and protected for future growth.
  - An additional 26ha of land zoned for 'Light Industry' will be required to cater for future demand.

- There is a need to consolidate and rationalise existing General and Light Industrial zoned land. There are industrial areas which are not fully utilised due to locational, environmental and infrastructure constraints. There is also vacant land within existing industrial estates and development thereof will intensify the use, improve amenity and allow for optimal utilisation of infrastructure and services.

- Investigation is required in the Robinson and Gledhow Industrial areas, the CSBP Fertiliser Depot (Lot 2 Hanrahan Road), the Wool Stores site and the 'Light Industrial' zoned land on Mueller Street to identify consolidation and rationalisation of zones and land use.

- There is a need to investigate the appropriate zone to recognise the non-conforming uses on Lots 12, 13, 14 and 15 Albany Highway, Milpara zoned 'Residential' during the review of the Local Planning Scheme.

3.4 Tourism

Local government has a significant role to play in tourism. Some functions of local government impact directly on tourism, such as land use planning and development, tourism promotion, marketing and others indirectly such as public health, disabilities, infrastructure and roads, local economic and community development, and arts and cultural development. The diverse nature of the tourism industry is such that land use planning affects a range of tourism activities including accommodation, food and hospitality providers, retail, recreational activities and facilities and many other activities catering for both local residents and visitors. The Strategy ensures that the ongoing role of tourism is recognised in the land use planning process through recommendations on appropriate tourist zones, tourist precincts, tourism sites, tourism land requirements and the introduction of specific tourism land uses.

3.4.1 Tourism and the Economy

Tourism and hospitality are key industries and major contributors to the City's visitor economy. The main economic indicators for tourism show that:

- In 2015/16, the total tourism and hospitality sales in the City was $217.6 million, the total value added was $118.5 million.[81]
- In 2015/2016 there were 305,694 international visitor nights, 1,229,336 domestic overnight visitor and 278,131 domestic daytrips in the City.
- For 2015/16, there were 305,695 international visitor nights in the City of Albany, accounting for 16.9% of the total visitor nights.
- In the five years up to 2015/16, there was an average of 37,894 international visitors to the City of Albany. Average length stay for international visitors was 8.3 days, lower than the average for Western Australia.
- In the five years up to 2015/16, there was an average of 309,665 domestic overnight visitors to the City of Albany. Average length stay for domestic daytrip visitors was 3.2 days, lower than the average for Western Australia.
- In the five years up to 2015/16, international visitors and domestic overnight visitors to the City of Albany were more likely to be visiting on holiday, accounting for 63.3% and 53.6% respectively of all visitors[82].

3.4.2 Key Attraction and Experiences

The city offers a huge variety of unique tourist attractions and experiences within the City and surrounding regions. The natural landscapes surrounding the City, both coastal and through the hinterland, are spectacular. Rugged granite coastal formations of significant geological value such as the Natural Bridge, the Blowholes, and The Gap are just some of the unique and easily accessible natural attractions. The new lookout at The Gap in the Torndirrup National Park and the Granite Skywalk located at Castle Rock within the Porongurup National Park are spectacular built additions to the National Parks.

Four National Parks (West Cape Howe, Torndirrup, Gull Rock and Waychinicup) and two Nature Reserves (Two Peoples Bay and Mount Manypeaks) provide homes for some of WA's rarest animal and birds (Gilbert's Potoroo and Noisy Scrubbird). On a regional level Albany provides an ideal overnight base to explore the Walpole Wilderness area to the west (encompassing eight National Parks), the Fitzgerald National Park to the east and the Stirling Range National Park to the north. Whale watching in the superbly protected waterways off the coast of Albany is a popular attraction.

The wildflower season from September to November is a major seasonal attraction due to the diversity of the flora within the City and its surroundings. The outdoor and adventure experiences are substantial in the region. The City is the southern terminus for both the iconic Bibbulmun Track and Munda Biddi Cycle Trail. Albany's

[81] .id economy 2014, Unpublished data from the National Visitor Survey and International Visitor Survey 2015. Available from http://economy.id.com.au/albany/tourism-visitor-summary

[82] .id economy 2018, City of Albany Economic Profile, Tourism and Hospitality. Available from https://economy.id.com.au/albany/tourism

natural topography makes it a great place for bike-riding, paragliding, sailing, hiking, horse-riding and surfing. The City has abundant 4WD tracks, beaches and fishing spots.

The City hosts major events such as the Great Southern Bloom Festival, Greenskills Sustainable Living Festival, Albany Car Classic, Albany Urban Downhill, Clipper Round the World Yacht Race (Albany host port) and Anzac Albany. The protected waterways in Princess Royal Harbour and King George Sound provide sailing, cruising and shipping opportunities.

Heritage tourism is the City's key focus as a vital tourism experience. It is the traditional home of the Menang Noongar Aboriginal people the first European settlement in WA. The main street of Albany (York Street) and Stirling Terrace contains many historical buildings. The City was the first European Settlement in WA and has significant connections with the Anzac story as the place where troops last departed Australian shores for Gallipoli in 1914 and where the first Dawn Service was conducted in 1932. The City is home to the newly-opened National Anzac Centre which is Australia's foremost museum honouring the Anzac legend.

A climate that encourages strong horticultural, agricultural, aquaculture and fishing industries, the region is renowned for its organically grown produce, award winning wines and a growing gourmet food scene that drives the highly successful Taste Great Southern every March.

The Vancouver Art Centre and Albany Entertainment Centre (AEC) offer a varied program of events throughout the year. In addition to hosting performing arts, AEC offers the opportunity to attract large business events including the Great Southern component of the Perth International Arts Festival (PIAF)

3.4.3 Accommodation

Registered and approved commercial short stay accommodation businesses offer a combined 4,125 bed spaces within the City. This includes five registered holiday accommodation and 15 lodging houses offering 625 rooms, 12 caravan parks with 674 sites, 224 camping sites, and 127 on site cabins, and there are 12 large capacity hotel/motel operators offering 489 rooms. The range of accommodation types is extensive, from nature-based camping grounds managed by the City through to luxury 5-star guesthouse and B&Bs. The range includes:

- Backpackers
- Hotels and motels
- Bed & Breakfast
- Cottages, chalets and villas
- Self-contained
- Caravan parks
- Nature based camping
- Resorts
- Luxury retreats
- Farmstays[83]

[83] Source: Albany Visitor Centre 2015

3.4.4 Infrastructure and Services

Local government provides a vast range of tourism related infrastructure which is essential in supporting tourism. Without infrastructure and amenity provision and maintenance tourism is compromised. Tourism related infrastructure which is managed by the City includes the Albany Regional Airport, signage, caravan and camping grounds, public toilets, library, Albany Leisure and Aquatic Centre and other sporting facilities, Albany Visitor Centre, boat ramps and the Vancouver Art Centre.

In the absence of a local tourism organisation, the City is responsible for the development of a local visitor industry by operating attractions and maintaining visitor facilities, attracting and delivering major events, marketing visitor destination, and encouraging additional investment. Albany Visitor Centre and the destination marketing brand Amazing Albany is run by the City. The Amazing Albany brand includes six sub-themes – Natural, Adventure, Historical, Anzac, Taste and Arts. The six sub-themes were developed specifically to leverage the City's competitive advantages and formed the basis of a target market development.

One of the perceived biggest barriers to visitation in the region is the distance and time it takes to travel by road.[84]

The City owns and manages the Albany Regional Airport. The airport handles some 55,000 regular public transport passengers and 1,000 RPT aircraft movements each year. There are five local hire car businesses with two based at the airport to service the growing fly/drive market.

In 2015/16 the City hosted 16 visiting passenger cruise ships carrying 16,000 passengers. The Albany Visitor Centre coordinates the welcome activities including free bus shuttles and tour programs. Passengers are seeking information about port destinations once on shore, prior to and mostly during the cruise. Information sources most used for planning activities are the cruise operator, guide/brochure or the tour desk. Ports should include toilet facilities, food and shopping options, signage, information, seating at the port and personal safety and security. Visitors want destinations to be flexible with opening hours to accommodate ship docking (7am to 10pm) and have a number of things to see and do. Over 40% of visitors want an Indigenous experience at the port. Promotion should consider the profile of the passenger being over 60, from outside WA and very experienced tourist.[85]

The City also delivers an extensive network of roads throughout the municipality, including pathways for pedestrian, traffic, shared, cycle, trails and boardwalks. There is a need to protect the City's brand as a tourist destination and careful consideration is needed in planning to create a good first impression for tourists entering the City and for placement of industry and services in suitable locations.

3.4.5 Tourism Forecast

Tourism is one of the world's biggest and fastest growing economic sectors. On a global level, tourism ranks fifth under the fastest growing sectors in the world and is forecast to grow 4% each year from 2013 to 2033.[86]

[84] Great Southern Alliance 2016, Tourism Development Strategy for the Lower Great Southern
[85] Agnew, R, Killalea, H & Simpson, M 2012, Destination visitor survey strategic regional research- Western Australia: Evaluating the WA cruise visitor experience. Available from http://www.tra.gov.au/documents/SRR_WA_Cruise_visitor_experience_FINAL.pdf
[86] Heaberlin Consulting 2014, The future of visitor centres in WA. Available from

Demand for tourism product remains strong with the number of worldwide tourists growing.[87] The Australian tourism investment pipeline was estimated at $53.7 billion in 2014, up $4.3 billion (or 8.7%) from 2013.[88] These levels indicate the enormous potential of the tourism industry and highlight the importance and attractiveness of investing in Australia's key tourism-related activities.

Regional areas that show the most favourable growth and economic strength have their economies based on recreation and tourism. At the First National Conference on the future of Australia's country towns, keynote speaker John Keller states that throughout most of North and South America, Western Europe, Australia, and New Zealand the lure of the natural environment and tourism (place and historicity) are significant parts of their economies. Firms and industries built around the utilisation of amenities show exceptionally strong growth and are a world leader in providing new jobs.[89]

The *Great Southern Regional Investment Blueprint*[90] identifies international tourism as a global shift or 'megatrend' that will influence the trajectory of the Great Southern economy over the next 30 years. The diversity of natural amenity and destinations within the Great Southern, coupled with strong connectivity to Perth (airport, cruise ships, Albany Highway), provides an opportunity for increased international tourist visitation to be captured.

Strong growth in domestic tourism will contribute to the Great Southern economy. Tourism Research Australia reported in June 2016 that Australia's domestic tourism market has continued its strong growth and recorded higher holiday and business travel spending during the year ending March 2016. National Visitor Survey figures show strong growth in domestic overnight trips and spend, the number of overnight trips and domestic day trips and spend.

Planning for tourist accommodation and attractions to meet the anticipated growth in international and domestic tourism will be considered within the Tourism Development Strategy currently being prepared by the Great Southern Alliance.

3.4.6 Planning for Tourism

State and Regional Planning Context

There are numerous state agencies that provide assistance in the growth of the tourism industry:

- Tourism Western Australia which is responsible for marketing WA as a competitive destination, developing, attracting and marketing major events, and supporting significant tourism infrastructure development.
- Department of Primary Industries and Regional Development which administers the Royalties for Regions grant scheme.

http://www.tourism.wa.gov.au/Publications%20Library/Research%20and%20reports/The_future_of_visitor_centres_in_WA.pdf

[87] GSDC 2015, Great Southern Regional Investment Blueprint.

[88] Australian Trade and Investment Commission 2016, Austrade: 2015. Available from https://www.austrade.gov.au/

[89] Keller, J 2001, The Importance of Rural Development in the 21st Century – Persistence, Sustainability and Futures. First National Conference on the Future of Australia's Country Towns. Available from http://www.regional.org.au/au/countrytowns/keynote/keller.htm

[90] GSDC 2015, Great Southern Regional Investment Blueprint.

- Great Southern Development Commission whose role, among others, is to develop and broaden the economic base of the region.
- Tourism Council of WA which represents industry and promotes the value of tourism to the State economy, environment and the social fabric of local communities. Tourism Council WA develops evidence-based industry policy on: business regulation, marketing and events, parks and environment, planning and infrastructure, aviation and transport and workforce development.
- Other agencies include Department of Biodiversity and Conservation and Attractions and Australia's South West regional tourism body.

The following State Government reports have some influence over tourism in the City and Great Southern:

- *Lower Great Southern Strategy (2016)*: The Strategy acknowledges the important role of tourism in the region and the likely continuing tourism development along the coast well as specific nodes inland in areas that can offer experiences with nature, wine and food, art, craft and culture. The objective of this Strategy is to maximise opportunities for the development and growth of a sustainable tourism industry. The Strategy states that the tourism component of a Local Planning Strategy should be prepared in accordance with guidance provided by WAPC Policy, in particular *SPP 3 Urban Growth and Settlement Planning and Bulletin 83– Planning for Tourism*.

- *Great Southern Regional Investment Blueprint*[91] - identifies iconic and creative tourism as one of the key transformational projects that has the potential to positively transform the Great Southern over the decades to come by further developing the region's iconic tourism product and its marketing to prospective visitors, and supporting the growth of a dynamic arts and creative sector with links to the tourism industry. The Blueprint sets a goal to have tourism as a percentage of regional turnover doubled to 20% by the year 2040.

- *Great Southern Centre for Outdoor Recreation Excellence*[92]: The Department of Local Government, Sport and Cultural Industries and the Great Southern Development Commission investigated the viability of establishing a Centre for Outdoor Recreation Excellence in the Great Southern. The Great Southern region has the natural assets to become an international leader for best practice in outdoor recreation education and activities. The major recreational features of the area are the Karri forests in the South-West, the many beaches, bays and cliffs of the Southern Ocean coastline and the two ancient ranges of hills, the Stirling Range and the Porongurup Range. The rivers and lakes can support paddling, sailing and water skiing. Indigenous culture also provides an opportunity for new combinations of recreation, tourism and education. UWA is prepared to be an active partner in the project to provide education value.[93]

[91] GSDC 2015, Great Southern Regional Investment Blueprint.
[92] Department of Sport and Recreation and Great Southern Development Commission 2013, Great Southern Centre for Outdoor Recreation Excellence. p. 6. Available from Department of Sport and Recreation.
[93] ibid, p. 18.

- *The Great South West Edge National Landscape Experience Development Strategy:* The Great South West Edge (GSWE) stretches 700km between Busselton and Esperance, dotted with untouched beaches, coastal vistas, ancient geology and swaths of natural bush. These 'Iconic Experiences' provide the region with a point of difference against its competitors and are presented as a uniting journey linking destinations and precincts across the landscape.[94] *The Experience Development Strategy* identifies the current and needed products, infrastructure and experiences that will meet and exceed the expectations of the 'Experience Seeker', Australia's highest yielding international market segment. The Strategy identifies a route, the previous Leeuwin Way, to connect destinations and precincts. In the City of Albany this route follows South Coast Highway.

- *South Coast Nature Base Camping Alliance*: South Coast Nature Based Camping Alliance has been developed between the Albany, Denmark, Esperance, Jerramungup, Augusta Margaret River, Ravensthorpe, Plantagenet and Department of Biodiversity, Conservation and Attractions. The alliance creates a collaborative arrangement between the local governments for the nature-based camping arrangements along the South Coast. Camp hosts work at camping sites to assist visitors and promote the regions attractions.[95]

The following WAPC policies guide tourism development in the State and should be considered in the preparation of the Local Tourism Strategy:

- *Planning Bulletin 83 – Planning for Tourism*: This planning bulletin sets out the policy position of the WAPC to guide decision making by the WAPC and local government for subdivision, development and scheme amendment proposals for tourism purposes.

- *Tourism Planning Guidelines*: The Tourism Planning Guidelines ensure that tourism planning and development is considered at the strategic planning stage as part of the wider planning context. The guidelines also clarify the scope and details required as part of the planning assessment and encourage a consistent approach to planning for tourism across local planning strategies.

Local Planning Context - Strategic

The following provides an overview of studies and reports of a strategic nature which provide information on tourism at a local scale.

- ***Tourism Development Strategy (2016)*:** The City, in conjunction with the Shire of Plantagenet and Denmark, Great Southern Development Commission and Tourism WA prepared a Tourism Development Strategy and a Destination Marketing Strategy for the Lower Great Southern. These strategies are however, not planning and land use orientated, but provide valuable insight into the tourism market and likely future demand for accommodation and subsequent land requirements, zoning and land use permissibilities under LPS1.

[94] EC3 Global team 2013, Great South West Edge National Landscape. p. 2. Available from http://www.tourism.australia.com/documents/Campaigns/Strategy_GSWE_Feb14.pdf
[95] City of Albany 2016, South Coast Nature Based Camping Alliance. Available from City offices.

The purpose of the Strategy is to outline recommendations and strategic actions required to increase visitation to the Lower Great Southern area and in turn increase spend in the region.[96]

The main findings of the Strategy are as follows:

- From the report the data shows most visitors are families who stay for 5.5 days which is longer than Margaret River, the Golden Outback has the longest stay at 10.5 days and Coral Coast with nine days.[97]
- Marketing for the region is fragmented with limited resources, lack of scale and investment, which means there is a heavy reliance on local government funding which is unsustainable in the long term. Therefore, alternative sources of funding need to be made.
- The Great Southern region has three of the top 20[98] tourist attractions and promotion of these attractions aims to combat the market gap in visitor knowledge of the region. There are 15 Anzac attractions in the City and these should be promoted as an experience that cannot be found anywhere else in Australia.[99] The lifestyle of Albany as a place to retire, however the conservative demographic and distance is seen as a barrier to the development of tourism, so the City needs to promote more to families and focus on youth attractions.
- The City needs to attract more events that will draw people to visit the City and then explore the region. Most events are based around food and wine which will not appeal to the family segment. The inclusion of a high profile participation event, like adventure events which can be held annually would boost tourism in the region. There is a lack of business event space, with no flat floor exhibition area and no suitable accommodation[100] for the business market. There are no 4/5-star hotels or resorts by large capacity hotel providers that offer a full range of facilities including swimming pool, restaurants and conference spaces in the region.[101]
- There has been a 7% growth in visitor numbers, however Albany is losing market share to Margaret River which had growth of 10% in 2015/16.[102] Increasing spending of cruise ship passengers is important as currently they only spend $56.65[103] per person. For cruise ship visits focus should be on enabling them to get to attractions or services that are not available on board the ship. More tours are needed to offer a greater variety to visitors as a car is needed to access many attractions in the region.
- Lack of choice and competition, high cost and changes to the route have impacted air travel with a decline of passengers using the airport in the last two years.[104]
- There is a need to make the journey part of the experience and promote the destinations en-route to the region. There is an opportunity to collaborate with Shires such as those within the Hidden Treasures region to promote the drive down to Albany as being an experience in itself.

[96] Churchill Consulting 2016, Tourism Development Strategy for the Lower Great Southern. (Draft) p. 6.
[97] ibid, p. 15.
[98] ibid, p. 4.
[99] ibid, p. 55.
[100] ibid, p. 16.
[101] Churchill Consulting 2016, Tourism Development Strategy for the Lower Great Southern. (Draft) p. 49.
[102] ibid, p. 3.
[103] ibid, p. 38.
[104] ibid, p. 37.

- ***Nature Based Camping Strategy (2017)*:** The objective of the Nature Based Camping Strategy is to provide a sound planning, management and governance basis to guide it across the City. It considers opportunities and constraints of existing nature-based camping in the City and makes recommendations on developing and promoting nature-based camping activities in appropriate location in the municipality.

  There are six existing coastal nature-based campsites in the City managed by various stakeholders including the City, Department of Biodiversity, Conservation and Attractions and private i.e. Normans Beach, Bettys Beach, East Bay, Torbay Inlet, Cosy Corner East and Cape Riche. The campsites have 60-70 sites. It is estimated that there are approximately 20-30 camping sites available on Parks and Wildlife designated camping areas based at Waychinicup National Park and West Cape Howe National Park. Overall the percentage of nature based camping sites is very low when compared to the overall accommodation types provided in the City.

  The Strategy estimates that the demand for nature based camping will grow faster in percentage terms than other tourist accommodation types. It makes recommendations in relation to future nature based camping opportunities and matters that need to be considered such as location, zoning, compatibility with existing land uses, environmental considerations, length of stay, bushfire management plan, bushfire emergency evacuation plan, protection of visually sensitive areas, recognition of Aboriginal heritage sites and culturally appropriate tourism, recognition of historic heritage places, the preparation of a Management Plan etc.

- **Tourism Accommodation Planning Strategy (2010) and Local Planning Policy – Significant Tourism Accommodation Sites**

  The City adopted the *Tourist Accommodation Planning Strategy* in July 2010. It acts as a strategic planning document to provide direction to Council and the development/tourism industry on tourism development issues. It was prepared in accordance with WAPC Planning Bulleting 83. The Strategy identified 32 existing and proposed tourist development sites within the City and classifies each either 'Local Strategic', 'Prime' or 'Suitable'. Based on the classification and the individual characteristics of each site a zoning recommendation was made to inform Local Planning Scheme No. 1.

  The Local Planning Policy – Significant Tourism Accommodation Sites was prepared based on the recommendation of this Strategy.

  There is a need to update the City's *Tourism Accommodation Planning Strategy (2010)* and broaden the scope to a Tourism Planning Strategy.

Local Planning Context - Statutory

The City's LPS1 zones land for tourism-related uses and allows for tourism-related uses. It also permits tourism-related uses in some non-tourist zoned sites as well as Additional Use and Special Use sites.

The Scheme contains the following tourism zones:

- *'Hotel/Motel' zone:* This zone ensures that sites zoned hotel/motel are used for this purpose only to protect the current and future supply of motel or hotel sites to meet the current and the anticipated need for tourism accommodation.
- *'Caravan and Camping' zone:* This zone recognises the broader social and economic importance and potential environmental benefits of the caravan park industry and protect sites from competing land uses. It also prevents the conversion of land to permanent structures and permanent residential occupation except where the land (or part thereof) is approved for a Park Home Park.
- *'Tourist Residential' zone:* This zone sets aside high value tourism land in close proximity to and within easy access of areas of high environmental, social and scenic value. It provides for a range of land uses that encourage a variety of attractions, facilities and services to meet the needs of tourists and local residents.
- *'Special Use' zone:* There are many tourist-related developments on land in the 'Special Use' Zone which are additional to zones in the zoning table of LPS1.

The model scheme text only includes one zone i.e. 'Tourism' and suitable alternative zones for sites zoned 'Hotel/Motel', 'Caravan and Camping' and 'Tourist Residential' under LPS1 and should be identified during the review of the Local Planning Scheme.

In many cases, tourist accommodation is permissible in non-tourist zoned land where there has been a strong demand for tourist accommodation. The scheme allows for tourist-related uses in the following zones:

Diagram 19: Tourism uses in non-tourist zoned land under Local Planning Scheme No. 1

Zone	Tourism -Related Use
Residential	bed & breakfast, boarding/guest/lodging house, chalet/cottage units, holiday accommodation, holiday house
Yakamia Creek	bed & breakfast, holiday accommodation, holiday house
Regional Centre	bed & breakfast, holiday accommodation, holiday house, hotel, motel
Regional Centre Mixed Use	bed & breakfast, holiday house,
Highway Commercial	motel
Neighbourhood Centre	hotel
Rural Smallholding	bed & breakfast, chalet/cottage units, holiday accommodation, holiday house,
General Agriculture	bed & breakfast, chalet/cottage units, holiday accommodation, holiday house
Priority Agriculture	bed & breakfast, chalet/cottage units, holiday accommodation, holiday house
Rural Village	bed & breakfast, boarding/guest/lodging house, camping ground, caravan park, chalet/cottage units, holiday accommodation, holiday house, motel

In addition to the above, there are many tourist-related development on land approved as 'additional uses' (uses in additional to any uses permissible in the zone). In all other zones, tourism-accommodation related land uses are not permitted.

Planning Implications

The above information presents the following planning implications:

- There is a need for the Tourism Accommodation Planning Strategy (2010) to be reviewed and expanded to a Tourism Planning Strategy.
- There is a need to support the outcomes of the Tourism Planning Strategy in the review of Local Planning Policies.
- During the review of the Local Planning Scheme, consider:
  - the outcomes and recommendations of the Tourism Planning Strategy; and
  - identification of suitable alternative zones for sites zoned 'Hotel/Motel', 'Caravan and Camping' and 'Tourist Residential' in accordance with the MST.

3.4.7 Rural - Agricultural Diversification

Agricultural production is a very important contributor to Australia's economy, and is a key industry in many rural and regional areas, including the City. Agricultural or farm diversification[105] is an important mechanism for improving the competitiveness and production efficiency, economic growth and is an increasingly common practice for farms and rural businesses around the world. In the face of increasing financial, environmental and market pressures, diversification offers the opportunity to spread income risk and build resilience. Diversification optimises on-farm infrastructure, increases add value to our commodity products and natural resources or utilised previously unused part of a farm.

Through agricultural diversification, there is an opportunity to grow this innovative industry section, improve economic outcomes for rural communities and provide local employment opportunities.

3.4.8 Opportunities in Agricultural Diversification

Agricultural diversification depends on there being opportunities for diversification and on farmers' responsiveness to those opportunities. Trade agreements are opening up new opportunities for Agricultural diversification which can be facilitated by technological break-throughs, by changes in consumer demand or in government policy or in trade arrangements, and by development of irrigation, roads, and other

[105] Farm diversification is the introduction of a new business activity to generate another source of farm-based income. The new or additional farming enterprise may be agricultural, such as a new crop or animal, or non-agricultural, such as agritourism or on-farm processing of food. Although the primary driver for diversifying is to generate income, other benefits of diversifying include:

- Spreading income risk
- Improved use and management of land
- Developing opportunities for future growth
- Creating opportunities for family involvement (including for succession planning)
- Creating renewed interest in the farm business

(http://www.farmdiversity.com.au/about-diversification).

infrastructure. Conversely, it can be impeded by risks in markets and prices and in crop-management practices, by degradation of natural resources, and by conflicting socio-economic requirements.

Diversification can occur through agricultural (crop and animal diversification) or non-agricultural (agri-tourism, farm stalls and on-farm processing of food) methods.

- Agricultural diversification includes the introduction of a wider range of output options within a traditional farm enterprise i.e. lamb production added to wool production.
  Land use planning offers insignificant influence over a farmer's choice to diversify crop or animal farming. Under LPS1 all farm related land uses are permissible or discretionary in both the 'General Agriculture' and 'Priority Agriculture' zones and include: intensive agriculture, extensive agriculture, agroforestry, intensive animal husbandry (not permitted in 'Priority Agriculture' zone), aquaculture and tree plantation (not permitted in 'Priority Agriculture' zone).

- Non-agricultural diversification can take on a variety of forms. Agritourism (farm based accommodation and recreation), value-adding through on-farm processing of produce and farm stalls to mention a few.

There is considerable opportunity for agricultural regions to capitalise on rising food demand, with global food production needing to increase 70% by 2050 to meet projected demand, which is already outpacing supply in international markets.[106] Asian markets generally view Australian products as high-end, clean and safe, and will continue to support demand for foods rich in protein, such as livestock, certain grains and dairy products.[107]

A response in the Strategy should be formulated to facilitate agricultural/farm diversification efforts by farmers through land use permissibilities under relevant zones.

3.4.9 Strategic Industry Development

The City, in conjunction with the Shires of Plantagenet and Denmark and Great Southern Development Commission, undertook the preparation of the *South Coast Industrial Ecology Mapping and Industry Attraction Strategy* in 2015. The Strategy identified global industries that will play an important role in the future development of the Great Southern economy and have the potential for transformation and growth. These were a food hub, bio-fuel production in the forestry industry, milk processing plant, livestock and meat processing, wine export and grain processing. These opportunities where identified within the economic climate at the time of the preparation of the Strategy and may not be relevant today.

The following table describes these opportunities in more detail. The opportunities identified through the *South Coast Industrial Ecology Mapping and Industry Attraction Strategy* supports the diversification of agricultural activities in the region.

[106] Food and Agriculture Organisation of the United Nations 2016, 2050: A third more mouths to feed. Available from http://www.fao.org/news/story/en/item/35571/icode/

[107] Ceda 2016, State of the Regions series: Regional development in Western Australia. Available from http://www.ceda.com.au/publications/regional-development-in-western-australia

Diagram 20: Potential growth opportunities in the agricultural sector

Industry	Potential Opportunities
Food hub	Development of a Great Southern Food Hub to stimulate the growth of fruit and vegetable processing industries in the region and provide a physical location for shared infrastructure allows processing activities to be undertaken by smaller producers or groups of producers. It will also serve as a knowledge base for farmers, lead to more efficient farming practices while also lowering environmental impact from farming activities. A food hub also has potential to operate as a cooperative venture, providing support to producers and ensuring that the produce sent to market is of the highest quality. It allows for local organisation of transport and packing, thereby allowing for creation of economies of scale.
Bio-fuel production from forestry industry	The bio-fuel industry has the capacity to expand and could create a substantial demand for tree farming. Bio-fuels may be an alternative to natural gas that can help the region increase its energy self-sufficiency.
Milk processing	Within the region, there is the chance to grow production with transformative investment in processing infrastructure. A dairy feasibility study funded by GSDC highlighted the competitive advantages of the South Coast, including its milder weather, relatively lower land costs, potential groundwater in selected locations and close proximity to grain producing areas. These would have the potential to make investment returns in dairy farming competitive with the West Coast.[108] A South Coast feasibility study reference also proposes that dairy farming in the South Coast sub-region would be lucrative and de-risk the dairy industry in the South Coast.
Livestock and meat processing	There is an opportunity for growth in this industry, both in the availability and variety of stock and the development of a meat processing facility in the region. Abattoirs are associated with odours and nutrient export and the location and potential locations should consider buffer areas, sensitive land-uses and environmental considerations.
Wine export	The supply of grapes in the region is higher than the demand and an opportunity exists to expand export markets.
Grain	There is an opportunity to process grain for livestock feed and a basic chemical manufacturing facilities for crucial agriculture inputs such as crops.

Source: South Coast Industrial Ecology Mapping and Industry Attraction Strategy (2015)

WAPC *State Planning Policy 2.5 – Rural Planning* provides policy direction to support rural communities through a 'Rural Enterprise' zone which combines light industry and housing in general proximity to urban areas that are serviced and address buffer issues.

[108] GSDC 2015, A South Coast feasibility study. Available from GSDC.

3.4.10 Rural Enterprise

The 'Rural Enterprise' zone (also known as rural industry) is a predominantly 'Light Industrial' zone that is suitable in rural areas and provides for light industrial land uses with lot sizes in the order of 1ha to 4ha. It also provides for an ancillary residential dwelling on one lot (SPP 2.5 – Rural Planning). WAPC Rural Planning Guidelines set out matters that should be considered in the location of 'Rural Enterprise' zone:

- Separation distances between residential and business activities;
- whether certain industrial land uses should be excluded from the estate;
- hours of operation to maintain a reasonable level of amenity;
- type of roads to address sufficient exposure for the business component;
- provisions of services and roads to cater for heavy vehicles; and
- proximity of urban areas. Access to town facilities would be desirable as the zone allows for a residential component.

The guidelines further detail matters that should be investigated in proposed 'Rural Enterprise' zones as follows:

- Appropriate lot sizes;
- level of services particularly electricity and domestic water;
- provisions to address potential land use conflicts; and
- provisions to protect the amenity of the area.

There are established land uses in Bakers Junction that serves to support the needs of the rural hinterland farming community on Lot 157, (46428) South Coast Highway, King River and Lots 150 (978) and 156 (980) Chester Pass Road, King River. It is an agri-business enclave with a number and variety of light, service and rural industries. Enterprises include stock feed supply, farm implement assembly, distribution and servicing, agricultural engineering and repairs, forestry harvesting, chipping and plantation rehabilitation services.

These lots are suitable to be designated as 'Rural Enterprise' as they are located on the intersection of two major transport routes i.e. South Coast Highway and Chester Pass Road. It is strategically located to service the rural sector and is well located in relation to transport routes and rural hinterland customers.

During the review of the Local Planning Scheme, appropriate land use permissibility and development standards will be identified and addressed.

3.4.11 Carbon Farming

Carbon farming is farming in a way that reduces greenhouse gas emissions or captures and holds carbon in vegetation and soils. Carbon farming is included in the Emissions Reduction Fund. This is a voluntary carbon offsets scheme that provides economic rewards to farmers and landholders who take steps to reduce greenhouse gas emissions. This will allow the farmer or landowners to earn Australian Carbon Credit Units for carbon farming activities such as revegetation or reforestation.

There are many benefits to the farming community to engage in carbon planting:

- Mitigate climate change;
- protect, restore and enhance natural resources and build landscape resilience;

- maximise benefits from plantings for environmental, social and economic outcomes;
- protect, enhance and restore areas of high biodiversity conservation;
- enhance regional ecological linkages and connectivity;
- protect high value agriculture land;
- use and enhance low value agricultural land and degraded landscapes;
- plantings improve hydrological balance and water quality, consistent with catchment objectives;
- protect resilience and cohesion of our communities; and
- maximise opportunities for community development and enterprise associated with carbon farming initiatives.

South Coast NRM supports carbon farming projects and produced a series of maps to demonstrate where in the South Coast region carbon plantings would meet their *Carbon Farming Guiding Principles* and planting considerations. They have formed a Technical Working Group to assist in developing components and framework behind the maps. The framework and model includes two themes – identification or priority landscapes for carbon planting and identification of biodiversity priorities.

3.4.12 Horticulture Precincts

The Department of Primary Industries and Regional Development undertook an investigation into potential locations for horticulture development in the Lower Great Southern through a multi-criteria assessment process. The need to identify and protect land and water resources for future irrigated agricultural development.

Potential irrigation precincts were identified by overlaying various data sets which provided a broad scale perspective of the region to determine broad areas of interest (study areas) where annual rainfall exceed 600mm, groundwater salinity is fresh, the soils are generally suitable for irrigated agriculture and the land is available for development. From this process, five study areas were identified across the South Coast of which two areas are located in the City. The priority areas for irrigated agriculture precincts are Manypeaks, and Redmond/Narrikup. There is potential conflict between the proclaimed Angove Creek Catchment Area PDWSA near the potential irrigated agricultural precincts identified at Manypeaks.

In addition, the former Department of Water undertook an investigation into prospective groundwater resources in the Albany hinterland[109]. With its relatively cooler temperate climate, Albany hinterland area is considered to have strong potential for agricultural expansion. Also, the area has been recognised in the *Great Southern Regional Blueprint* as the 'most significant hotspot for competing water demand in the Great Southern. Therefore, identifying prospective sources of potable and fit-for-purpose groundwater is essential to provide diversification option for industry and agriculture.

In 2013, the Department of Water began an investigation in the Albany hinterland area to map prospective groundwater resources and provide information on water availability. The *Albany Hinterland Prospective*

[109] Department of Water (2017), Albany Hinterland – Prospective Groundwater Resources (Explanatory Notes), Hydrogeological Map series. Report no. HM12

Groundwater Resources Map[110] shows the interpreted distribution of four prospective groundwater resources areas across the Albany hinterland being King River area, Kalgan area, Manypeaks area and Nanarup area. The extent of these areas is shown in Figure 1: Rural and Figure 2: Urban.

The region produces 31% of Western Australia's strawberries,[111] there is strong domestic competitiveness in this group and opportunities into export have been made when exchange rates and market relationships have been favourable.[112] Strawberries are WA's premier fruit export crop.[113] 100% of WA's asparagus is produced in the City,[114] this group produced at a level that is well below local consumption, and increased production could be expanded to new and export markets. The number of growers is declining while the demand has increased for asparagus.[115]

To grow enough fruit and vegetables for the Great Southern, horticulture requires an extra 471ha by 2025 and by 2050 a further 211ha[116].

3.4.13 Aquaculture

The fishing and aquaculture industry adds $6 million to the Great Southern economy.[117] The City was identified as a stakeholder in the 10 year growth plan for the aquaculture industry by the Government,[118] which has committed $2.3 million to the Albany multi-species shellfish hatchery. Aquaculture is growing, both land and sea based operations with abalone, marron, yabbies, mussels, oysters and aquarium fish. The large-scale industry-run mussel, oyster and pearl production hatchery would be set up at the Albany Aquaculture Park, at Frenchman's Bay. It is hoped that the hatchery will be fully self-funded within 10 years.[119] The industry currently has trouble with a lack of access to spat (mollusc seed or juveniles), this impedes industry growth and sustainability. The hatchery will become an important supply source while creating opportunities for the culture of other species.[120] Bremer Bay has a land based abalone farm in tanks using sea water,[121] which generates product for the export market.[122] The City is the largest single producer of mussels and oysters in Western Australia and is a premium producer of the Sydney Rock oysters and Blue mussels which have

[110] Department of Water (2017), Albany Hinterland – Prospective Groundwater Resources Map.
[111] ibid, p. 21.
[112] ibid, p. 56.
[113] Department of Agricultural and Food 2009, Plan to Support Horticulture Industry Development 2009-2012. p. 23. Available from http://www.parliament.wa.gov.au/Parliament/commit.nsf/(Evidence+Lookup+by+Com+ID)/B2E90A0DADA3793B4825794F0029AEC3/$file/ef.aar10.111116.001.aqton.Attachment+9E+Ag&Food.pdf
[114] Fazakerley, V & Windsor 2013, Fresh thinking final 2013-2050. p. 19.
[115] Fazakerley, V & Windsor 2013, Fresh thinking final 2013-2050. p. 62.
[116] ibid, p. 25.
[117] ibid, p. 35.
[118] Department of Fisheries 2016, Aquaculture forum outlines growth strategy. Available from https://www.mediastatements.wa.gov.au/Pages/Barnett/2016/07/Aquaculture-forum-outlines-growth-strategy.aspx
[119] Department of Fisheries 2016, Our State Budget 2016-17: Securing our economic future – Hatchery funding to spawn aquaculture growth. Available from https://www.mediastatements.wa.gov.au/Pages/Barnett/2016/05/Hatchery-funding-to-spawn-aquaculture-growth.aspx
[120] SCNRM 2004, Draft South Coast Regional Strategy for Natural Resource Management. p. 10. Available from http://southcoastnrm.com.au/index.php?option=com_zoo&Itemid=235&args%5B0%5D=0&element=8d01dbcc-c6b0-4bbc-a044-f38183548459&format=raw&item_id=936&lang=en&method=download&task=callelement.
[121] Bunbury, E 2016, Department of Fisheries comments via email.
[122] Department of Fisheries 2016, Aquaculture Regions: South Coast Bioregion. Available from http://www.fish.wa.gov.au/Fishing-and-Aquaculture/Aquaculture/Aquaculture-Regions/Pages/default.aspx

developed local and export sales.[123] These projects operate from the waters in Oyster Harbour that provides terrestrial water run-off with nutrient-rich water to boost production.

There is an increasing food demand coming from Asia. There is potential for development of the aquaculture industry throughout the Lower Great Southern, particularly land-based aquaculture, using inland saline waters, which could provide significant economic benefits. Land-based aquaculture comes with a range of environmental and social issues.[124] Accordingly, the siting of aquaculture developments requires careful consideration of visual impact, access, and waste disposal issues.[125]

All aquaculture requires a lease area (land or marine) and an aquaculture licence to operate. Aquaculture activity is managed in accord within strict guidelines, and requires ongoing management to ensure potentially adverse environmental impacts are managed and mitigated as necessary in accord with Monitoring and Environmental Management Plans, required as a condition of licence.[126]

3.4.14 Forestry

Albany is at the centre of the Lower Great Southern Strategic Plantation Forestry Hub, one of just three such hubs in WA. The concepts of Strategic Hubs is to attract investment in plantations, supporting infrastructure and downstream processing within an economic transport distance of existing integrated forestry processing centres, through well-targeted policy measure.[127]

Regional Forestry Hubs are a key element in the newly released national forest industries plan, *Growing a Better Australia – A Billion Trees for Jobs and Growth*. Under this plan, the Federal Government is committing to "support the development of Regional Forestry Hubs that will turbo-charge growth in forest industries in regional Australia".[128]

The timber industry in the Great Southern (and Esperance) region is worth $345 million per annum, and employs nearly 1,300 people directly and indirectly.[129] Direct employment includes jobs in growing and harvesting plantations and native forest, and in producing sawn timber, and woodchips for pulp and paper production. Indirect employment includes jobs in supplies and inputs like fuel and mechanical servicing, and that flow from the spending of salaries and wages by workers.[130]

Plantations for Australia want to treble areas under plantations by 2020, this is an Australia wide program developed by industry and Government for plantation forestry in Australia.[131] The City was one of the first towns in the Great Southern to grow, harvest and chip Eucalyptus for export. The City is a major export and

[123] Department of Fisheries 2015, Aquaculture in Western Australia Industry Overview. p. 35. Available from www.fish.wa.gov.au/.../Aquaculture/aquaculture_position_paper.pdf
[124] WAPC 2016, Lower Great Southern Strategy. p. 55.
[125] ibid, p. 55.
[126] Bunbury, E 2016, Department of Fisheries comments via email.
[127] http://www.forestindustries.com.au/wp-content/uploads/2015/08/FIFWA-WA-Plantations-Missing-Piece-of-the-Puzzle-2016.pdf
[128] http://www.agriculture.gov.au/SiteCollectionDocuments/forestry/national-forest-industries-plan.pdf
[129] www.fwpa.com.au/resources/market-access/1494-socio-economic-impacts-of-the-forest-industry-western-australia.html
[130] Forest Industries Federation (WA), Submission on the draft Albany Local Planning Strategy, October 2018
[131] Department of Agriculture 2002, Plantations for Australia: The 2020 Vision. p. 7. Available from www.agriculture.gov.au/forestry/policies/2020vision

timber processor,[132] the Albany Port Authority estimated wood chip exports had a value of $89 million.[133] In the City currently 140,000ha of Tasmanian Blue Gum plantations are grown for pulpwood, chipped and exported through the Port for paper in the Japanese market. APEC has 2200ha[134] ready for harvesting annually, there is a 10 year wait before trees can be harvested and APEC has stock to continue well into the future.

There has been a decrease of plantations in Western Australia, the largest in the country and this serious decline has brought the plantation estates to a standstill.[135] There already exists a broad and integrated market for plantation timber products that are processed and manufactured in WA. These markets are strong and support over 3,400 direct jobs and approximately another 11,620 indirect jobs generated in Western Australia.[136] The total plantation estate in Western Australia peaked in 2009 with 164,000ha of hardwood and 85,000ha of softwood plantations. Since this time the total plantation estate has been in serious decline and unless action is taken this trend is forecast to continue.[137]

There is further scope to develop hardwood timber plantings of Jarrah, Mallee and Sheoak for sawmilling, fine furniture and bio-fuels industries.[138] There is a growing interest in exporting logs to India, and demand will continue to grow in Japan for wood chips and a new market in China.[139] The bio-fuel industry has the capacity to expand and could create a substantial demand for increased tree farming. Fletchers International were introducing wood pellet boilers into their infrastructure.[140]

Sandalwood has been grown in the City and Bremer Bay area from 1945, when it was first exported.[141] Currently the City processes sandalwood oil through Mount Romance on Down Road, the current export value for sandalwood oil is US $1500-1700 per kg[142] and uncleaned sandalwood logs trade at $16,000 per metric tonne.[143] However no sandalwood is currently grown here.

3.4.15 The Role of Technology and NBN

Economic connectivity, technology and communications are transforming the way we live, work and interact with one another. The world's economic centre is shifting to India and China, [144] and this will result in higher consumption of goods and continue to evolve and create opportunities for prosperity through increased demand for, and diversity of, exports. This also presents challenges, as the playing field is levelled and

[132] Department of Agriculture and Water Resources 2016, Agriculture, Fisheries and Forestry in the Wheat belt Region of WA. Research by the Australian Bureau of Agricultural and Resource Economics and Sciences. Available from http://data.daff.gov.au/data/warehouse/9aa/regionalReports/201609/ABS2011SA4_50900000000.html
[133] Department of Regional Development 2014, Great Southern: A region in profile 2014. p. 9. Available from http://www.drd.wa.gov.au/Publications/Documents/A_region_in_profile_2014_Great_Southern.pdf
[134] APEC n.d. Production Capability. Available from http://www.apecchip.com.au/about.aspx
[135] Forest Industries 2016, Western Australia Plantations: The missing piece of the puzzle. p. 1. Available from http://forestindustries.com.au/wp-content/uploads/2015/08/FIFWA-WA-Plantations-Missing-Piece-of-the-Puzzle-2016.pdf
[136] ibid, p.2.
[137] ibid, p. 5.
[138] Department of Regional Development 2014, Great Southern: A region in profile 2014. p. 9.
[139] Fitzgerald, B 2014, WA timber industry harnesses emerging Indian market. Available from http://www.abc.net.au/news/2014-06-16/timber-exports-to-india/5522174
[140] Pepper, F 2015, Western Australian abattoir moves to burning woodchips to generate energy. Available from http://www.abc.net.au/news/2015-12-09/western-australian-abattoir-moves-to-burning-woodchips/7013870
[141] WA Sandalwood Plantations 2015, Australian Sandalwood: History. Available from http://www.wasandalwood.com/index.php?id=65
[142] Mount Romance 2016, Market update. Available from http://www.mtromance.com.au/market-update/
[143] WA Sandalwood Plantations 2015, Australian Sandalwood: Markets. Available from http://www.wasandalwood.com/index.php?id=67
[144] Gascoyne Development Commission 2015, Gascoyne Regional Investment Blueprint. p. 69. Available from http://www.gdc.wa.gov.au/publications-statistics/gascoyne-regional-investment-blueprint/

competitiveness, productivity and agility become further entrenched as drivers of growth.[145] Of relevance to all regions is the growth of digital technology, which has transformed the way the world communicates and transacts - the tyranny of distance, which for so long afflicted Western Australia, is now less of a barrier to growth. Businesses use digital technology to become more productive and better tailor their products and services to meet customer needs. Access to digital technologies also allows businesses to use scarce resources more efficiently, and reduces their need to locate close to their customers.[146] Technology and innovation are increasing our international competitiveness across key sectors.

The digital economy also presents challenges. As high-capacity broadband access becomes essential for households and businesses, a lack of access, or high cost of access, to faster communication services can be a barrier to regional residents, businesses and service providers, fully engaging with the digital economy. Digital illiteracy can also be an issue.[147]

E-commerce, telecommuting and freelancing allow regional businesses to look to opportunities in the global economy. Innovation is a key driver of economic growth and improved living standards.[148] Using technology on the farm can help improve diversification with sensors, automation and engineering. Currently there are two robotic dairy farms in the South Coast region located in Denmark, the WA College of Agriculture has commissioned two robotic dairies for training, giving the region a competitive advantage in robotic dairies.[149] Of particular interest will be synthetic biology, to make fuels, byproducts accessible from organic chemistry and smart devices.[150]

3.4.16 Equine Industry

In 2011 the industry contributed nearly $20 million dollars to the regional economy with 230 full-time employees. Activities included thoroughbred and harness racing, eventing, dressage, polo-cross, showing, camp drafting, riding for the disabled, and horse breeding. Thoroughbred horse production offers significant potential for the region. [151]

3.4.17 Regional Food System

A regional food system considers the production, distribution, marketing and consumption of food and produce in the region as the outcomes of complex and diverse relationships and interactions. The main challenge for the Great Southern food system is to build constructive stakeholder relationships and it is important to have regional labelling and premium branding for local products. By showing the importance of the food system it is hoped that increased spending through greater local consumption is achieved. Promotion

[145] Ceda 2016, State of the Regions Series: Regional Development in Western Australia.
[146] South West Development Commission 2014, South West Regional Blueprint. p. 17. Available from http://www.swdc.wa.gov.au/what-we-do/strategic-planning/south-west-regional-blueprint.aspx
[147] ibid
[148] Ceda 2016, State of the Regions Series: Regional Development in Western Australia.
[149] Pracsys 2015, South Coast Industrial Ecology Mapping and Industry Attraction Strategy.
[150] Zappa, M 2014, 15 Emerging Agriculture Technologies That Will Change The World. Available from http://www.businessinsider.com.au/15-emerging-agriculture-technologies-2014-4
[151] Great Southern Development Commission 2015, Great Southern Regional Blueprint. p. 37.

and branding are key tools for value adding and product identification in the marketplace, a tool for differentiating producers through labelling is critical.[152]

Great Southern premium food needs strong promotion to ensure it is recognised as quality locally grown produce and superior produced food, not industrially farmed or imported food products so that premium regional products are locally distinct, not generically available. Currently local supply is seasonal, and at times sporadic, continuity of supply is important to engage more consumers.

If collaboration could be developed to provide a common well-equipped distribution facility, this will create a valuable resource to stakeholders in the GS food system. Limitations to growth are poor coordination in the supply and distribution system; ineffective marketing and promotion of produce; and inadequate or dysfunctional engagement of stakeholders.

If the food system is to generate a significant contribution to economic development, the one number issue is getting more food to more customers, retailers and consumers. The opportunity exists for a physical space to become a place where the premium produce and boutique products of the region can be presented and traded to retailers, customers and consolidated for distributors.

Planning Implications

The above information presents the following planning implications:

- Agriculture offers many growth and diversification opportunities in aquaculture, regional food system, livestock and meat processing infrastructure etc. which planning should respond to through zoning, land use permissibilities and identification and protection of land in appropriate locations.

- There is the potential to utilise 'Rural Enterprise' zones to rural and industrial areas where industrial land uses in conjunction with residential houses occur. Bakers Junction has established land uses that meet the needs of the hinterland farming community that fulfil the definition of a 'Rural Enterprise' zone under the WAPC Rural Planning Guidelines. There is need to designate Bakers Junction as a Rural Enterprise and during the review of the Local Planning Scheme, zone it for this purpose and to identify land use permissibility and development standards.

- There is a need to identify and protect existing strategic agricultural enterprises from sensitive and inappropriate land uses at structure plan stage.

- Department of Primary Industries and Regional Development's intent to undertake high quality mapping of the Great Southern. Zoning and provisions under the local planning scheme should be reviewed at finalisation of these maps.

[152] Department of Agriculture and Food 2016, Food Industry Innovation: Specialised Food Centre- understanding the capability of the Great Southern Region. p. 4. Available from https://www.agric.wa.gov.au/newsletters/fii/food-industry-innovation-%E2%94%82august-2016-%E2%94%82volume-1?page=0%2C3#smartpaging_toc_p3_s0_h2

3.5 Education Growth

The vision to become a 'university town' is held by many stakeholders in the region including the University of WA, GSDC and the City.

The City's *Community Strategic Plan* contains five strategic challenges to achieve the City's vision. One of these challenges is 'Smart, Prosperous and Growing' aims to foster education, training and employment opportunities that support economic development. The City aims to achieve this by:

- Identifying and advocating for education, training and research around what drives our regional economy;
- advocating for flexible education programs that meet the needs of diverse sectors or our community; and
- supporting the establishment of a learning precinct in our CBD to enhance the learning experience.

Knowledge and innovation is a regional imperative identified under the Great Southern Regional Investment Blueprint[153] which envisages that by 2040:

- The region will have a vibrant tertiary education sector that hosts over 3,000 full-time equivalent tertiary students, 30% of whom will be from overseas; and
- the region's tertiary education sector will be recognised as adding value to regional industry and the wider community through engagement with artistic, scientific and cultural activities.

The university requires more space to accommodate increasing student numbers and the ability to offer more full courses. Currently UWA provides limited options, other than full courses in Science and Teaching.[154] The provision of sufficient student accommodation is seen as a major problem. The Norman House redevelopment is expected to be completed by 2017 for five four-bed residential units for affordable student accommodation to encourage more students to attend tertiary institutions in the Great Southern.[155] A 40-bed facility on the old Albany Primary School site on Serpentine Road will help attract and retain higher education students who would otherwise leave the region.[156] Increasing tertiary student accommodation options in the Great Southern encourages students to stay in their community longer and builds a broader skill base in the region, leading to a stronger regional economy.

A major direction for the City is to support tertiary education growth, in order to promote a 'Learning City' and develop a regional university, along with developing an Outdoor Centre of Excellence or other specialist programs which draw on regional industries and opportunities. For instance, *the Community Strategy Plan* states:

> 'We will partner business and education providers to diversify our economy and establish a culture of learning to support and grow local employment'.

[153] GSDC 2015, Great Southern Regional Investment Blueprint.
[154] The University of Western Australia 2016, The Albany Centre.
[155] GSDC 2016, Great Southern Major Projects. Available from http://www.gsdc.wa.gov.au/sites/www.gsdc.wa.gov.au/files/pdf/Great%20Southern%20Major%20Projects%20May2014.pdf
[156] Department of the Premier and Cabinet 2016, Boost for Student accommodation in Albany. Available from https://www.mediastatements.wa.gov.au/Pages/Barnett/2016/07/Boost-for-student-accommodation-in-Albany.aspx

The UWA Albany campus includes Curtin University, Centre of Excellence in Natural Resource Management, Rural Clinical School and Perth International Arts Festival, and are closely linked with education in the City. There has been a constant increase in student numbers of 20% per year and Curtin University has strong links with the Great Southern Institute of Technology.[157] International students from Bristol University and Asian markets are increasing, as Albany is seen as a safer community than Perth.[158]

UWA works with South Coast NRM, Shire of Collie, City of Albany, Great Southern Development Commission, Department of Water and Environmental Regulation and Department of Biodiversity Conservation and Attractions. Research staff for UWA also contribute to the economy and environment of the City.

A number of schools in the Great Southern have received funding for Trade Training Centres including St Joseph's College, and Australian Christian College which offer Trades and Engineering. North Albany Senior High School has Health and Community services offering nursing, aged care and hospitality. 2011 census data in the Great Southern showed 48.8% of year 12s achieved a Tertiary Admission Rank compared with 59.2% for WA, suggesting a lower proportion for Great Southern students are seeking admission to university courses.[159]

A Learning City places innovation and learning at the core of economic development. A Learning City sustains economic activity through various combinations of individual and institutional learning, innovation and creative uses of information and communication technologies. Stakeholder partnerships are considered essential where learning and knowledge dissemination are at the centre of development.

Planning Implications

The above information presents the following planning implication:

- Growth in the tertiary sector is a vision held by state, local government and education providers. It is important to understand the future land requirements to accommodation growth, and to meet the needs of students by providing housing in close proximity to TAFE and UWA, to diversify housing and provide for the social, active and recreational needs of students.

[157] The University of Western Australia 2016, The Albany Centre. Available from http://www.albany.uwa.edu.au/
[158] ibid
[159] Department of Regional Education, Skills and Jobs 2012, Regional Education, Skills and Jobs Plan, Great Southern. p. 15. Available from https://docs.employment.gov.au/system/files/doc/other/resj_western_australia_great_southern.pdf

4 NATURAL ENVIRONMENT

4.1 Fauna and Flora

4.1.1 Biodiversity

The district forms part of the Southwest Australia Biodiversity Hotspot which is globally significant due to its diversity of plants, animals and habitat types. Various plant species are endemic to the area. The district contains numerous biodiversity assets, including declared rare and priority flora and threatened fauna.[160] Figure 5 shows the spatial extent of vegetation protected under reserves and state forests.

Biodiversity is dependent on a combination of characteristics including climate, geology and soils, landform and vegetation.

The district's biodiversity and natural environment are highly valued and provide a range of benefits. Protection of native vegetation is important for a number of reasons including maintaining biodiversity, wildlife habitats, scenic values, and in minimising the risk of soil erosion and rising water tables.

Retaining the district's biodiversity assists to sustain life and has important social, cultural, economic and environmental benefits. Ecosystem functions underpin the capacity of the district to support economic growth and attract residents. The natural environment is a key attractor for many residents and visitors to the district.

Most threatened flora, fauna and ecological communities within the district are in conservation reserves and National Parks managed by Department of Biodiversity Conservation and Attractions and in City of Albany reserves and road reserves. Outside of these reserves, a considerable amount of native vegetation exists on private property. Many natural areas need active management to ensure that they are resilient against on-going impacts such as weeds, Phytophthora dieback, altered fire regimes and feral animals.

The natural environment is vulnerable and once damaged takes many years to return, if at all, to its original condition. As outlined in publications such as *An Overview of Biodiversity Values and Threats in the South Coast Region (2013)*, there are significant threats along with potential for flora and fauna extinction.

Threats to biodiversity in the district include:

- Clearing remnant vegetation for urban development, agriculture, infrastructure and other uses;
- bushfire and altered fire management;
- salinity, Phytophthora dieback, weeds and inappropriate chemical use;
- unmanaged grazing extending into conservation areas;
- biosecurity risks including animal and plant pests, invasive species and disease;
- hydrological change and nutrient enrichment;
- unmanaged recreational use;
- cumulative changes such as degradation and fragmentation of habitat; and

[160] Department of Parks and Wildlife 2013, South Coast Biodiversity: An overview of Biodiversity Values, threats and Conservation in the South Coast Region.

- climate change.

Active management of these threats is needed to maintain biodiversity values. Active management is particularly costly in fragmented landscapes, so the retention and protection of large, consolidated areas with lower susceptibility to threats is cost effective and more viable.

4.1.2 Protection of Trees

Trees add value to our community by providing shade, protection from weather events, reducing heat and glare, improving mental health and well-being and providing habitats for fauna. Trees also add moisture and oxygen to the air and enhance aesthetics within the streetscapes.[161] The vision of the *Urban Tree Strategy* is to create a tree network that will be resilient, healthy and diverse, and contribute to the sustainability and wellbeing of our community.[162] Objectives of the *Urban Tree Strategy* are:

- Precinct planning taken into consideration with road network hierarchy;
- develop infill planting programmes;
- instil good best practice design practices (access and inclusion); and
- support the community in planting initiatives.

Street trees and heritage trees on private properties are protected on the City of Albany Municipal Heritage Inventory and by the Heritage Council of WA, National Trust, Australian Heritage Commission and State Register of Heritage Places. No development can be completed near the trees without planning approval. The City is completing a tree strategy and ALPS will be updated with the information when available.

4.1.3 Roadside Vegetation

Roadsides act as valuable corridors for small animals that find it difficult to cross large open spaces such as paddocks.[163] They protect roads from wash-outs in high rainfall events, are more difficult to ignite and can provide a wind break for adjoining farmland. The Roadside Conservation Committee has mapped all roadside vegetation in the City area and has found some high value conservation vegetation.[164] The areas of high conservation value include Albany Highway, Albany-Lake Grace Road, South Coast Highway and South Western Highway.[165] These vegetation corridors are protected under the ALPS No1.

[161] City of Albany 2017, Urban Tree Strategy. p. 6. Available from City offices.
[162] ibid, p.5.
[163] Roadside Conservation Committee 2014, Verge Notes: A roadside note for landholders. Available from https://www.dpaw.wa.gov.au/images/documents/conservation-management/off-road-conservation/rcc/A_roadside_note_for_landholders.PDF
[164] Department of Parks and Wildlife 2013, Roadside conservation value mapping program. Available from https://www.dpaw.wa.gov.au/management/off-reserve-conservation/roadside-conservation/132-roadside-conservation-value-mapping-program?showall=&start=2
[165] Department of Parks and Wildlife 2000, A survey of the roadside conservation values in the City of Albany and roadside management guidelines. p. 6. Available from https://www.dpaw.wa.gov.au/images/documents/conservation-management/off-road-conservation/rcc/reports/city_of_albany_technical_report_2000.pdf

4.1.4 Mapping of Conservation Values

The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) have developed a spatial multi-criteria Analysis shell (MCAS) approach to mapping biodiversity and conservation values in the region. The aim of the project is to update the Southern Prospects 2011-2016 to include climate change science information that plan for climate change impacts, the prospects will be updated in 2017.[166] The mapping identifies significant areas of vegetation present in small, scattered patches inland in the City.[167]

The *Biodiversity Prioritisation and Bio sequestration Modelling and Analysis* report has indicated that the City has top value and high value biodiversity with currently no protection.[168] The report suggests moderate priority conservation biodiversity plantings in the region because of the high conservation value. These needs protecting and will allow greater landscape linkages or corridors. The City is at risk of a high salinity hazard[169] in areas near Mount Barker. The City is seen as an important area to identify potential climate impacts on species and to revegetate areas that are seen as the best place based on likely survivability of plant species.[170] The research allows for future planning of revegetation areas that will provide the best habitat and corridor linkages, while improving other climate change related features. These areas will require greater protection under the LUD.

The main aim is to increase the habitat under private and local government management that is actively managed for wildlife conservation.[171] A number of organisations are pursing the acquisition of privately owned areas of native vegetation for management as conservation reserves, these include Australian Bush Heritage, Greening Australia, Friends of the Porongurups and Gondwana Link. These groups work in partnership with other community-driven groups to make up the Gondwana Link project.

4.1.5 Gondwana Link

After many years of clearing land for agriculture, the area covered by Gondwana Link has become fragmented. Numerous parcels of land are owned and managed for conservation by groups involved with the Gondwana Link program, with large areas of cleared land being restored to re-instate ecological linkages on which the unique plants and animals of the region depend. The project covers 1,000km of South West Australia extending from the west coast to the Nullarbor, with a strong focus on Albany's hinterland, including the areas that would connect the Stirling Range and Porongurup National Park with other key main habitats.[172] The Gondwana Link program works with local groups supporting private landholders undertaking on-ground works and increased predator control of feral honeybees, foxes, cats and rabbits, as well as managing threatening processes such as inappropriate fire regimes, and impacts from adjoining agriculture. A priority, as well as increased protection for habitat and revegetation of wildlife, is the development of compatible

[166] South Coast Natural Resource Management 2016, Regional Mapping for climate Change. Available from http://southcoastnrm.com.au/our-projects/regional-mapping-for-climate-change
[167] Department of Conservation and Land Management 2004, South Coast Biodiversity: An Overview of Biodiversity Values, Threats and Conservation in the South Coast Region. p. 22. Available from http://southcoastnrm.com.au/category/reports
[168] ibid, p. xi.
[169] ibid, p. 77.
[170] Department of Conservation and Land Management 2004, South Coast Biodiversity: An Overview of Biodiversity Values, Threats and Conservation in the South Coast Region. p. 92.
[171] ibid, p. 28.
[172] ConPro 2013, Gondwana Link: Ranges Link (Stirling To Porongurup) (ID:1722) Available from http://www.gondwanalink.org/pdf/RangesLinkCAPdetails.pdf

economic and cultural enterprises and lifestyle opportunities. To improve the condition and connectivity of vegetation communities two key areas in Albany include the Mount Lindesay to the Porongurups Link area, and Two Peoples Bay to the Manypeaks area.[173] Activities here include securing areas of bush; rehabilitation of degraded bush; restoration of habitat in areas that are critical for maintaining and restoring function or for enhancing poorly represented vegetation associations.

4.1.6 Native Vegetation

Native vegetation of the district is highly diverse in both structure and floristics. Many species are rare, with restricted distributions and specific habitat requirements and some are endemic to the district. Vegetation includes Jarrah-Marri forest, Marri, scrub heath, damplands and wetlands. Native vegetation is located on private and public land and plays an important role in the district's landscape and character.

The district has been subject to the following broad-scale vegetation surveys:

- *Vegetation of the Albany and Mount Barker Areas, Western Australia*;[174]
- *Vegetation Survey of the Albany Hinterland*;[175] and
- *Albany Regional Vegetation Survey*.[176]

The *Albany Regional Vegetation Survey* (ARVS) is an important technical study that contributes to understanding of the natural environmental assets within a 35km radius from the centre of Albany. It outlines that around 65% of the native vegetation within the survey area has been cleared (or 35% of the original vegetation remains), over 800 species were recorded during the survey including six Declared Rare Flora, 43 Priority listed species and 19 species occurring beyond their previously known distribution. Particularly high vegetation diversity was found in wetland habitats, on granite outcrops and along the coastal fringe. Some vegetation units have less than 30% of their total pre-clearing extent remaining in Western Australia, while a number of units are likely to have less than 30% of their pre-clearing extent remaining within the ARVS survey area.

ARVS has been endorsed by the Environmental Protection Authority (EPA) as a key information source to guide land use planning in the district. The EPA's endorsement is set out in *Environmental Protection Bulletin No. 13 Guidance for the use of the Albany Regional Vegetation Survey in Environmental Impact Assessment* (2011) – to be called EP Bulletin 13. The EPA considers that:

- The protection of remnant native vegetation is best achieved by locating development in cleared areas in preference to uncleared lands;

[173] Gondnwana Link (2019) http://www.gondwanalink.org/aboutus/vision.aspx
Gondwana Link (2019) http://www.gondwanalink.org/whatshapwhere/Lindesay.aspx and http://www.gondwanalink.org/whatshapwhere/Manypeaks.aspx
[174] Beard 1979, *Vegetation of the Albany and Mount Barker Areas, Western Australia.* Available from http://trove.nla.gov.au/work/20066339?selectedversion=NBD8004442
[175] Connell & ATA 2001, *Vegetation Survey of the Albany Hinterland.* Available from City offices.
[176] Sandiford & Barrett 2010, *Albany Regional Vegetation Survey.* Available from http://www.epa.wa.gov.au/Policies_guidelines/envprotectbulltn/Documents/Albany%20Regional%20Vegetation%20Survey/arvs_report_aug_2010.pdf

- the survey report provides a key resource to inform State and local government authorities, industry and developers considering proposals and planning schemes where flora and vegetation is a factor;
- the information contained in the survey report will be used by the EPA to assess the impact proposals on ARVS vegetation units;
- the ARVS does not replace the need for site specific flora and vegetation surveys consistent with EPA Guidance Statement 51;
- the ARVS provides a detailed and contemporary regional context of flora and vegetation in the Albany Region and should therefore be used for environmental impact assessment of proposals;
- where information is required on pre-clearing and current extent of vegetation, Vegetation Associations[177] should be used until more up-to-date information is available; and
- proponents will also need to undertake fauna surveys and any other survey as dictated by individual site conditions consistent with EPA Guidance Statements and Environmental Assessment Guidelines, for example, EPA Guidance Statement numbers 10, 20, 54 and 56.

ARVS is consistent with the *Environmental Protection Bulletin No. 20 – Protection of naturally vegetated areas through planning and development*. It seeks to protect naturally vegetated areas during all stages of the planning process. Protection of naturally vegetated areas is addressed at each stage of planning. The bulletin sets out design guidelines for planning and development as follows:

- Locate development on cleared land;
- consider the impact of fire protection requirements on biodiversity;
- protect large consolidated naturally vegetated areas;
- ensure clear and ongoing management responsibilities in retained naturally vegetated areas; and
- infrastructure should not be located within consolidated retained naturally vegetated areas.

The ARVS report contained various recommendations for future work including to prioritise the vegetation units in terms of conservation status to assist land use planning. This matter was progressed through the draft *Albany Regional Vegetation Survey Phase 2 Conservation Planning Report (2013).* The second phase of the ARVS project is underway and involves closer examination of the findings to identify priority areas for conservation of vegetation; inform priority areas for fauna conservation; and identify critical areas requiring restoration.

The City is currently preparing the Natural Reserves Strategic Action Plan. Its objectives are to develop a financially sustainable natural reserves strategic plan that reflects environmental best practice and balances bio-diversity conservation with community and user needs. The plan will address five key reserve management themes as follows:

- Environmental biodiversity;
- community safety and access;
- recreational services and facilities;

[177] Shepherd DP, Beeston GR and Hopkins AJM 2002. *Native Vegetation in Western Australia: Extent, types and status*. Department of Agriculture, Western Australia., Department of Agriculture and Food (DAFWA) 2005. *Pre-European Vegetation – Western Australia* (NVIS Compliant version). Department of Agriculture and Food, Perth, Western Australia.

- heritage values; and
- sustainable management.

4.1.7 Fauna

The district is rich in fauna including vertebrate and invertebrate species.[178] Some species are listed as threatened in the *Environment Protection and Biodiversity Conservation Act 1999,* there are threatened and priority species listed in the *Wildlife Conservation Act 1950* and there are nominated locally significant species.

Native vegetation, watercourses and wetlands provide refuge habitat for fauna. Subject to the species and its habitat, some populations can be prone to the effects of fire, competition, predation and human impacts. A reduction in the size and number of these remnants will increase the pressure on various fauna species. There is on-going survey work to be completed for various species to develop suitable management responses.

Planning Implications

The above information presents the following planning implications:

- Various strategies (State and local) in relation to biodiversity have been prepared since the preparation of ALPS (2010) which guides the City of Albany and developers in the preparation of amendments, structure plans, subdivision and development. There is a need to finalise ARVS stage 2. Following this, there may be a need to prepare a local planning policy, amend strategy or scheme to guide developers and the City on the implementation thereof.

- Identify vegetation linkages in the strategy map and formulate strategies to assist in the protection and development thereof.

- Development should be directed towards areas that are already cleared.

- There is an opportunity to protect significant trees through scheme provisions.

- Investigate the change in land use allocation in LPS and reserves in LPS1 in accordance with *Planning and Development (Local Planning Schemes) Regulations 2015* by zoning land commensurate with its land use or purpose.

[178] Danks, A 2004, Overview of Biodiversity Values and Threats in the South Coast Region (unpublished). Available from http://southcoastnrm.com.au/category/reports

4.2 Water

The district's water resources consist of rivers, watercourses, estuaries, lakes, wetlands, damplands and groundwater. Water resources within the district have important environmental, social and economic values.[179]

The district contains limited fresh groundwater, with the exception of coastal dune aquifers which provide critical supplies for the City of Albany. In some parts of the district, the groundwater resources are either poorly known or have limitations on quantity and quality.[180]

Groundwater and surface water are finite resources which have limits to their availability and suitability for use while still maintaining water dependent environments. The availability and the quality of these water resources are critical to the district's environment and economy.

Increasing population and economic activity is increasing water demand, whilst rainfall is and will continue to decline. One of the major challenges for the district is sustainably managing its water resources and ensuring there is water security. It is also imperative that water and associated land use are appropriately managed.

Inappropriate land uses can present a significant risk to water quality through contamination of groundwater, waterways, wetlands and other water resources. Inappropriate land use can cause contamination of groundwater, waterways, wetlands and other water resources. Potential contaminants include nutrient run-off, pathogens, hydrocarbons and chemicals.

There is an established planning and environmental framework for water resources which includes *State Planning Policy 2.7 Public Drinking Water Source Policy, State Planning Policy 2.9 Water Resources* and *Better Urban Water Management* (2008) and at a regional level, the *Great Southern Regional Water Supply Strategy* (2014).

Effectively managing water will, in part, require a coordinated approach with land use planning consistent with *Better Urban Water Management*.[181] This includes ensuring that new development/subdivisions are appropriately located and serviced, and supporting best practice water sensitive urban design (WSUD).

4.2.1 Water Source Protection Areas

ALPS (2010) highlights the importance of protecting public drinking water source areas. LPS1 incorporated Public Drinking Water Special Control Area (PDWSCA) to protect existing and future proclaimed public drinking water sources. These are Marbellup Brook, South Coast Water Reserve and Limeburners Creek however, Angove Creek catchment area also needs to be included under LPS1. The objectives of the Special Control Areas are to assist in the implementation of any adopted Water Source Protection Plan and to protect the area from uses and/or developments which may adversely impact on the quality and quantity of public drinking

[180] Department of Water 2014, Great Southern Regional Water Supply Strategy: A Long-Term Outlook of Water Demand and Supply. Available from www.water.wa.gov.au/__data/assets/pdf_file/0005/2939/108261.pdf

[181] Department of Water 2008, *Better Urban Water Management.* Available from http://www.water.wa.gov.au/planning-for-the-future/water-and-land-use-planning/better-urban-water-management

water sources. There is potential conflict between the proclaimed Angove Creek Catchment Area PDWSA and the potentially irrigated agricultural precincts identified at Manypeaks (as discussed in detail under Section 3.4.12 Horticulture precincts). Department of Water and Environmental Regulation has reviewed guidelines for the land use compatibility tables for public drinking water source areas.[182] The guidelines, together with drinking water source protection reports, determine risk management objectives for land within PDWSCA.

The district's water resources are limited and there is a need for on-going water conservation, efficiencies, recycling and promoting water that is fit-for-purpose. The Department of Water and Environmental Regulation and Water Corporation have and will continue with groundwater investigations for both potable and non-potable water supply requirements including opportunities to expand the South Coast borefield.[183] The investigation has allowed the Department of Water and Environmental Regulation to increase the Water Corporation's license by 0.5 GL/year to a total of 4.45 GL/year,[184] in the short-term this gives some security to the water supply. Projections produced by the Department of Water and Environmental Regulation show that under high growth rates a new water supply will be required by 2023, while if medium growth, by 2030.[185]

As part of the Great Southern Regional Water Supply Strategy several options have been planned for to ensure the security of water supply. Water conservation/efficiency programs are an important consideration in water conservation as these programs can delay the need for development of new large sources (seawater desalinisation and Marbellup Brook). The first option includes expanding planning for use of non-potable, fit-for-purpose water supplies, wastewater recycling and stormwater harvesting to minimise use of potable supplies. Options in the strategy are dependent on timing, growth, source capacity and have planned timeframes for being brought into effect.

The district will require secure and sufficient water resources to enable the planned urban and economic growth of the City and to address the predicted declining rainfall. Department of Water and Environmental Regulation has completed groundwater investigations in the Albany hinterland. The results of these investigations will help to inform implementation of the Lower Great Southern town's water supply scheme water supply strategy.

[182] Department of Water 2016, Land use compatibility tables for public drinking water source. Available from https://www.water.wa.gov.au/__data/assets/pdf_file/0014/.../12441.pdf
[183] Department of Water 2014, Great southern regional water supply strategy: A long-term outlook of water demand and supply.
[184] ibid, p. 22.
[185] ibid, p. 23.

Planning Implications

The above information present that following planning implications:

- Special Control Areas under the Local Planning Scheme need to be maintained to protect current and future drinking water sources. Angove Creek Catchment Area needs to be incorporated as a Special Control Area under the Local Planning Scheme.
- There is a need to recognise the potential conflict between the Angove Creek Catchment Area and the potential irrigated agricultural precincts identified at Manypeaks.
- Where possible, planning should facilitate waterwise development to conserve limited drinking water supplies.

4.2.2 Rivers and Watercourses

The district has various river, tributary and creek systems that flow south and discharge into the Southern Ocean. The two largest river systems flowing into the urban area are the Kalgan and King catchments which discharge into Oyster Harbour. Princess Royal Harbour and Oyster Harbour are significant waterways. LPS1 has environmental protections measures in place for all coastal development. All buildings must be set back from the water course by 30m to 100m depending on whether the watercourse is a seasoning watercourse, a permanent or river/estuary.[186] Stormwater drainage, revegetation, fencing water monitoring can also be included as a condition.

Rivers and watercourses are highly valued for environmental, economic, recreational, cultural and landscape reasons. They provide important habitat and often form environmental corridors. Watercourses and their catchments are protected in the LPS1 because of the direct, indirect and cumulative impacts of development on our waterway values and functions within the catchment. The land use planning system seeks to ensure development is appropriately setback from rivers and watercourses to address flood risk and environmental impact, development is appropriately serviced (wastewater disposal and stormwater management), to promote effective management (including foreshore management plans) and for foreshore reserves to be ceded for public access and/or conservation.

Water resources in the South Coast are tremendously varied, with over 100 rivers or major tributaries, 33 estuaries, more than 300 conservation category wetlands and regionally significant coastal freshwater aquifers.[187] Princess Royal Harbour and Oyster Harbour have experienced eutrophication events associated with high nutrient loads from adjacent land-based activity.[188] Protection of water resources and land use

[186] City of Albany 2010, Local Planning Scheme no1. p. 25.
[187] Department of Environment 2009, Water resources in the South Coast Region. Available from http://southcoastnrm.com.au/index.php?option=com_zoo&Itemid=235&args%5B0%5D=0&element=8d01dbcc-c6b0-4bbc-a044-f38183548459&format=raw&item_id=934&lang=en&method=download&task=callelement
[188] Department of Fisheries 2011, South Coast Bioregion. p. 250. Available from http://www.fish.wa.gov.au/Documents/sofar/status_reports_of_the_fisheries_2011-12_south_coast_bioregion.pdf

control for the priority waterways and their foreshores should be maintained. Because of the linkages between other water resources such as wetlands, water source areas, groundwater, drainage and stormwater, quality water resources are protected in the LPS. Public open space or major vegetation networks, which make a significant contribution to the drainage function of waterways within an area, are located near Centennial Park, North Road and Yakamia Creek near North road.

At the time of Structure Plan preparation or subdivision approval, foreshore reserves are determined using biophysical criteria in accordance with relevant state policies and guidelines. Where significant waterways (identified by the Department of Water and Environmental Regulation) are located within Structure Plans and/or proposed subdivisions, it is preferable that the identified foreshore reserves be ceded to the Crown as a public reserve for the purpose of waterway protection and recreation and measures to rehabilitate the waterway identified at this time.

Where development is proposed in the rural zones and other zones (not subject to Structure Planning and/or subidivision), there is a need to determine foreshore areas using biophysical criteria for all waterways in general using biophysical criteria. In this instance, foreshore areas should remain under private management and ownership and measures to rehabilitate the waterway identified at this time.

Planning Implications

The above information present the following planning implication:

- Waterways need to be protected to provide multiple benefits to the environment and the community. Priority waterways and foreshore areas should be identified early in the planning process, and ceded and protected at the time of subdivision and development.

4.2.3 Wetlands and Lakes

The district contains a number of wetlands and lakes. Wetlands are among the most diverse and complex ecosystems, however they are also amongst the most threatened.[189] They provide significant ecological functions such as:

- Water purification and groundwater recharge;
- habitat for a wide variety of flora and fauna; and
- can support threatened and priority ecological communities.

Wetlands also have cultural significance and high customary value for Aboriginal people. Activities involve traditional practices relating to food, medicine, ceremonies and other cultural activities.[190] There are three wetlands of national significance as identified in the *Draft Albany Coast management plan 2016*, and include

[189] WAPC 2016, Lower Great Southern Strategy. p. 72.
[190] Department of Parks and Wildlife 2013, Customary activities. Available from https://www.dpaw.wa.gov.au/parks/aboriginal-involvement/92-customary-activities

the Moates Lake system within Two Peoples Bay Nature Reserve, the Lake Pleasant View System and Oyster Harbour.[191]

The Department of Water and Environmental Regulation has carried out studies to determine the conservation status of wetlands. Key outcomes are outlined in the South Coast Significant Wetlands dataset which displays the location and boundary of known regionally and internationally significant wetlands across a portion of the South Coast Region.

The extensive wetland areas are on the Lower King River, Oyster Harbour on its north and east side, and along the southern fringes of Princess Royal Harbour there are examples of unprotected areas having a high conservation value. Protection of these areas is required through appropriate mechanisms, which may include public ownership, development restrictions and creation of foreshore reserves.[192]

There is a need to protect unallocated crown land, temperate coastal saltmarsh and threatened ecological community through appropriate vesting.

4.2.4 Flooding

Flood-prone areas are shown on Figure 5.

Parts of the district adjacent to some rivers, watercourses and estuaries and other low-lying areas are subject to flooding. Flood mapping of the Department of Water and Environmental Regulation has however only been prepared for small parts of the City of Albany which is outlined in the City's *Development in Flood Prone Areas* Policy. Additional floodplain studies are a high priority, especially for the development footprint and for the major urban river system catchments. The maintenance of natural flow regimes and variability are important elements of flood management strategies and these are considered when assessing flooding issues. *Better urban water management guidelines* now refer to Annual Exceedance Probability for flooding which takes "the probability that a given rainfall total, accumulated over a given duration, will be exceeded in any one year."[193]

The planning system takes a precautionary approach to flood risk. This includes discouraging the subdivision of land with potential for flooding and controlling the location of new development, associated works or structures which obstruct or divert waters in the one-in-100 year annual exceedance probability (AEP) floodplain. The retention and enhancement of natural streams and vegetation is an important element of any flood management strategy. This can be achieved in new urban developments by ensuring adequate land is set aside for drainage purposes as part of rezoning and subdivision proposals.

[191] Department of Parks and Wildlife 2016, Albany Coast Draft management plan. p. 20.
[192] WAPC 2015, Lower Great Southern Strategy 2015. (draft). Available from www.planning.wa.gov.au/dop_pub_pdf/Lwr_Great_Southern_strategy.pdf
[193] Bureau of Meteorology 2016, Glossary. Available from http://www.bom.gov.au/water/designRainfalls/ifd/glossary.shtml

Planning Implications

The above information presents the following planning implications:

- There is a need to protect wetland through appropriate planning mechanisms;
- There is need for vesting of Unallocated Crown Land coastal saltmarsh; and
- Floodplains need to be protected from inappropriate development. The identification of a Special Control Area around the floodplains should be explored during the review of the Local Planning Scheme as a mechanism to protect floodplains from inappropriate development.

4.2.5 Coastal Planning and Management

The district's coastline is spectacular and diverse, drawing thousands of people each year who contribute to the area's economy. Increasing population pressures and changing community expectations regarding use and access to the coast need to be taken into account and balanced with the need to protect and enhance the environment. The coastal area is a sensitive environment and forms an important environmental corridor. Various publications, including *Threats and Management Targets of the South Coast Region's Coastal Zone (2004),* set out threats and opportunities for the coastal area.

About 71% of the terrestrial coastal environment is within reserved areas such as national parks or nature reserves managed by Department of Biodiversity Conservation and Attractions.[194] The coast includes 'hard' and 'soft' areas. Some 'soft' coastal areas are inherently unstable environments and are subject to processes such as erosion and severe storm events. As an example, the Emu Point to Middleton Beach Coastal Adaptation and Protection Strategy (2013) aims to develop a long term coastal management strategy. Currently, a monitoring program is gathering data to assist in better understanding natural processes and informing future coastal planning. Coastal planning needs to consider the impacts from flood levels from inland flooding, in conjunction with sea-level rise in estuarine and environments near the coast.

State Planning Policy 2.6 State Coastal Planning Policy provides the policy basis for coastal areas. The Policy supports the conservation and enhancement of coastal values and the provision of public foreshore areas and access. The Policy provides a framework for more detailed assessment of coastal vulnerability by local governments to address storm surges and to prepare for possible impacts of sea level rise.

Coastal areas require sustainable management to ensure that opportunities for future generations to use and appreciate the coast are not diminished by current decisions and actions. Settlement has potential to impact on infrastructure from coastal processes and potential impacts on the coastal environment from human use and development. There is a need to balance development, access and usage of the coast with retention of

[194] SCRIPT 2004, Natural Resource Management Issues, Risks and Suggested Actions to the South Coast Regional Strategy. Available from http://southcoastnrm.com.au/index.php?option=com_zoo&Itemid=235&args%5B0%5D=0&element=8d01dbcc-c6b0-4bbc-a044-f38183548459&format=raw&item_id=937&lang=en&method=download&task=callelement.

the natural beauty and values that the city is known for. The coast should be managed to ensure that fundamental physical and natural processes can continue indefinitely. While the rights and interests of Indigenous people and their unique relationship with the coast should be recognised, and Indigenous culture and heritage should also be protected.

Applying site-specific management approaches to coastal management should involve doing as much as needed and as little as possible.[195] The relative intensity of the tides, waves and sea level fluctuations determine the nature of shoreline change and an extreme storm will produce significant changes in the position of the shoreline and shape of the beach. It is important to consider extreme changes in shoreline position that have occurred in the past, as they have a high probability of recurring in the future. Sea level predictions with climate change estimate a rise of sea level of 0.09 to 0.88 to 2100. Although a small change, a 1cm rise will cause a 1m retreat of the shoreline. Worst case scenarios should be considered in planning as a precautionary measure.

Planning is a fundamental component of coastal management that:

- Provides a framework for decision making;
- allows for a better understanding of the issues affecting an area;
- allows for all members of the community and interested parties to have a say and participate in management decisions;
- creates a prioritised action plan that can be implemented over time; and
- provides a basis for the allocation of financial resources.

There is a need to protect coastal areas from uncontrolled access and curb the desire of people to access secluded and unspoilt areas. Public expectation of access around coastal areas is high and supported by SPP 2.6[196] through the objective to provide for public foreshore areas and access, however uncontrolled access by 4WDs, pedestrians and horse riders can lead to significant erosion. Recreation is one of the primary activities along our coastline. It is essential to consider recreational uses and the needs of various user- groups if efforts to manage the coast are to be successful.

Fire management is important to coastal areas because they are particularly vulnerable to degradation following fires. Vegetation cover is the primary means of stabilising coastal environments, and creates a protective barrier from strong winds and damage from vehicles, people and animals. The sparse nature of coastal vegetation, negligible nutrient storage in the soil, the low moisture content of coastal sands and strong on-shore winds can make plant establishment following fires very difficult. Fires which occur too frequently can deplete regenerative plant stocks, change the structure of plant communities and leave the area susceptible to weed invasion and erosion.

Coastal development should manage water resources in accordance with the principles of water sensitive urban design and integrated water cycle management. Development should restore environmental flows and hydrological cycles, so no discharge of any waste or stormwater that could significantly degrade the coastal environment, will be allowed to enter.

Albany's harbours should continue to have foreshore reserves, particularly where private ownership down to the water's edge prevents public access. Seasonal fishing leases can impact on the level of development and

[195] WAPC 2003, Coastal Planning and Management Manual. Available from https://www.planning.wa.gov.au/publications/768.aspx
[196] WAPC 2016, Lower Great Southern Strategy. p. 63

environmental management of each site, including conflicts with other beach users. Foreshore management plans should guide the management of facilities and vest suitable areas for recreation nodes to reduce damage by coastal processes, while also identifying land suitable for protection and enhancement of the coastal vegetation corridor to protect biodiversity.

Albany Coast Parks and Reserves Management Plan

The *Albany Coast Parks and Reserves Management Plan* was gazetted and released in August 2017. This management plan covers 56 existing parks and reserves totalling 32,457ha.[197] The area extends from Hay River in the west to the Pallinup River and Beaufort Inlet in the northeast including nine island nature reserves and four small islands that are part of Two Peoples Bay Nature Reserve. Three statutory management plans have been prepared for the South Coast Regional Management Plan, Two Peoples Bay Nature Reserve Management Plan and West Cape Howe National Park Management Plan. Interim management guidelines also exist for Torndirrup, Gull Rock and Waychinicup National Parks, as well as Mount Manypeaks and Arpenteur Nature Reserves. A non-statutory management plan also exists for Cheynes Bay: Cape Riche to Pallinup River. This management plan, once gazetted, will replace these plans as the statutory management plan for the parks and reserves within the planning area. This plan protects and conserves the parks and reserves of the Albany coast and their unique values such as threatened plant and animal species, wetlands, Noongar and other cultural heritage, spectacular scenic landscapes and diverse recreation opportunities.

The strategic objectives of this plan, which provide overall guidance for the planning area are:

- To conserve and protect biodiversity and ecological integrity;
- to conserve and protect the value of the land to the culture and heritage of Noongar people, and conserve and protect other cultural heritage;
- to provide for recreation, tourism and community use for the appreciation of the area's landscape, natural and cultural heritage values; and
- to provide for sustainable resource use.[198]

The Management Plan will improve the level of protection of native ecosystems in the conservation reserve system. There are a number of poorly reserved vegetation associations, particularly within proposed reserves, which highlights the importance of proposed additions to the conservation reserve system. Any development within the planning area needs to take into account the effect on the vegetation associations, particularly those that are extensively cleared, poorly reserved and of limited extent.[199]

[197] Department of Parks and Wildlife 2016, Albany Coast Draft Management Plan. p. 2. Available from https://www.dpaw.wa.gov.au/images/documents/parks/management-plans/albany_coast_draft_management_plan_1.pdf
[198] ibid, p. 5.
[199] ibid, p. 37.

Emu Point to Middleton Beach Coastal Hazard Risk Management Adaptation Plan

The *Emu Point to Middleton Beach Coastal Hazard Risk Management Adaptation Plan* (CHRMAP) identifies coastal inundation and erosion hazards and recommends controls to manage and mitigate the risk over the short and long term. The CHRMAP provides guidance on what actions need to be taken and by when to best adapt to the changing environment without loss of valued assets or risk to life or property.

The CHRMAP provides overarching recommendations and others specific to management units identified. The recommendations relevant to planning are the identification of an investigation area under this Strategy and identification of a Special Control Area over the vulnerable zone under the Local Planning Scheme. The Special Control Area will provide a signal to landowners when buying land if they seek information from the City, and will also enable notification to landowners if they seek a development approval.

Planning Implications

The above information presents the following planning implications:

- Consideration of SPP 2.6 – Coastal Planning and Management in the assessment of structure plans, subdivision and development which impacts on coastal values.
- Preparation of foreshore management plans and appropriate setback of land subject to sea level rise and flooding.
- The implementation of the recommendations of the CHRMAP requires further consideration under statutory planning processes during the review of the local planning scheme.

4.3 Rural - Land and Soil

4.3.1 Soils for Agriculture

State Planning Policy 2.5 Land Use Planning in Rural Areas (2012) outlines that all rural land has value including for primary production, public purposes, natural resource management, biodiversity conservation and protection of landscapes and views. The planning system seeks to protect rural land areas, which includes providing long-term direction for urban and peri-urban development.

The current availability of 'best agricultural land' identified is 'Priority Agricultural Land' (PAL) mapping that was prepared for the *Lower Great Southern Region Strategy (2007*). ALPS (2010) designated priority and general agricultural land in accordance with this mapping and made recommendations that priority agricultural land be zoned as 'Priority Agriculture' and land designated as general agriculture be zoned 'General Agriculture' under LPS1. These zonings, together with zone objectives, land use permissibility and development standards were incorporated in LPS1.

A challenge for the land use planning system is how to set aside the most productive and versatile areas of rural land identified to secure food production for a growing state and district population, supporting the district/regional economy and planning for an expanding local community.

Agriculture is a key economic driver for the district and region, including both through production and export. Land and soil quality, matched together with sustainable water supply are important characteristics for maintaining agricultural production. Some land in the district and region have higher capability soils which, with access to water (rain and opportunities for surface water catchments, dams or irrigation) present the most productive and flexible opportunities for securing longer-term agricultural production.

Underpinning the preservation of the 'best' areas for agricultural production in the district and the region is having an understanding of the location and distribution of the highest quality land and soil resources together with acknowledgment of the condition or status (constraints) of the soil resource. The identification of 'fit for purpose' high capability land and the mapping of high quality agricultural land (HQAL) are major planning considerations. PAL is not up to the same quality as HQAL mapping but is sufficient for identifying areas with a mixed distribution of good soils for intensive agricultural production. Wherever possible, this high quality agricultural land (best soil and water combination) should be protected.

Key threats to agriculture in the district and region include biosecurity, salinity and acidification.[200] Biosecurity is managed by the *Biosecurity and Agricultural Act 2017* and *Soil and Land Conservation Act 1945*. Salinity impacts agricultural productivity, degrades water resources and native vegetation, can damage infrastructure and is detrimental to landscape qualities. Land impacted by salinity can rarely be recovered and addressing salinity cannot be resolved by isolated actions, however positive actions at the regional, district and local scale can be undertaken. Soil acidity is also a major constraint to agriculture in the region with the majority of farmers now placing soil acidity in their top three management priorities. Unlike salinity, soil acidity is manageable through regular amelioration with good quality liming materials. However the city would encourage forms of innovative agriculture which seek to maximise use of existing (and potentially naturally occurring) soil conditions without need for lime amelioration e.g. suitable perennials, crops which can tolerate higher acidity levels.

SPP 2.5 establishes that the rural zones are highly flexible and cater for a wide range of land uses including: intensive and extensive agricultural, primary production, animal premises, basic raw material extraction, biodiversity conservation, natural resource management, tourism, extractive industries, regional facilities and public purposes including waste infrastructure. Rural zoned land may also contain land with significant environmental values, provide species habitat, have regional and local landscapes values and carry a range of land management responsibilities for matters such as bushfire.

The flexibility of rural zones means that rural land can be a complex mix of uses, where zoning of the land may not adequately reflect the range of land uses on the ground. Preventing and managing impacts in land use planning should be addressed at the earliest planning opportunity. Proposals to rezone, subdivide or develop land within rural areas may have both onsite and offsite impacts. The *Rural Planning Guidelines (2016)* provides guidance on matters that need to be considered in order to mitigate negative impacts.

[200] DAFWA et al 2014, Salinity risk mapping for assessing Carbon Farming Initiative proposals: decision support and data requirements. Available from https://www.agric.wa.gov.au/sites/gateway/files/Salinity%20risk%20mapping%20for%20assessing%20Carbon%20Farming%20Initiative%20proposals%20-%20RMTR%20390%20(900kb).pdf

The *Local Planning Policy (LPP) 'Agricultural Protection and Subdivision'* are in some instances not consistent with WAPC policy and guidelines and following the finalisation of this Strategy, there is a need to review LP's in accordance with ALPS.

Planning Implications

The above information presents the following planning implications:

- High quality agricultural mapping which identifies both soil suitability and access to water should be pursued for the region and strategic planning responses formulated around the spatial location and extent thereof.
- There is a need to review the LPP on 'Agricultural Protection and Subdivision' once this Strategy has been finalised.

4.3.2 Landscape Protection

The district has a highly attractive combination of city, country and nature. It also has a picturesque landscape due to its undulating topography, farmland, waterways, conservation areas, and the way in which these blend together. The City of Albany has a distinctive character and identity which is one of its greatest assets. The quality of these attributes directly relates to the tourism and recreation industries and they support the area's lifestyle. Additionally, the area's landscape, combined with its culture and heritage, provides a strong sense of place to locals and visitors, and it connects people to the places in which they live.

As the district develops, it will be increasingly important to ensure that landscapes valued by the community are protected. Land uses and characteristics that may impact the landscape character of the Lower Great Southern include:

- Plantations and other agricultural practices;
- infrastructure such as roads, power lines, and communication installations;
- redevelopment of existing residential areas and/or town centres;
- rural-residential subdivision;
- wind turbines;
- soil salinity;
- urbansiations and industrialisation of town fringes;
- poorly designed and sites signage and advertising on tourist routes; and
- mining and extractive industries. [201]

The *Visual Landscape Planning in Western Australia: A Manual for Evaluation, Assessment, Siting and Design* provides guidance on techniques for incorporating visual landscape planning into the planning system. It provides method on visual landscape planning and guidelines for location, siting and design.

[201] WAPC 2015, Lower Great Southern Strategy 2015

Figure 5 identifies landscape protection areas. The identification was based on areas higher than the 60m contour line. The areas are considered sensitive due to it being visually prominent and visible from more than one viewpoint. Within the urban area, Mt Clarence and Mt Adelaide are identified and within the rural area the following areas have been identified:

- Parts of Torndirrup National Parks and Sandpatch;
- Mount Martin;
- parts of Gull Rock National Park, including Mount Martin;
- parts of Kalgan;
- an area that extents over parts of King River and Millbrook; and
- and area that extents over Drome, Willyung, Redmond and Green Valley.

Some of these areas already afford protection through state or local reservation for conservation purposes. These are Mt Clarence, Mt Adelaide and the Torndirrup and Gull Rock National Parks, Mount Martin and other pockets of reserved land. The City will consider the impact of development on the landscape and visual amenity qualities for proposed development on land identified as 'landscape protection' (not located within a state or local reserve).

Planning Implications

The above information presents the following planning implication:

- Parts of urban and rural areas identified as landscape protections already afford some measure of protection through state and local reserves. During the review of the Local Planning Scheme, suitable provisions should be incorporated to guide development in landscape priority areas identified.

4.3.3 Acid Sulphate Soils

Acid sulphate soils are naturally occurring soils and sediments containing sulphide minerals, predominantly pyrite (an iron sulphide). In an undisturbed state, below the water table, these soils are benign and not acidic. Inappropriate disturbance of these soils, causing oxidation of the pyrites, can however generate sulphuric acid and leaching of contaminants which can be detrimental to ecosystems, human health and infrastructure.

There are acid sulphate soils in portions of the district such as in low-lying coastal, wetland and estuarine areas. There are well established guidelines for identifying and managing acid sulphate soils. New urban and peri-urban development should generally avoid areas subject to acid sulphate soils.

Planning Implications

The above information presents the following planning implication:

- There are well established guidelines for identifying and managing acid sulphate soils and no further action is required under the Strategy. The spatial distribution thereof informs the City in its strategic and statutory planning responses.

4.3.4 Mineral Resources and Basic Raw Materials

Figure 6 depicts known deposits of Basic Raw Materials – commodity and bedrock.

Mineral resources and basic raw materials are vital to the agricultural, construction and mining industries. The sustainable extraction of these resources is important for the district's economic and population growth. The Albany Regional Basic Raw Materials Study (1996) identified occurrences of basic raw materials in the region based on soil assessment. The draft Lower Great Southern Strategy provides an update of this and maps the distribution and location of basic raw materials and minerals.

There are magnetite deposits in Wellstead and a range of basic raw materials in the district including gravel, sand, limestone, clay and hard rock. Limestone access is particularly important since agricultural limestone and lime sand are required to neutralise environmental impacts by minimising farm soil acidity.[202]

Mineral resources and basic raw materials are different from other forms of development because they can only be worked where they naturally occur. The supply of minerals and basic raw materials should be accompanied by strategies to promote sequential land use (extraction of material before urban or associated development) and ensure that these finite resources are used in the most efficient and effective ways possible.

A balance is needed between significant environmental assets and extracting minerals/basic raw material. There is a need to focus on strategic supply areas and prioritise resolving land use constraints in these areas. This will maximise basic raw material supply and provide the opportunity for strategic environmental solutions.

Proposals for basic raw material extraction must consider the value and protection of native vegetation. Where extraction is considered suitable, careful management to minimise the potential spread of Phytophthora dieback is needed.

Planning Implications

The above information presents the following planning implications:

- Mapping of mineral resources and basic raw materials informs the City in its strategic and statutory planning responses and decision making.
- There is a need to protect existing and potential sites for basic raw material and agricultural mineral extraction and consider land use conflicts, visual impact and buffer areas where necessary.

4.3.5 Lime Sand and Limestone Resources

The Department of Mines, Industry Regulation and Safety has recently published an evaluation of lime sand and limestone resources along the South Coast.[203] The quality of lime is determined on the particle size; under 0.5mm is best, while particles greater than 1mm are not very effective at neutralising the soil. South Coast soil

[202] WAPC 2015, Lower Great Southern Strategy 2015 (draft).
[203] Fry, J 2015, Lime Situation Report: South Coast NRM Region. p. 35. Available from SCNRM.

is considered to be acidic or at high risk of developing subsurface acidity.[204] Most of the dune sediments around Albany are fine-grained siliceous sands.[205] Major deposits of limestone and lime sand deposits along the costal belt are found at Elleker, Torbay, Herald Point, and south of Princess Royal Harbour. The limestone sediments on the South Coast are in environmentally sensitive areas. The thickest deposits near Albany are where the City borefields are located or are within the Torndirrup National Park.[206] There are limited lime supplies on the South Coast because there are few young carbonate rich mobile sand dunes and fewer coastal limestone deposits.[207] The estimated demand for lime on the South Coast from 2001-2050 will be close to 10 million tonnes for construction and roads and 53 million tonnes for agriculture.[208]

The total South Coast supply from all pits, estimated in 1999[209] was 40 million tonnes which would last at least 125 years. Farmers would require 1.3 million tonnes per year this would mean there is less than 30 years supplies left. Anderson only used NV in determining lime quality. On current estimates, if lime was applied to ameliorate acidic soils, the remaining lime would last less than 10 years, because of low efficiency and needs to be applied at two or three times the recommended rate.[210]

Planning Implications

The above information presents the following planning implications:

- The Lower Great Southern Strategy notes that basic raw materials and agricultural mineral extraction areas need to identified in local planning strategies and protected in local planning schemes, with consideration given to neighbouring land uses, visual impact issues and buffer areas to accord with acceptable environmental and amenity standards. A strategic assessment of limestone and limes sand locations within the local government area should be undertaken. This may occur as part of the review of the *Albany Regional Basic Raw Material Study (1996).*

4.4 Bushfire Protection

The district is prone to bushfires. The reasons include due to topography, vegetation, fuel loads, its established pattern of development including extensive peri-urban areas, a growing population (with a proportion of this population seeking lifestyle opportunities that involve living in or near areas of native vegetation), and a drying and warming climate, with resulting increase in duration and intensity of the annual 'fire season'[211].

The community, State Government and the City have become more aware of bushfire risks and issues. There have been a number of recent publications including *A Shared Responsibility – The Report of the Perth Hills Bushfire February 2011 Review* (otherwise known as 'The Keelty Report') (2011). Areas in WA have now been

[204] ibid, p. 32.
[205] ibid, p. 43.
[206] ibid, p. 41.
[207] ibid, p. 46.
[208] Fry, J 2015, Lime Situation Report: South Coast NRM Region. p. 50.
[209] Anderson, B 1999, The Current and Future Demand for South Coast Lime to Ameliorate Soil Acidity, Thesis Bachelor of Science Agriculture, University of Western Australia. p. 53. Available from http://agric.firstsoftwaresolutions.com/fullRecord.jsp?recno=11282
[210] Fry, J 2015, Lime Situation Report: South Coast NRM Region. p. 53.
[211] City of Albany 2014, Bushfire Hazard Mitigation Strategy. Available from City offices.

designated as bushfire prone (shown in Figure 7). This order was gazetted in tandem with the Planning and development (Local Planning Scheme) Amendment Regulations 2015 and *State Planning Policy 3.7 - Planning in Bushfire Prone Areas* (Dec 2015), *Guidelines for Planning in Bushfire Prone Areas* (Dec 2015) and *Planning Bulletin 111/2016 - Planning in Bushfire Prone Areas*. In summary, the documents seek a more strategic and precautionary approach to fire risks and raising design and construction standards in bushfire prone areas.

In March 2010, the *Australian Standard 3959-2009: Construction of buildings in bushfire-prone areas* (AS3959-2009) was approved nationally to ensure that new buildings in bushfire prone areas are built to standards that improve their performance when subject to burning debris, radiant heat and flame contact. Building in bushfire prone areas introduces a number of additional design, specification and construction parameters. Sites are now defined under six Bushfire Attack Level (BAL) categories from low to extreme. There are increasing construction requirements ranging from ember protection to direct flame contact protection. This will depend on the Fire Danger Index (FDI), type of vegetation, distance from the site to the vegetation, and slope of the site. BAL standards specify requirements for the construction of buildings in bushfire prone areas in order to improve their resistance to bushfire attack from burning embers, flame contact, radiant heat and combinations of all three.

The City of Albany *Bush Fire Hazard Mitigation Strategy* (BFHMS) addressed the absence of an overall approach to bushfire hazard and risk management across all land tenures in the district. The BFHMS was prepared as a strategic bushfire management tool on the basis of assessing the classified vegetation class, slope under classified vegetation, bushfire hazard levels and location of bushfire prone areas across the district in accordance with methodology outlined in *Planning for Bush Fire Protection Guidelines (Edition 2)* and AS 3959–2009.

Strategic Bushfire Plan 2014 - 2019 for the City of Albany was adopted by Council in November 2014 and documents the City's strategic plans in relation to prevention, preparedness and response to bushfire. It provides six key principles with regard to the relationship of the City to volunteer management, emergency management, the use of *Australasian Inter-Agency Incident Management System*, emergency management training and its obligation to bushfire brigades. This document therefore does not influence land use and spatial planning in the review of ALPS.

Fire events can cause property damage, impacts on habitat and biodiversity, the local economy, and loss of human life.

Planning Implications

The above information presents the following planning implications:

- The district is susceptible to bushfires, the planning framework has changed and agencies are taking a more strategic and precautionary approach to bushfire risks and associated subdivision/ development.
- There is a need to address those matters as set out under the *Guidelines for Planning in Bushfire Prone Areas (WAPC, 2015).*

5 INFRASTRUCTURE AND SERVICES

5.1 Roads

The district is well serviced by State, regional and local roads. State and regional roads are managed by Main Roads Western Australia (MRWA), while local roads are managed by the City. The road network consists of both sealed and unsealed roads that provide for the movement of freight, people and services throughout the district. Highways, main roads and minor roads are depicted in Figure 8.

ALPS (2010) identified the following key issues with regard to road infrastructure:

- The lack of overall strategic plans has allowed urban development to occur in locations where better transport solutions may have been incorporated;
- truck access to the port and completion of the Ring Road; and
- management of trucks and commuter traffic at the main roundabout.

The Draft Great Southern Regional Planning Infrastructure Framework (WAPC)[212] points out that the amount of freight has been steadily increasing and is predicted to grow significantly as agricultural production firms and the mining industry develops. Growth in regional grain production, changes to strategic grain receival facilities and changes to the rail network are also expected to further add to the amount of freight. Road infrastructure will need additional investment in maintenance and capacity development.

It will be important to mitigate the impact of increased road traffic of heavy haulage vehicles on major transportation routes where conflict exists with passenger vehicles, particularly for tourism purposes.

5.1.1 Priority Regional Road Projects

Priority regional road projects primarily seek to reduce road use conflict between freight and urban/tourist traffic and to accommodate an expected increase in grain and other freight. This will be achieved through upgrading important freight routes such as Chester Pass Road, Albany Highway and South Coast Highway. The Department of Transport[213] identifies freight priorities to include a road renewal program for the Albany-Lake Grace Road (includes Chester Pass Road) and completing the Albany Ring Road (Stages Two and Three), while the Great Southern Development Commission (GSDC)[214] outlines that more passing lanes are needed on the Albany Highway. The City is investigating ways of improving the South Coast Highway and Albany Highway near the roundabout in Lockyer.

Mainroads WA and the City are working together to improve access between South Coast Highway and Albany Highway near the roundabout, some options include road widening in some locations to direct traffic away

[212] Department of Planning 2015, Great Southern Regional Planning and Infrastructure Framework (draft). Available from http://www.planning.wa.gov.au/dop_pub_pdf/Great_Southern_Regional_Planning_and_Infrastructure_Framework_Part_A.pdf
[213] Department of Transport 2013, Western Australian Regional Freight Transport Network Plan. Various pages. Available from www.transport.wa.gov.au/mediaFiles/.../ABOUT_P_RegionalFreightPlan_FullA3.pdf
[214] GSDC 2015, Great Southern Regional Investment Blueprint.

from the intersection, or closing access to allow left turning only. It is hoped the Ring Road will also help relieve problems with this intersection.

Other than the Ring Road, which is discussed below, priority road regional projects identified by various agencies include:

- Extending the dual carriageway (also called 'duplication') on Albany Highway between Le Grande Avenue/Anson Street and Federal Street;[215]
- extending the dual carriageway on Albany Highway between Federal Street and the Ring Road;[216]
- upgrading the main roundabout; and
- creating a dual carriageway on the South Coast Highway between the Ring Road and Albany Highway.[217]

5.1.2 Albany Ring Road

The Albany Ring Road is a proposed heavy haulage route around Albany for the transport of products including grain, fertiliser and woodchips to and from the Port of Albany. The Ring Road will link the existing major arterial main roads and highways radiating from Albany, whilst bypassing urban areas and providing improved access to the Mirambeena Strategic Industrial Area.

Currently, heavy vehicles travelling from inland areas to the Albany port traverse the urban areas of Albany, including the main roundabout which requires heavy vehicles to interact with a high volume of general commuter traffic.

The first stage (Menang Drive) between Chester Pass Road and Albany Highway, was constructed in 2007. Stage Two provides the connection from George Street through to Princess Royal Drive. Stage Three connects Albany Highway to the Lower Denmark Road via the Link Road/George Street alignment.

Stages Two and Three will be delivered together to form a connection to the port. The State Government has committed $35 million toward the construction of the project, with the balance of fund ($140 million) being provided by the Australian Government.[218]

The Ring Road is an integral part of Albany's urban transport plan. The WAPC notes 'The Ring Road will provide the most expedient and safer route for freight transport to the port' and 'Completion of the Ring Road will provide more efficient heavy vehicle access to the Port of Albany'.[219] The GSDC states the Ring Road will 'improve transportation safety within Albany. This will reduce port-related traffic on Albany Highway and South Coast Highway, all of which pass through Albany's urban areas resulting in road use conflicts.'[220]

[215] Department of Planning 2015, Great Southern Regional Planning and Infrastructure Framework (draft), 2014.
[216] GSDC 2015, Great Southern Regional Investment Blueprint.
[217] WAPC 2015, Albany Regional Hotspots Land Supply Assessment (draft).
[218] Mainroads WA 2016, Albany Ring Road. Available from https://www.mainroads.wa.gov.au/BuildingRoads/Projects/planning/Pages/AlbanyRingRoad.aspx
[219] Department of Planning 2015, Great Southern Regional Planning and Infrastructure Framework (draft), 2014.
[220] GSDC 2015, Great Southern Regional Investment Blueprint.

The Ring Road will allow trucks to bypass the main roundabout, create time efficiencies and minimise delay-associated risks, improve road safety outcomes, improve the level of service for the freight industry, enhance access to the port and enhance social amenity on various roads. Importantly, the completed Ring Road will reduce the number of heavy vehicles sharing road with residents and tourists and reduce the risk of accidents.

5.1.3 New Roads and Road Widening

The City and developers will progressively construct new roads. This includes important link roads such as connecting Mueller Street and Cull Road, and extending Newbey Street, Barnesby Drive, Range Road, Greatrex Road and Hooper Road. There is also expected to be the widening of various key roads including Sanford Road and parts of Frenchman Bay Road.

Construction of Range Road will improve accessibility in large parts of Albany and will reduce local traffic on Chester Pass Road and the use of Ulster Road for non-local traffic. It is expected that part of the construction costs will be from landowners and developers in the Yakamia-Lange Structure Plan area through a development contribution plan.

The WAPC[221] suggests that access options should be investigated to Down Road to facilitate truck movements from the south-west and west to the woodchip mill in the vicinity of Marbellup North Road.

5.1.4 Albany Traffic Model

The Albany Transport Model is being refined by MRWA in conjunction with the Department of Planning, Lands and Heritage and the City. The model will assist to develop and evaluate options for the provision of a legible distributor road network within Albany, to manage cross-traffic movements, to determine the most suitable road network relative to predicted urban growth and to assist in determining which roads need to be widened to address anticipated traffic numbers.

Planning Implications

The above information presents the following planning implications:

- The identification of measures to minimise impact between the proposed Albany Ring Road to minimise impact between the Ring Road and other heavy freight routes and adjacent land uses.
- Facilitating the planning and construction of key link roads including Mueller Street and Cull Road and extending Newbey Street, Barnesby Drive, Range Road, Greatrex Road and Hooper Road.

[221] ibid

5.2 Albany Regional Airport

The City operates the Harry Riggs Albany Regional Airport which is 10km north-west of the city centre. The airport is a regionally significant asset that makes an important contribution to Albany including connecting locals and visitors for business, leisure and facilitating tourism.

The airport has a main 2100m runway to accommodate jet aircraft and a 1096m cross strip to support smaller aircraft.

There are no plans to relocate the airport. Given the importance of the airport, there is a need to protect it from incompatible development. Urban growth has not occurred near the airport's approach paths and detailed modelling has been undertaken by the City to identify appropriate buffer areas.

Noise modelling and the associated *Albany Regional Airport Noise Buffer Policy* have been incorporated into LPS1 as the Albany Airport Noise SCA. The purpose of the SCA is to protect the continued operations of the airport and minimise the potential for sensitive land uses to be introduced on adjacent land.

5.2.1 Obstacle Limitation Surface

The Civil Aviation Safety Authority's Obstacle Limitation Surface (OLS) map for the airport identifies the maximum height for buildings and structures. The OLS extends well outside of the airport land including the Mirambeena Industrial Estate and other freehold land.

Currently, LPS1 does not include specific controls regarding OLS, there is no SCA relating to OLS and there is no associated Local Planning Policy. To ensure the airport's on-going operation is not compromised and to increase transparency to landowners, the community and other stakeholders, it is suggested the LPS include reference to OLS which is complemented by a Local Planning Policy. This would set out maximum building heights and provide guidance for uses that may create heat or air emissions potentially impacting aircraft visibility. Further consideration is required as to whether to include the OLS as a SCA in LPS1 given it covers an extensive area.

5.2.2 Review of Master Plan

The *Albany Airport 2001 Master Plan*[222] is being reviewed by the City. The GSDC notes that passenger numbers are forecast to grow in the coming 20 years based on 'the anticipated growth of FIFO customers and tourist travel. These forecasts outline a need for gradual expansion of aviation and terminal facilities.'[223]

It is expected that the masterplan review will:

- Determine the potential land requirements for expansion of the airport;
- consider complementary commercial uses for aviation-related industrial uses, logistics and transport facilities (outlined below); and

[222] City of Albany 2001, Albany Airport 2001 Master Plan. Available from City offices.
[223] GSDC 2015, Great Southern Regional Investment Blueprint.

- recommend the retention of rural land uses surrounding the airport.

5.2.3 Future Opportunities

It is anticipated that aircraft activity will increase and there will be an associated need to upgrade and extend infrastructure at the airport over the coming decades. The GSDC[224] notes that investments will include a new taxiway, replacing the Royal Flying Doctor Service apron parking area and replacing the current instrument landing system.

There are opportunities for adjacent compatible airport business and commercial activities (including aviation-related industrial uses, logistics and transport facilities) to take advantage of proximity to the airport. This could take the form of an appropriately located and designed business park. Subject to the final updated master plan, there is support to undertake conceptual design and planning to guide consideration and establishment of complementary commercial uses.

Subject to not compromising airport activities and safety, there could also be opportunities to investigate the potential for co-location of land uses that may be able to utilise existing airport noise buffers.

Planning Implications

The above information presents the following planning implications:

- Continuing to protect the airport from sensitive land uses and land use conflict including retaining the Albany Airport Noise SCA under the local planning scheme.
- Reviewing planning controls following the Council adopting the reviewed master plan including any potential land requirements for expansion of the airport and zoning for a business park for aviation related services.
- Identify Albany Regional Airport as an investigation area for future expansion of industry complementary to air freight services and other relevant industries. Airports seen as activity centres, need to develop an airport-centred business hub, development of complementary businesses with height and noise restrictions. Logistics with an aviation focus where low weight/high value can be moved quickly.[225]

[224] GSDC 2015, Great Southern Regional Investment Blueprint.
[225] Pracsys 2009, Flying High: Making the most of airports. Available from http://pracsys.com.au/flying-high-making-the-most-of-airports/

5.3 Port of Albany

The port is a significant import/export gateway for the Great Southern and for Western Australia and it is one of the best natural harbours in the southern hemisphere. The port is a key State and regional asset which is crucial to the economic development of the City and the Great Southern. The WAPC notes that 'any changes to its operation or inefficiencies in gaining access will also affect areas outside the Lower Great Southern area.'[226]

The Port of Albany has strong links with agriculture and has provided local producers export opportunities for many years. The port remains a valuable asset for the City and the agricultural community.[227] The port is primarily export-orientated mainly servicing the grain industry. Wood products and silica sand are the next largest exports. Imports include fertiliser and petroleum products. There is a growing tourist visitation role through cruise ships. The port does not however have a containerisation facility. Other smaller trades are the export of silica sand and the import of fertiliser and fuel. Total yearly trade is strongly influenced by seasonal conditions and the resulting impact that has on agricultural production. Annual trade can therefore vary between 3 million - 4 million tonnes with an estimated value of $1.5 billion.

The port is managed by the Southern Ports Authority. Recently, infrastructure has been restored to Berths 1 and 2 which will increase the port's efficiency.

The *Albany Port Noise Buffer* policy was integrated into the local planning scheme as the Albany Port Special Control Area (SCA). The purpose of the SCA is to protect the continued operations of the port and minimise the potential for sensitive land uses to be introduced on adjacent land. LPS1 also contains a 'Port Industry' Zone with associated objectives and permissible uses in the Zoning Table. The revision of the Scheme should investigate potentially changing "Port Industry' zone to 'Strategic Infrastructure' reserve based on the Regulations (for reserved land and where land is owned freehold by the Southern Ports Authority.)

The port is naturally constrained including a lack of storage on site. Some of the constraints could be addressed including establishing an inland port, upgrading road access to the port, providing a loop rail in the port and the longer term ability to handle shipping containers. Addressing the constraints could see a growth of exports and imports through the port.

5.3.1 Port Access

The need to improve and protect rail and road to the port has previously been considered. The port is critical to the regional economy including that 'freight transport to and from the Port is expected to increase. Planning for road and rail access to the Port through Albany's urban areas and the central city is therefore important.'[228] There is peak congestion on arterial roads in high seasons, completion of the Ring Road is necessary. The Ring Road is needed to access port and industrial areas to improve efficiency, connectivity and safety. Stage 1 was

[226] ibid
[227] Southern Ports Authority 2016, Albany Port Authority. Available from http://www.albanyport.com.au/

[228] Department of Planning 2014, Great Southern Regional Planning and Infrastructure Framework (draft).

completed in 2007, there has been no funding since for stage 2 and 3. Unlike many ports in Australia the Albany port lacks a federally funded access route.[229]

5.3.2 Inland Port

Industrial zoned land at the port is constrained. The establishment of an inland port, with efficient road and rail transport links to the port, can:

- Allow for additional storage/logistic, industrial and other land uses that could not otherwise be accommodated in the port;
- free up land at the port including enabling the potential relocation of industrial activities that are complementary to, but not directly involved in the port operations; and
- improve the efficiency of the transport system if associated with an intermodal transport facility.

Possible locations for an inland port include Mirambeena or the CSBP fertiliser site on Hanrahan Road. In relation to the privately owned CSBP site, the WAPC note that 'Investigations are required relating to land use suitability, appropriate zoning, potential environmental impacts, amenity impacts on urban areas to the north, buffers, access and impacts on the future Albany Ring Road.'[230]

5.3.3 Future Growth

The longer vision of the GSDC and other agencies is to expand the port to accommodate new export trades in minerals and value added products.

The capacity of the port is critical to capitalising on potential export opportunities. The GSDC outline that 'The port has spare capacity in terms of the shipping channel, berths and land. However, the port also has capacity constraints in the efficiency of loading operations, particularly in its road/ rail mix and its capacity to deal with deliveries of bulk and break bulk commodities. The capacity of the port is critical to capitalising on potential export opportunities.'[231]

Subject to demand, including if mining projects in the region proceed, the port will require significant infrastructure expenditure. This includes constructing Berth No. 7, reclaiming land to accommodate a concentrated storage facility and ship loading infrastructure, widening, deepening and extending the existing shipping channel to facilitate the access of Capesize vessels, and extending the rail line to include a rail loop.[232]

Grange Resources Southdown Project is anticipated to inject $60 million per year into the City's economy. The export of magnetite will triple the trade of the Albany Port to over 13 million tonnes per annum. The project

[229] GHD 2016, Albany Industrial Land Strategy. (Draft) p. 36.
[230] WAPC 2015, Lower Great Southern Strategy (draft).
[231] GSDC 2015, Great Southern Regional Investment Blueprint.
[232] Department of Planning 2014, Great Southern Regional Planning and Infrastructure Framework (draft).

will see $250 million spent at the port for dredging, a new berth and associated infrastructure. This project has potential to create 600 new jobs[233] however when the project will start is unknown.[234]

5.3.4 Maritime Planning

The Marine and Harbours Act 1881 specifically provides extensive rights to develop and maintain facilities for maritime purposes associated with recreational and commercial purposes and includes the right to lease land and waters to third parties. The Coastal Infrastructure Business Unit provides the Minister for Transport with departmental administration in the care and management of these facilities.

The Planning and Development (Local Planning Schemes) Regulations 2015 allows for a consistent state-wide approach in the treatment of marine infrastructure and aligning the land use classification with their tenure and vesting. Department of Transport's vested assets such as Albany Port, boat harbour land and associated seabed (vested waters) and the City's reserve 49354 (Lot 7031) Swarbrick Street, Emu Point are therefore designated 'strategic infrastructure' with the intent that the land will be reserved for this purpose under the Local Planning Scheme.

Planning Implications

The above information presents the following planning implications:

- Continuing to protect the port from sensitive land uses and land use conflict including retaining the Albany Port SCA.
- Protecting the existing rail corridor.
- Accommodating and securing enhanced road access to the port from the Ring Road and Princess Royal Drive.
- Supporting the establishment of an intermodal facility and/or inland port to increase the efficiency and expand the port's operations; and
- Land at Albany Port, Waterfront and Emu Point should be designated as 'strategic infrastructure' with the intent to reserve the land for this purpose under the Local Planning Strategy.

[233] Regional Development Australia 2012, Regional Education, Skills and Job Plan- Great Southern. p. 35. Available from http://www.rdagreatsouthern.com.au/Reports%20Research/RegionalEducationSkillsJobsPlanWesternAustraliaGreatSouthern201214.pdf
[234] Grange Resources 2016, About the Project. Available from http://www.grangeresources.com.au/php/page.php?grangeS+18

5.4 Rail

Figure 8 shows the alignment of the railway line in the City.

The Great Southern Railway Line, linking Albany and Perth, is operated by Arc Infrastructure. The railway connects the Albany port with the inter-capital standard gauge line, Perth and the CBH grain bin network. The railway is predominantly used for the transport of grain and timber products to Albany Port. There is no passenger service on the line.

The WAPC[235] notes that the rail line to the port has the capacity to handle the freight task for grain and woodchips in the short term.

There are no confirmed major upgrades to rail infrastructure in the Albany area.[236]

5.4.1 Protection of Railway Corridors

Protection of the rail line is important as a major link to the port for both woodchips and grain, including any future capacity on the line. Incompatible development can constrain the network performance, reduce productivity and prevent the planned capacity of assets being reached in the future.[237] The rail line should be protected with corridors to allow for future development and expansion, as well as protecting nearby landholders from noise and vibration. Excessive noise has the potential to affect the health and amenity of a community as well as the health and wellbeing of an individual.[238]

Residential developments along the rail line include Lowana, Albany Green, Festing and Elleker Cottage lots. Development may adversely impact the railway's performance due to health, safety and amenity concerns of nearby resident's.[239]

There are outdoor noise criteria that apply to development near rail[240] to achieve acceptable noise levels, if above this level, transport infrastructure is required to design mitigation measures to reduce the noise.[241] A range of noise mitigation measures can include distance to separate land uses, construction of noise attenuation barriers, building design can locate living areas away from noise and construction techniques such as upgraded glazing.[242] There may also be notification on the title for potential transport noise and the use for quite house design. Compulsory acquisition of land can cause significant public concerns and a lack of strategic planning for corridors can have significant cost of land acquisition, increasing the costs for infrastructure projects. This can threaten the economic viability of a project. Protection of the rail corridor is of particular relevance with increasing housing density, and planned areas should be mapped out for the future.

[235] WAPC 2015, Lower Great Southern Strategy (draft).
[236] WAPC 2015, Albany Regional Hotspots Land Supply Assessment 2015 (draft).
[237] Department of Planning 2014, Infrastructure Corridors Issues Paper. p. 8. Available from www.planning.wa.gov.au/dop_pub_pdf/InfrastructureCorridorsIssuesPaper.pdf
[238] WAPC 2009, State Planning Policy 5.4.: Road and Rail Transport noise and freight considerations in land use planning. Available from http://www.planning.wa.gov.au/dop_pub_pdf/SPP_5_4.pdf
[239] Department of Planning 2014, Infrastructure Corridors Issues Paper. p. 2.
[240] WAPC 2009, State Planning Policy 5.4. p. 3730.
[241] ibid, p. 3731.
[242] ibid, p. 3732.

Under *Local Planning Scheme No. 1,* Clause 5.6.7 requires that development proposed for tourist and residential, located within 100m from the outer edge of the railway line, the City shall have regard for policy statements and recommendations in the WAPC's statement of *Planning Policy 5.4 – Road and Rail Transport Noise and Freight Conditions in Land Use Planning.*

5.4.2 Transferring Increased Freight from Road to Rail

Transferring increased freight from road to rail is outlined in various regional planning documents. Implementing the objectives will depend on the viability of rail and how it's pricing competes with road haulage along with associated efficiency.

A strategic objective in the *Lower Great Southern Strategy*[243] is to 'Maximise the use of rail for freight haulage into the Albany port; and protect the railway corridor between Albany port and South Coast Highway.' It is noted that shifting freight, such as grain and woodchips, from truck to rail has environmental, social and safety benefits.

The WAPC[244] states 'There is a desire to shift freight transport off roads and onto the rail system, with intermodal transfer facilities located at strategic sites to enable the transfer of road and rail freight. To enable a greater volume of freight to be transferred from road to rail will require additional upgrades and new extensions to the current rail system.'

Some of the upgrades to support increasing freight from road to rail include:

- A loop line within the port;
- grade separation between Princess Royal Drive and the rail line at the eastern end of Princess Royal Drive;
- locating future industrial land near the railway line; and
- extending the existing rail spur into Mirambeena and establishing an intermodal transfer facility.[245]

5.4.3 Spur Line to the Mirambeena Industrial Estate

The Mirambeena Industrial Estate is located near the Great Southern Railway line. There is an existing rail spur that services the timber processing precinct. There are opportunities to extend the spur line to support other industries and an intermodal transfer facility. The concept is supported by various agencies including the Department of Transport,[246] GSDC and WAPC.

The *Mirambeena Rail Spur Extension Rail Study Report* (2016) has shown extending the rail line to Mirambeena SIA is not viable in the life time of this strategy.[247] A costs and benefits analysis resulted in the costs of the project being greater than the benefits generated by it. There are particularly significant downstream infrastructure requirements by users to facilitate the project. Transport cost comparisons demonstrated that

[243] WAPC 2007, Lower Great Southern Strategy.
[244] Department of Planning 2015, Great Southern Regional Planning and Infrastructure Framework (draft).
[245] WAPC 2015, Lower Great Southern Strategy (draft).
[246] Department of Transport n.d. Western Australian Regional Freight Transport Network Plan. p. 37.
[247] GHD 2016, Mirambeena (Albany) Rail Spur Extension Rail Study Report (Draft). p. 57.

the volume generated by individual users is likely to be insufficient to generate the economies of scale and utilisation of train capacity to make rail cost competitive from SIA. For rail transport to be competitive with road, large volume users need to be attracted to the SIA, requiring common infrastructure and shared transport operations to increase economies of scale to socialise fixed costs.[248]

5.4.4 Inland Port/Storage

To increase the efficiency of the transport system and free up land at the port, there are opportunities to establish inland storage (to be called an 'inland port') to support the port at locations such as Mirambeena or the CSBP site near Hanrahan Road. This matter is further considered in Section 3.3.

5.4.5 Passenger Rail Service

The WAPC[249] states there are 'Opportunities to provide a passenger rail service from Perth to Albany that utilises the existing railway line and historic stations should be investigated.' It is highlighted that this matter is largely outside of the scope of the land use planning process, other than ensuring that the rail corridor is protected. It is suggested there are likely to be feasibility issues in providing a passenger service in the foreseeable future.

Planning Implications

The above information presents the following planning implications:

- Facilitating a rail link to the Mirambeena Industrial Estate.
- Protecting the existing rail corridor for freight and potential passenger purposes.
- Protecting the rail access to the port from land use conflict.
- Supporting efforts to shift freight transport off roads and onto the rail system including developing an intermodal facility and/or inland port.

5.5 SERVICES INFRASTRUCTURE

5.5.1 Potable and non-potable water

Figure 9 depicts the alignment of potable water in Albany.

The district contains limited fresh groundwater, with the exception of coastal dune aquifers which provide critical supplies for Albany. In some parts of the district, the groundwater resources are either poorly known or have limitations on quantity and quality.[250]

[248] ibid, p. 58.
[249] WAPC 2015, Lower Great Southern Strategy (draft).
[250] Department of Water 2014, Great Southern Regional Water Supply Strategy: A Long-Term Outlook of Water Demand and Supply.

Groundwater and surface water are finite resources which have limits to their availability and suitability for use while still maintaining water dependent environments. The availability and the quality of these water resources are critical to the district's environment and economy.

Demand for water resources is increasing as the population and economy of the district expand. Correspondingly, there has been a trend of predicted declining rainfall. One of the major challenges for the district is sustainably managing its water resources and ensuring there is water security. It is also imperative that water and associated land use are appropriately managed.

There is an established planning and environmental framework for potable and non-potable water resources which includes *State Planning Policy 2.7 Public Drinking Water Source Policy* and *Department of Water and Environmental Regulation Guidelines for the approval of non-drinking water systems in Western Australia* and at a regional level, the *Great Southern Regional Water Supply Strategy* (2014).

The Local Planning Scheme established Public Drinking Water Source Special Control Areas (PDWSCA). Land use planning seeks to ensure that land uses within the PDWSCA are consistent with best management practices to minimise contamination risks.

Given the district's water resources are limited, there is a need for on-going water conservation, efficiencies, recycling and promoting water that is fit-for-purpose.

The Department of Water and Environmental Regulations has recently completed a survey of the papaeochannels of the Albany Hinterland. New locations of fresh water for drinking and agriculture have been found around Elleker through the King River zone, Nanarup and Manypeaks area. This new source has a volume of more than five gigalitres per year of water, which will help to provide some of the extra 20GL/year required for regional growth by 2043.

In the short term (up to five years), water for public water supply is available from the proclaimed Albany groundwater area. Expansion of available resources in this area should allow for supply until 2030. In the medium to long term water supply may be through the hinterland source, seawater desalination or from the Marbellup Brook aquifer storage and recovery. [251]

In the medium term (five to 15 years), water supply may be through seawater desalination or from the Marbellup Brook aquifer storage and recovery. The WAPC observes:

> 'If demand for water in the scheme area exceeds sustainable groundwater extraction capacity, the most likely alternative source of water is a desalination plant. Although such a solution would come with high energy demands and operating costs it would not be climate dependent, which is an important factor given the drying climate along the south coast.'[252]

There has been a growing interest in non-potable water supply, this is water for non-drinking purposes to supplement or replace scheme water. Non-potable water is of a lower standard than potable water but still has many uses such as irrigating parks, public and private gardens, and toilet flushing. Non-potable water is

[251] Department of Water 2016, Mapping water availability in the palaeochannels of the Albany Hinterland. Available from www.water.wa.gov.au
[252] WAPC 2015, Albany Regional Hotspots Land Supply Assessment (draft).

collected from Elleker from a local bore and in the Porongurup's from the Bolganup Dam.[253] Non-potable water can also be collected from stormwater and grey wastewater.

Securing future water sources should not be considered as a potential constraint to economic growth. Accordingly, the district will require secure and sufficient water resources to enable the planned urban and economic growth of the City of Albany (including horticultural, agricultural and mining projects) and to address the predicted declining rainfall. Supply for the Lower Great Southern scheme is secure for predicted growth and demand under current circumstances. The GSRWS strategy is a long-term outlook with a 30 year projection for demand and supply.[254]

The land use planning system can support the protection and provision of sustainable potable water supplies and assist in the implementation of water conservation strategies including installing rainwater tanks, sustainable water management and encouraging appropriate use of grey water.

The reticulated water system in Albany is operated by Water Corporation. Outside Albany, including in rural settlements, development is provided by on-site water capture particularly through roof catchment and rainwater tanks.

Planning Implications

The above information presents the following planning implications:

- There is a need to meet sustainable potable water needs of new planned areas.
- The provision of water supply is critical for sustaining current population and future growth of the city.
- Water use should be fit-for-purpose e.g. non-potable water for irrigation or other non-consumptive purposes

5.5.2 Sewer

Some parts of Albany are connected to reticulated (deep) sewerage while other areas are served by on-site effluent disposal.

Water Corporation is responsible for the treatment of Albany's wastewater. This incorporates various pump stations, the Timewell Road Wastewater Treatment Plant (WWTP) and woodlot irrigation near the airport. The WWTP has been upgraded to meet demand in the long-term.[255] Other town sites in the district rely on onsite effluent disposal systems.

[253] ibid, p. 5.
[254] Department of Water 2014, Great Southern Regional Water Supply Strategy. p. 45.
[255] Department of Planning 2014, Great Southern Regional Planning and Infrastructure Framework (draft).

The Infill Sewerage Program is funded by the State Government and is administered by the Water Corporation. While funding has been curtailed and deferred in recent years due to state budget constraints, consideration will be given to new infill projects on a case-by-case basis subject to funding availability and priority.[256]

ALPS provides for actions such as the staged settlement to guide development towards priority sewerage areas and supporting Water Corporation with an ongoing backlog sewerage program within Albany. LPS1 contains a Water Corporation Wastewater Treatment Plan Odour Buffer SCA along with various provisions relating to sewerage and on-site effluent disposal. Figure 9 depicts the location of the Sewer Treatment Plant and buffer area.

Reticulated sewerage is considered a superior method of treating wastewater than conventional septic tanks and leach drains on human health, environmental and development grounds. Issues with on-site effluent disposal include proximity to waterways and estuaries, that some parts of the district have high groundwater levels, impervious soils, or contain rock close to the surface which are not conducive to adequate effluent disposal and ongoing maintenance. Alternative treatment units do not necessarily facilitate long-term smaller lot/medium density development. However they provide an improved outcome over traditional septic systems, but require regular maintenance that the City, if required, will need to regulate.

Reticulated deep sewerage is critical to Albany's urban expansion. Developers will be responsible for providing sewerage to new residential estates to the satisfaction WAPC and of Water Corporation. Water Corporation will upgrade the system to cater for future growth. This in part will include an upgrade to the Le Grande Avenue Pump station and new pump stations and pressure mains in the northern area of Albany.[257] Land requirements are generally addressed early on with Water Corporation in the structure plan process.

The City seeks associated funding from the State Government to extend the sewerage infill program when funding becomes available. The WAPC[258] outlines that priority areas include Milpara, Gledhow, Robinson and Yakamia. Other areas include parts of McKail and in locations where high density development is appropriate.

The land use planning system can support the staged extension of existing sewer infrastructure to facilitate urban growth, infill sewerage within existing urban areas and minimise the impact of onsite effluent disposal on the environment.

Government Sewerage Policy 2019

The Western Australian Government has released the *Government Sewerage Policy 2019*, which supersedes the *Government Sewerage Policy Perth Metropolitan Region* and the *Draft Country Sewerage Policy*. The State Government has developed the policy to reduce the risks involved and determine instances where reticulated sewerage will be required and provide guidance on assessment of on-site sewerage disposal. Connection to reticulated sewerage is generally required for all new subdivisions and development where a subdivision or development cannot be reasonably connected to reticulated sewerage. The policy sets out the minimum requirements for on-site sewerage disposal.

[256] WAPC 2015, Lower Great Southern Strategy (draft).
[257] WAPC 2015, Albany Regional Hotspots Land Supply Assessment (draft).
[258] WAPC 2015, Lower Great Southern Strategy (draft).

The policy identifies sewerage sensitive areas, which are shown in Figure 10. In the City of Albany sewerage sensitive areas are those that are:

- Land that drains to and is within 2km of Torbay Inlet, Lake Powell, Princess Royal Harbour and Oyster Harbour; and
- land within 1km of a significant wetland.

Planning Implications

The above information presents the following planning implications:

- Seeking of State Government support to extend the infill sewerage program in Albany.
- Maintaining the Timewell Road Waste Water Treatment Plant Odour Buffer Special Control Area under the Local Planning Scheme.
- Ensuring that structure planning and subdivision of land complies with the minimum lot size and separation distances from inlets, harbours and wetland as set out under the *Government Sewerage Policy 2019.*

5.5.3 Power/Energy

Figure 9 shows the alignment and location of the City's main electricity supply line.

Electricity and liquefied petroleum gas (LPG) are the City of Albany's key energy sources.

The district forms part of the South West Interconnected Network (SWIS) operated by Western Power. The SWIS includes the Albany Wind Farm, operated by Verve Energy, which provides most of the City's electricity.

ATCO Gas supplies LPG though a reticulation system for domestic use within parts of the City. The system's extension will be based on domestic demand. Other parts of the district are supplied by bottled gas.

The district has a long established commitment to renewable energy particularly with the wind farm at the Sandpatch and widespread installation of solar panels and Photovoltaic (PV) panels.

Due to population growth, escalating energy costs and the expected impacts of climate change; the demand and cost of energy are increasingly becoming a significant issue to consumers and government.

Reliability and Capacity

Key energy issues in the district are unreliability (including blackouts) and lack of capacity to meet the growth in industry demand. The GSDC notes 'The capacity of the existing power infrastructure and the cost of upgrading feeder lines have the potential to limit major development at industrial sites in the region.'[259] For instance, the development of the Mirambeena Industrial Estate is restricted by unreliable and limited power

[259] GSDC 2015, Great Southern Regional Investment Blueprint.

supply and the cost of infrastructure upgrades to service new industries. Additionally, major industrial land in Albany cannot be supplied due to the limited capacity of the LPG plant.

The Department of Planning, Lands and Heritage states 'Although existing infrastructure is sufficient to meet anticipated demand in the Albany area for some time, the development of new power intensive industries (such as mining) has the potential to increase load requirements within a relatively short timeframe.'[260] The lack of available power can hamper job creation and economic development in the district and region.

There are also considerable expenses involved in funding new transmission infrastructure to lots, both within industrial areas and throughout the rural zoned land. Understandably, it is not feasible to prepare all land in the region for growth, however targeted infrastructure and working with infrastructure agencies to provide procedural pathways that help facilitate the supply of infrastructure would potentially remove a significant capacity constraint that may inhibit inter/intraregional investment.[261]

There is a need for energy infrastructure providers to review load forecast on an ongoing basis and implement appropriate network reinforcements as required. This is a goal to improve supply and reliability and plan to meet growing demand by industrial and residential consumers. Pre-planning from servicing and regulatory authorities is required to ensure there is reliable and well maintained power infrastructure given it is critical to the economic development of the district and to provide for future residential, commercial and industrial development.

It is noted there are various ways to boost the district's power supply, however most involve major capital outlays, with a goal of creating energy security. Some of the options are outlined below.

Energy Security

Various agencies seek energy security for the district and region including the GSDC which state:

> 'Ensure the Great Southern has access to a range of energy sources that are affordable and secure and able to meet the requirements of industry and the community.'[262]

Accordingly, investment in power supply capacity has the potential to future proof the energy needs of the district. The City needs to limit development within or adjoining the substation site on Albany Highway in McKail and the Depot on Chester Pass Road.[263]

Electricity Network Upgrade

The Kojonup-Albany transmission line pole reinforcement project has been completed which allows increased transfer capacity to the Albany area. The network capacity in the Albany area is 'sufficient to cater for natural load growth, and it is expected that no further reinforcement will be required for the next few years.'[264] *Albany Hotspots* report stated transfer capacity at Albany substation will be exceeded in 2017/2018, Albany's power

[260] WAPC 2015, Albany Regional Hotspots Land Supply Assessment (draft).
[261] Pracsys 2015, South Coast Industrial Ecology Mapping and Industry Attraction Strategy.
[262] GSDC 2015, Great Southern Regional Investment Blueprint.
[263] Western Power 2016, pers.comm
[264] WAPC 2015, Albany Regional Hotspots Land Supply Assessment (draft).

will need to be augmented by new overhead transmission lines from Albany to Kojonup and from Muja to Kojonup. However, with forecast load growth now at a lower rate, the need for new transmission lines has been deferred.

Bunbury-Albany Gas Pipeline

Various studies have been made into extending the natural gas pipeline from Bunbury to Albany. There has also been a State Government commitment for land assembly and construction of the pipeline. Implementation of the pipeline would provide a long-term and secure energy supply to the district. It would also facilitate growth in the mining sector and attract other industries that require substantial and secure energy.[265] Accordingly, there is support for the construction and protection of the pipeline that maximises benefits to the district and promotes economic development. This year ATCO have suggested putting the pipeline through Katanning instead of Manjimup.[266]

Gas-fired Power Station

Related to the above, the GSDC[267] notes there is the potential to construct a 40MW gas-fired power station at the Mirambeena Industrial Estate to address future demand for energy.

Renewable Energy

Due to population growth, escalating energy costs and the expected impacts of climate change, the demand and cost of energy are increasingly becoming a significant issue to consumers and government. The district has wide-ranging potential to generate electricity from renewable energy sources including solar, wind, wave, biofuels, bio-energy and possible geothermal energy. If feasible, renewable energy sourced within the district can assist in providing important energy supply for a growing City and for industrial and other development. It is suggested that renewable energy production should generally be encouraged where relevant planning considerations have been suitably met.

The coast of Albany has significant potential for wave energy. Carnegie Wave Energy has a licence for an offshore wave resource, associated water desalination and an adjacent onshore area at the Sandpatch.[268]

There is substantial current and future demand for hybrid energy solutions.[269] Hybrid technology integrates a renewable energy generation technology with other energy generation systems. An example of hybrid technology would be one that combines solar-based thermal energy with thermal energy from gas.[270] Meanwhile, wind turbines and solar power have been combined with great savings for streetlights and communications towers in other countries.[271]

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[265] Department of Planning 2014, Great Southern Regional Planning and Infrastructure Framework (draft).
[266] ABC 2016, Albany-Bunbury gas pipeline should include Manjimup and Katanning: WA Nationals. Available from http://www.abc.net.au/news/2016-07-18/albany-bunbury-gas-pipeline-could-go-to-manjimup-katanning-nats/7638098
[267] GSDC 2015, Great Southern Regional Investment Blueprint.
[268] ibid
[269] All-energy 2015, Hybrid Energy Systems: Hybridisation of renewable energy systems. Available from http://www.all-energy.com.au/en/Sessions/13720/Hybrid-Energy-Systems-Hybridisation-of-renewable-energy-systems
[270] Australian Renewable Energy Agency n.d. Hybrid and related technology. Available from http://arena.gov.au/about-renewable-energy/hybrid-and-related-technologies/
[271] Giges, N 2013, Growth spurt for Hybrid Renewable Energy Systems. Available from https://www.asme.org/engineering-

There are opportunities to develop a biomass energy plant at the Mirambeena timber processing precinct or in other locations. Harvest residues such as stumps and branches from blue gum plantations would be used to fuel a biomass plant. There is a significant opportunity for the district to increase local demand for bio-fuel as a means to build production capacity across the economy and create a viable form of affordable, decentralised energy. The demand could be met through various sources, using waste products from various agricultural activities to produce energy. These could include a range of products from tanked fuel to direct heat (for neighbouring facilities).'[272]

There may be scope to produce energy from landfill sites, especially if there is a region wide approach that results in all solid waste being recycled into energy production.

There are a number of initiatives being undertaken in the district and by partner agencies such as LandCorp to promote renewable energy. This includes determining the commercial feasibility of community battery energy storage device powered by Photovoltaic (PV) panels, and encouraging the development of renewable energy systems. It is important to note that power system studies will be required to determine the technical feasibility of connecting the generation.

Planning Implications

The above information presents the following planning implications:

- The provision of power to planned settlement growth areas.
- Identifying land requirements for power generation facilities and establishing appropriate buffers.

5.5.4 Drainage/Stormwater Management

There is an established planning and environmental framework for drainage/stormwater management which includes *State Planning Policy 2.9 Water Resources* and *Better Urban Water Management* (2008). All stormwater management must be in accordance with Department of Water and Environmental Regulation decision process for stormwater management in WA and the *Stormwater Management manual for Western Australia guidelines.*

Better Urban Water Management sets the framework for water management to be applied in the development catchment. In summary, this requires treatment of water quality and quantity which integrates the urban water cycle incorporating water supply, wastewater, stormwater and groundwater management and environmental protection. Strategies and plans are required to be consistent with the Policy. This includes ensuring that new development/subdivision is appropriately located (including avoiding flood risk land), appropriately serviced, and considered as a development priority. ALPS identifies a number of actions in relation to undertaking of floodplain studies, identification of flood-prone land, preparation of flood and

topics/articles/renewable-energy/growth-spurt-hybrid-renewable-energy-systems

[272] Pracsys 2015, South Coast Industrial Ecology Mapping and Industry Attraction Strategy.

drainage management plans and the improvement of stormwater management. LPS1 contains wide-ranging provisions relating to flooding, inundation and WSUD.

In recent years, the City has prepared a *Water Management Strategy* for the Yakamia-Lange Structure Plan which applies to the Yakamia Creek catchment. The City is also undertaking a programme of drainage infrastructure upgrades to address deficiencies in the drainage network.

In a drying climate there are increasing pressures on the City of Albany's water resources. Stormwater is a valuable resource that can be more effectively managed.

Stormwater management is an important consideration in identifying appropriate areas for development. Areas of high water tables require more comprehensive drainage systems and environmental objectives for water quality may not be met. The location of development and the design of new drainage systems must be undertaken in a way that does not exacerbate the existing nutrient issues for rivers, watercourses and other water resources in the district.

As part of the structure planning process, there is a need to identify flood risk land, protect drainage infrastructure and channels, identify land requirements for drainage network upgrades e.g. attenuation basins, and treat stormwater before it enters watercourses/water bodies.

A major challenge faced by the City is retrofitting detention capacity to resolve downstream flooding issues. The City wants to see more multi-function linear corridors, which include open space, ecological corridors, drainage management and flood conveyance and detention. Shallow-sided retention basins, swales, porous pavement, stream and riparian vegetation rehabilitation are suitable options to provide ecological corridors, drainage management and detention of stormwater. Where new development is occurring, there are opportunities to incorporate more detention and properly planned and designed overland flood routes, integrating this into useable areas of public open space (POS) that have good public amenity. However not all POS are suitable for detention and drainage reserves may be required in addition to POS in some instances. Drainage detention is not suitable for sporting ovals or playgrounds. The development of active recreation areas next to drainage facilities can introduce some elements of public safety and health risks.[273]

There is opportunity for water conservation and efficiency though the structure planning process with the development of integrated water management strategies. Strategies can minimise irrigation demands for domestic irrigation and for public open space including the use of drought tolerant species. Whilst the planning system does not have operational control over water consumption post-construction, it can seek to influence end-use (i.e. household, commercial use) water efficiency and source substitution.

Flood mapping covers part of Albany and it is suggested that flood mapping (and an associated Flood Mitigation Strategy) should be extended to cover the entire development footprint. This is supported by the WAPC which states 'Undertake a program of floodplain mapping in priority areas. Map floodplains to guide development in flood risk areas in urban and peri-urban areas.'[274]

[273] BMT WBM Pty Ltd 2009, Evaluating options for Water sensitive urban design- A National guide. p. 25. Available from *https://www.environment.gov.au/system/files/.../wsud-guidelines.doc*

[274] Department of Planning 2014, Great Southern Regional Planning and Infrastructure Framework (draft).

In accordance with *Better Urban Water Management,* it is suggested that a *District Water Management Strategy* be prepared for the entire development footprint to address matters including arterial drainage, flood risk and identify broad 'no go' areas. This could use various existing studies including the water management strategy prepared to support the *Yakamia-Lange Structure Plan*.

Planning Implications

The above information presents the following planning implications:

- Structure planning and/or subdivision should consider water planning using the framework identified in Better Urban Water Management.
- Stormwater management should be consistent with the Department of Water and Environmental Regulation's decision process for stormwater management in WA and the Stormwater Management Manual for Western Australia guidelines.
- Structure planning and/or subdivision should incorporate water sensitive urban design principles and opportunities for retrofitting should be considered where possible.

5.5.5 Telecommunications

Effective telecommunications infrastructure, including phone and internet services, is essential for social connectivity, for households, businesses, and the district economy and to ensure safety. Mobile phone, television, radio reception and broadband availability in the district vary in quality or sometimes availability. This has a major impact on current and future commercial activities along with impacting the lifestyle of residents. Access to mobile phone coverage in the district is patchy but has improved. There is an on-going need to address mobile phone 'black spots' to obtain greater coverage.

There are a series of transmitters and repeaters that provide VHF radio coverage along portions of the coast.

The National Broadband Network (NBN) is an Australian Government initiative which is progressively delivering high-speed broadband throughout Australia. This includes fibre network, fixed wireless and satellite technologies. The NBN offers significant benefits to local residents including for business, education, health and personal use. Data communications need to improve to accommodate information sharing and for effective communication to grow.

State Planning Policy 5.2 Telecommunications Infrastructure (SPP 5.2) was recently updated and gazetted. SPP 5.2 is required to be considered by the City in determining development applications for telecommunications infrastructure.

It is imperative that planning for telecommunications/broadband and the digital economy, and the infrastructure that will deliver it, be incorporated into planning considerations. The provision of telecommunications/broadband services is an integral driving force which can provide opportunities for the development of the district. Quality telecommunications/broadband infrastructure (the 'communications highway') can, for instance, assist in the implementation, coordination and sharing of service delivery in the district. The land use planning system can assist to encourage the extension and maintenance of high-quality telecommunications for the district.

There is support for the district to have well developed telecommunications infrastructure. Improvements of access and speeds to any communication network provide opportunities for residents and businesses to communicate more effectively to improve service levels and streamline their operations.[275]

The GSDC notes the 'NBN is being progressively delivered and other communications improvements but the imperative for the area is to maximise the benefits. This includes ensuring communities are connected by preferred modes of delivery (fibre over wireless, wireless over satellite) and that they develop and continually upgrade their capacity to exploit communication technology.'[276]

Planning Implications

The above information presents the following planning implications:

- Advocate for telecommunication infrastructure upgrades.
- Considering telecommunication infrastructure requirements in the structure planning process.
- Taking account of SPP 5.2 in determining development applications for telecommunications infrastructure.

5.5.6 Waste Disposal/Recycling

The district contains two landfill sites which are the Hanrahan Road Waste Management Facility and Bakers Junction Landfill. Both landfills are licensed as Class ll sites and offer disposal services of materials as stipulated in their licences. Both landfills also collect salvageable materials such as oil, scrap steel, timber and batteries for recycling. There are also six rural transfer stations.[277]

The City notes 'the life expectancy from 1 January 2013 for Hanrahan Road is approximately 10 years and Bakers Junction 50 years. Bakers Junction landfill site's life expectancy would be approximately 10 years if Hanrahan was to close and Albany's waste diverted to this site. The use of Bakers Junction as the main disposal point for the City's waste is likely to incur a small increase in collection costs. Potentially between the two sites there is a landfill capability of twenty years.'[278]

The City is working to reduce the amount of waste generated, increase the proportion of material recovered from the waste stream and limit the proportion of waste going to landfill. Additionally, the City is working to improve its waste management practices with nearby local governments.

The Hanrahan Road Waste Management Facility is considered the best option for energy recovery. The City is proposing to undertake a feasibility study into the viability of methane gas extraction for power generation.[279]

[275] Department of Planning 2014, Great Southern Regional Planning and Infrastructure Framework (draft).
[276] GSDC 2015, Great Southern Regional Investment Blueprint.
[277] City of Albany 2014, Strategic Waste Management Plan. Available from City offices.
[278] ibid
[279] City of Albany 2014, Strategic Waste Management Plan.

Even with advances in waste treatment technology there will be some residue that will require burying. The City needs to determine the future of its waste management especially given the landfills are reaching their life expectancy, and the time required to find an alternative site, gain necessary approvals and establish the facility. Accordingly, as outlined by the City[280] there is a need to investigate and plan for waste disposal alternatives. As part of this, there is a need to consider the long term future of the Hanrahan Road Waste Management Facility such as whether it will be closed or used as a transfer station.

A *Waste Mitigation Strategy* is currently being developed to identify a new land fill site, and new technology that might be available to use with a new site along with working with other councils to jointly consider waste options.

Planning Implications

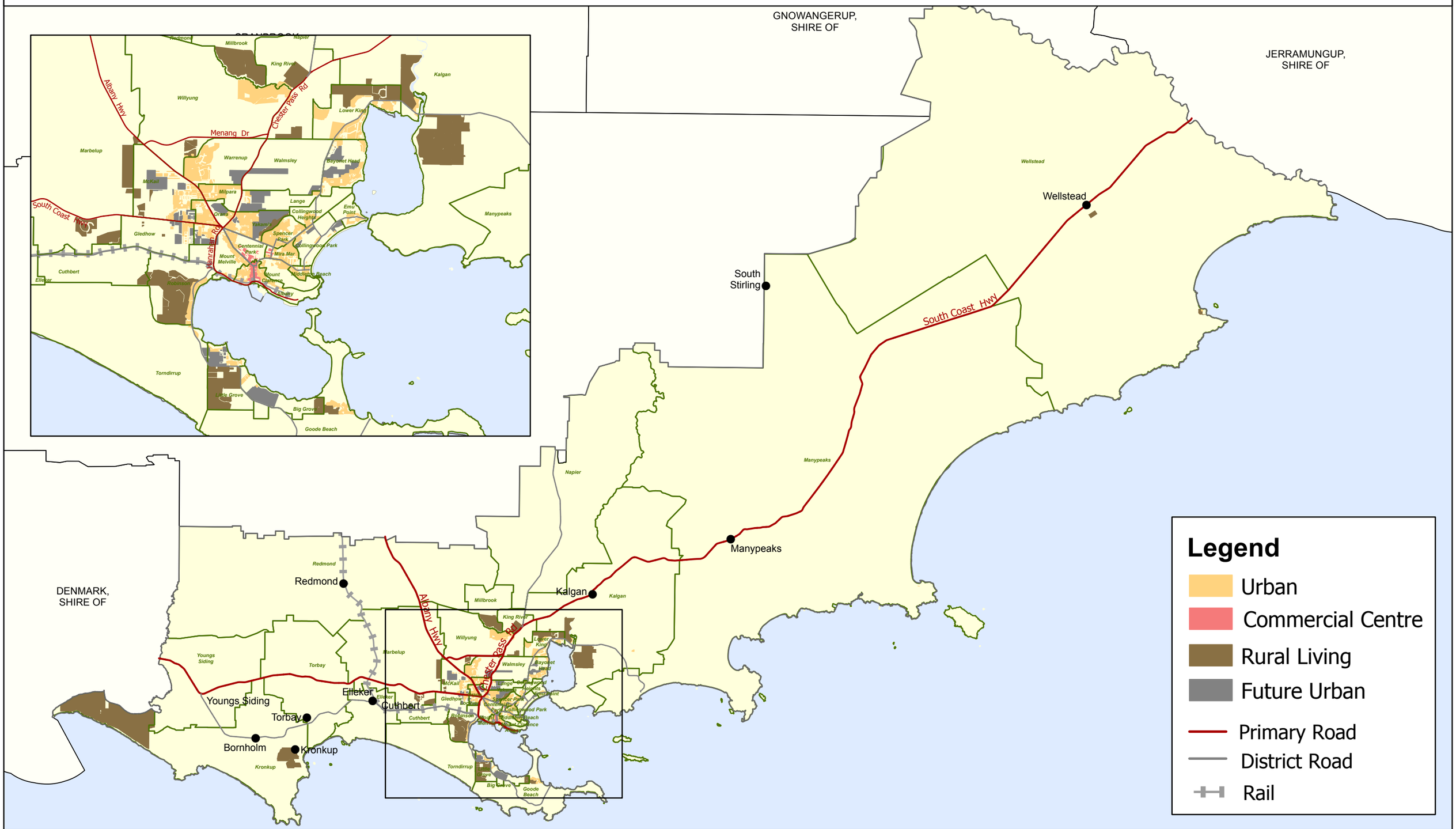
The above information presents the following planning implication:

- There is a need to set aside land for a new waste disposal site in the City to replace both Hanrahan Road and Bakers Junction. The City has endorsed an alliance with Denmark and Plantagenet Shires to work collaboratively to investigate different available options on waste management issues in the region.

[280] ibid

Local Planning Strategy

Figure 1: Settlement



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N W E S

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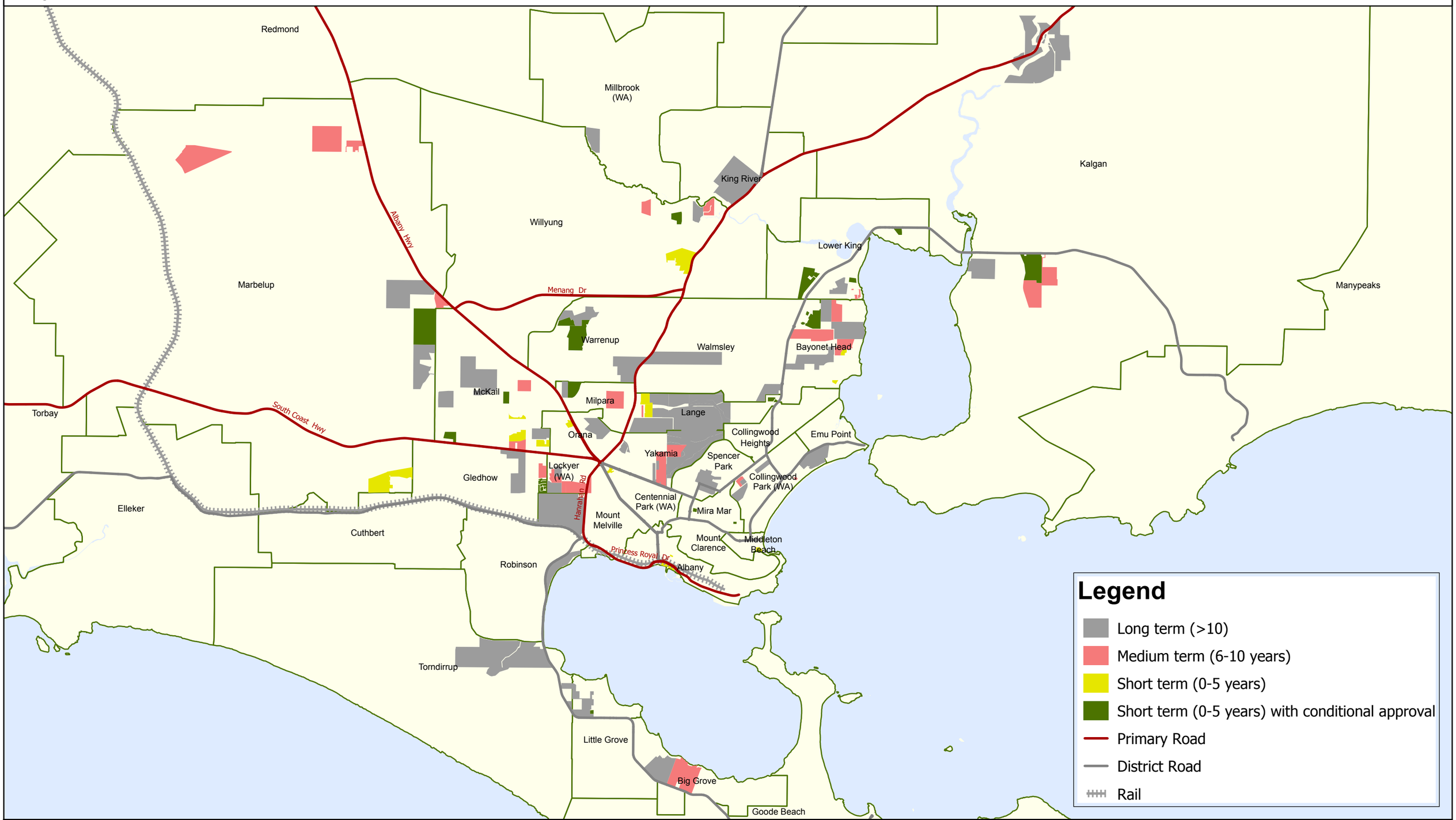
Date Printed: 20/11/2019

Local Planning Strategy

Figure 2: Future Development Areas



0 0.450.9 1.8 2.7 3.6 Km

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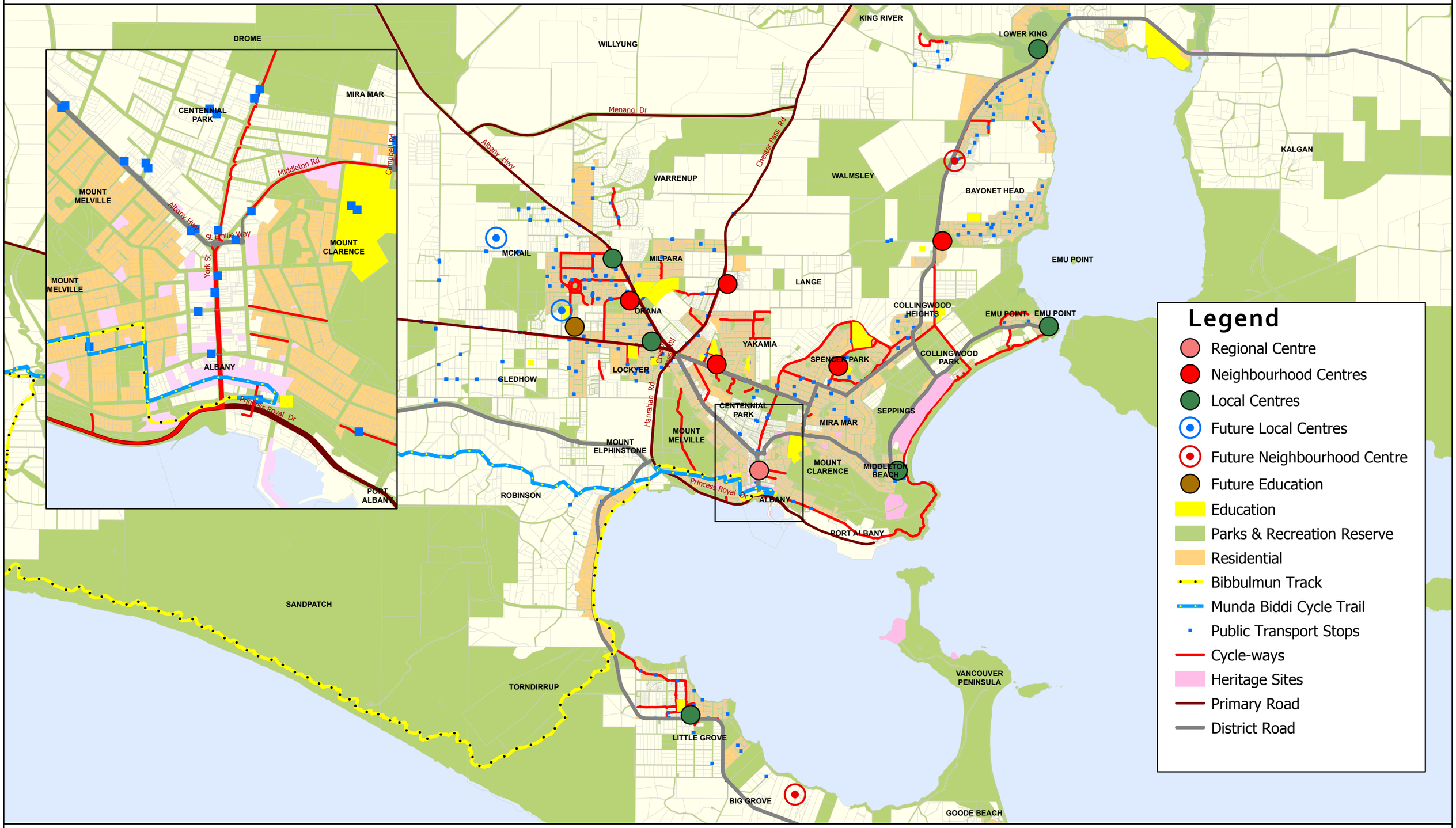
Date Printed: 20/11/2019

Local Planning Strategy

Figure 3: Community



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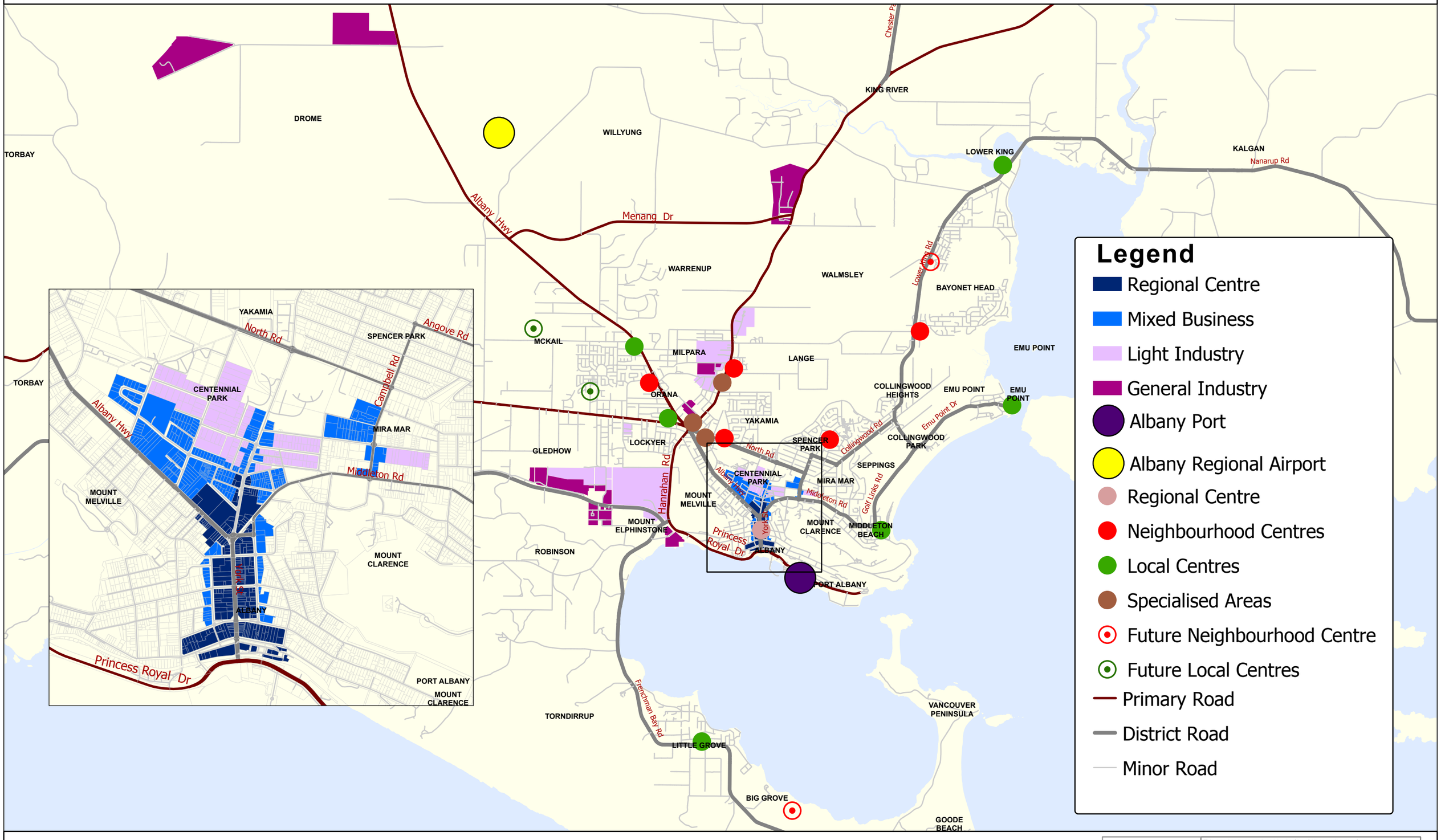
Date Printed: 20/11/2019

Local Planning Strategy

Figure 4: Employment Lands



Legend

- Regional Centre
- Mixed Business
- Light Industry
- General Industry
- Albany Port
- Albany Regional Airport
- Regional Centre
- Neighbourhood Centres
- Local Centres
- Specialised Areas
- Future Neighbourhood Centre
- Future Local Centres
- Primary Road
- District Road
- Minor Road

1:80,000

410 205 0 410 Meters

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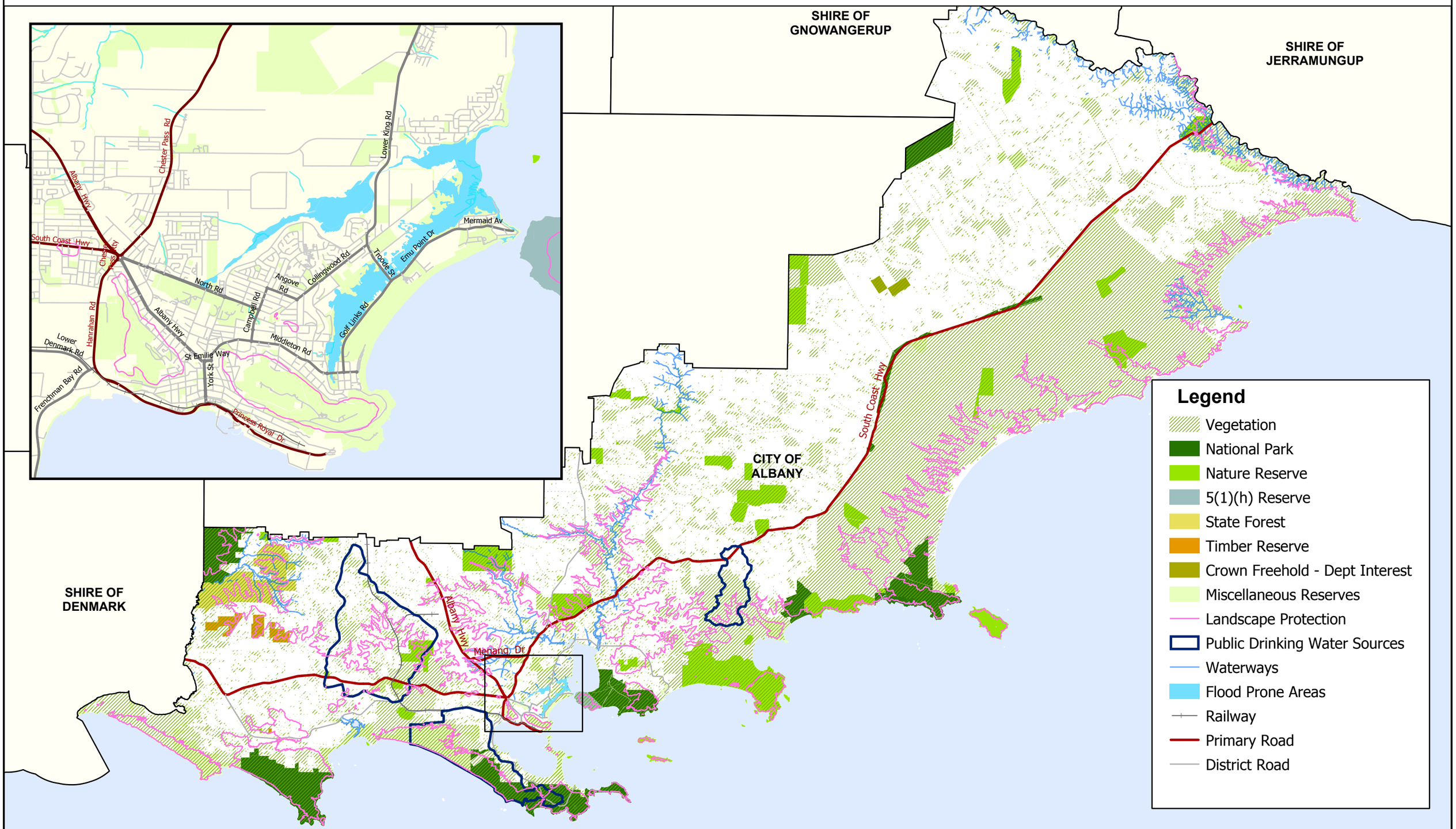
Date Printed: 20/11/2019

Local Planning Strategy

Figure 5: Environment



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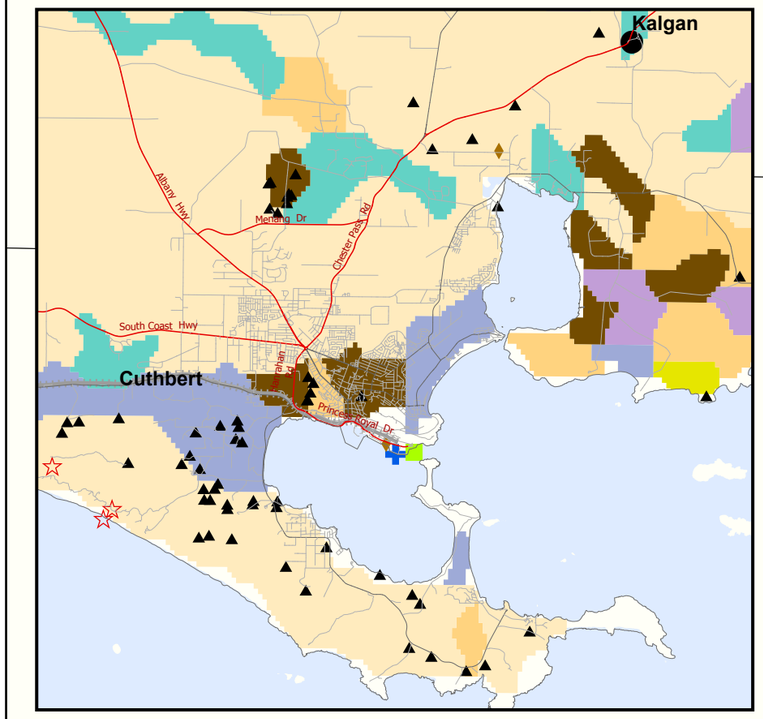
Date Printed: 20/11/2019

Local Planning Strategy

Figure 6: Known Deposits of Basic Raw Materials



GNOWANGERUP, SHIRE OF

JERRAMUNGUP, SHIRE OF

DENMARK, SHIRE OF

Wellstead

South Stirling

South Coast Hwy

Manypeaks

Cheynes Beach

Redmond

Kalgan

Albany Hwy

Mercer Rd

Chester Pass Rd

Youngs Siding

Torbay

Ellekar

Cuthbert

Allan Rd

Princess Royal Dr

Bornholm

Kronkup

Legend

- Alluvium
- Coastal deposits
- Slope deposits
- Lacustrine deposits
- Residual
- Sandplain
- Exposed rock
- Construction material
- Energy
- Industrial Mineral
- Iron
- Non mineral
- Precious metal
- Precious mineral
- Speciality metal
- Primary Road
- Rail

7,500 3,750 0 7,500 Meters

Scale

1:400,000

N W E S

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Date Printed: 20/11/2019

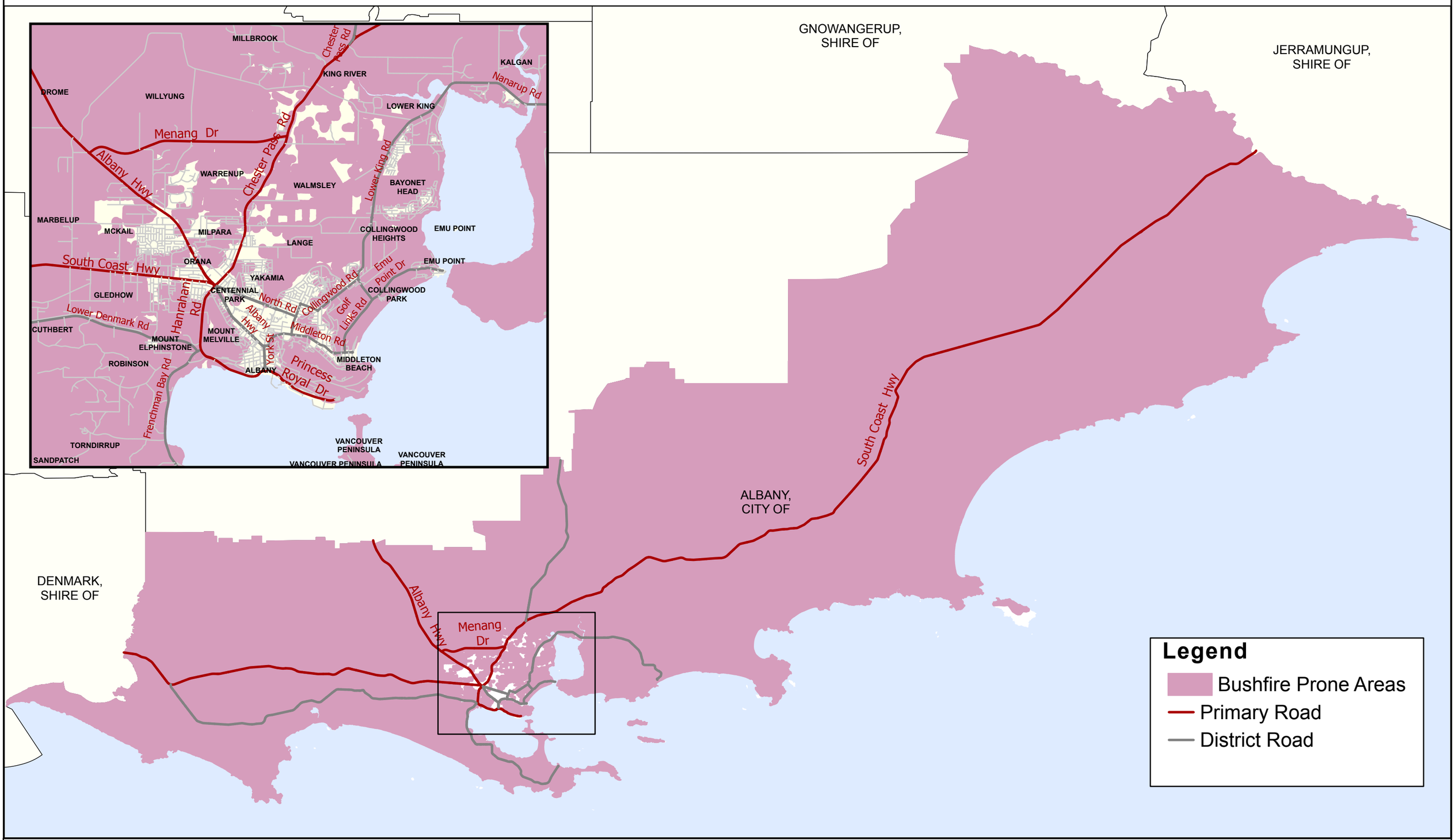
Albany

GOVERNMENT OF WESTERN AUSTRALIA

Western Australian Planning Commission

Local Planning Strategy

Figure 7: Bushfire Prone Areas



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N W E S

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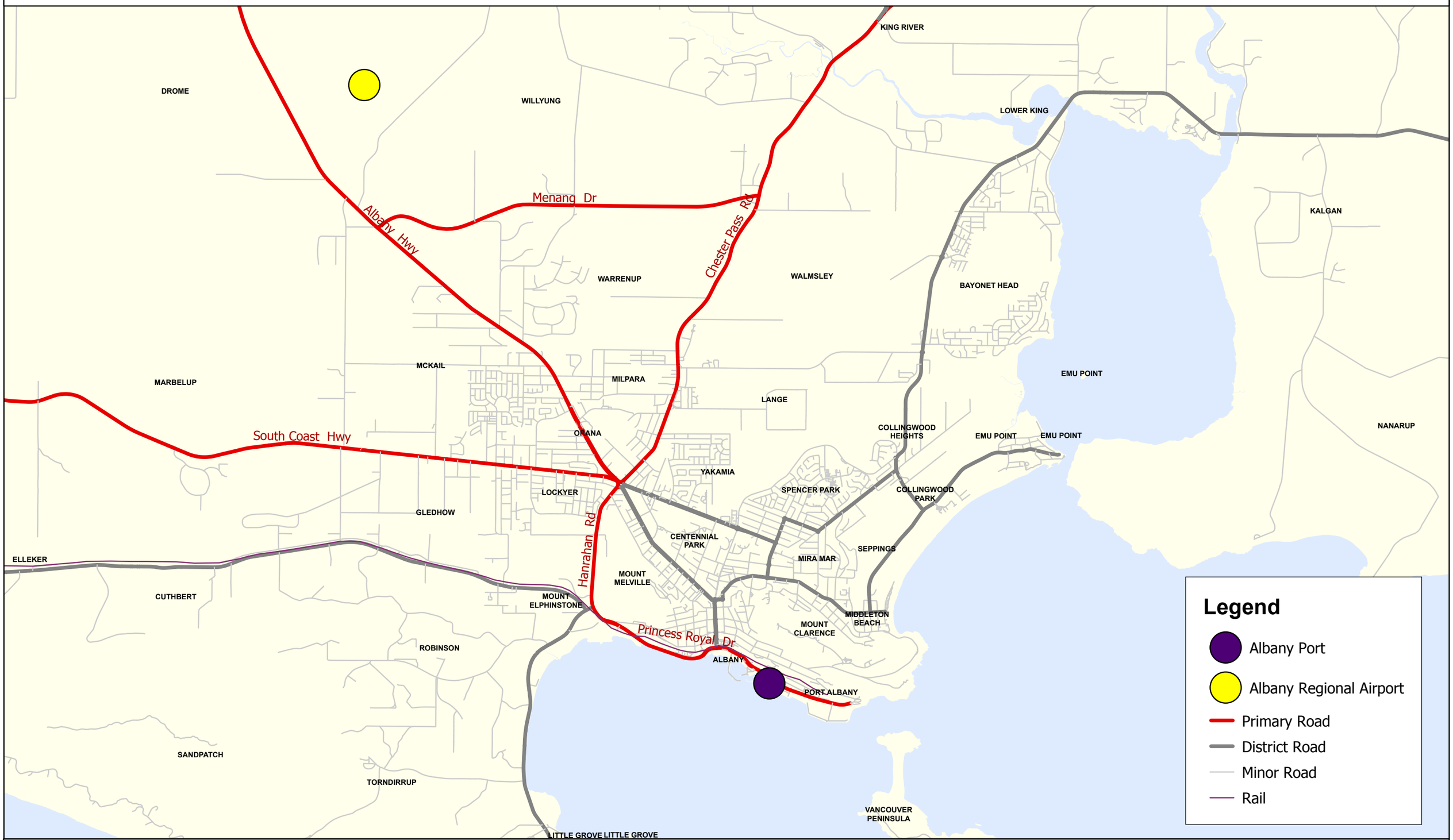
Date Printed: 20/11/2019

Local Planning Strategy

Figure 8: Infrastructure



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N W E S

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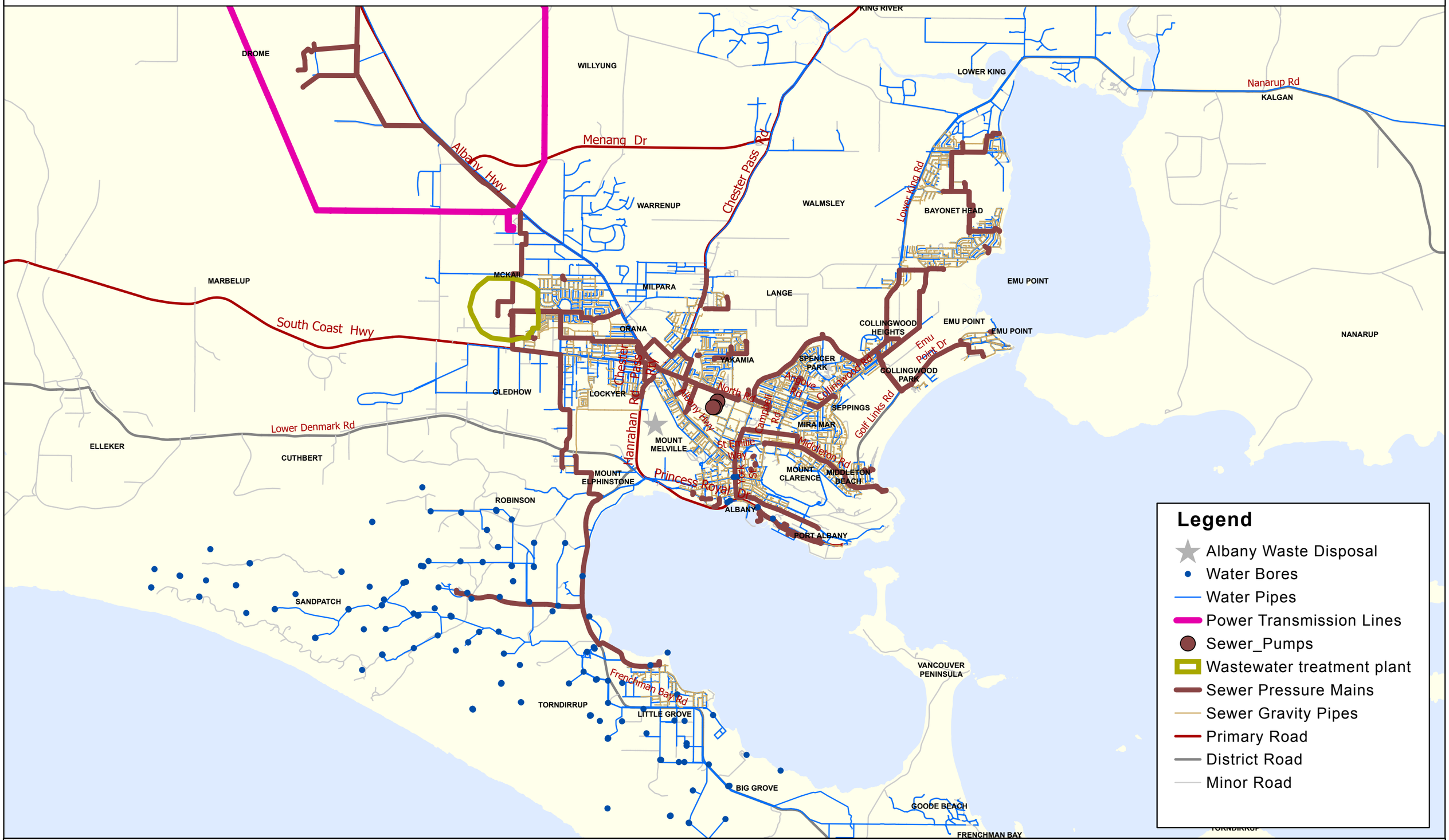
Date Printed: 20/11/2019

Local Planning Strategy

Figure 9: Services



Legend

- Albany Waste Disposal
- Water Bores
- Water Pipes
- Power Transmission Lines
- Sewer_Pumps
- Wastewater treatment plant
- Sewer Pressure Mains
- Sewer Gravity Pipes
- Primary Road
- District Road
- Minor Road

0 0.350.7 1.4 2.1 2.8 Km

N W E S

SCALE @ A4: 1:75,000

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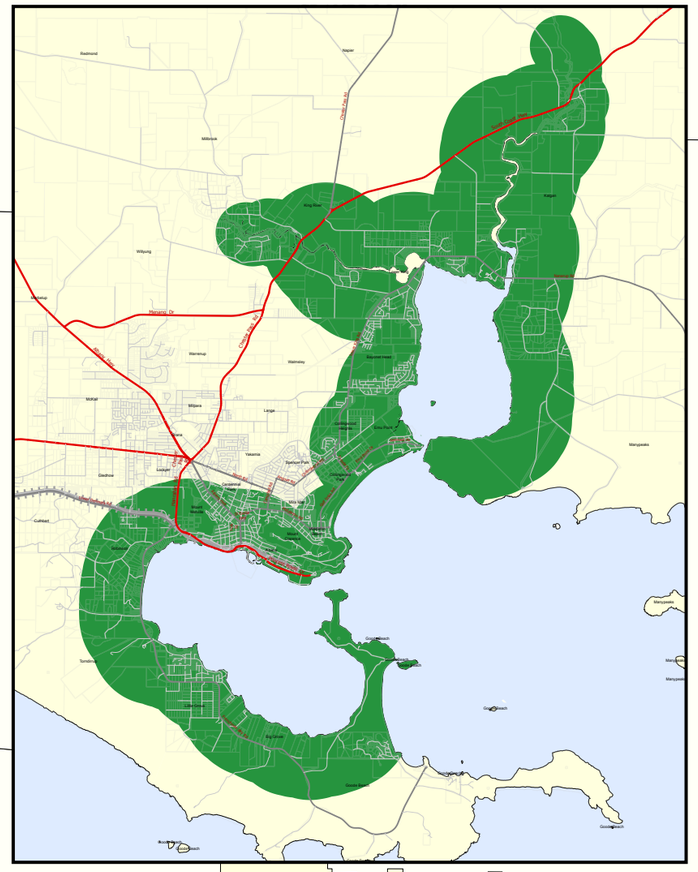
Date Printed: 20/11/2019

Local Planning Strategy

Figure 10: Sewerage Sensitive Areas



GNOWANGERUP, SHIRE OF

JERRAMUNGUP, SHIRE OF

DENMARK, SHIRE OF

Wellstead

South Stirling

Manypeaks

Cheynes Beach

Redmond

Kalgan

Youngs Siding

Elleker

Torbay

Cuthbert

Bornholm

Kronkup

South Coast Hwy

Albany Hwy

Menang Dr

Chester Pass Rd

Princess Royal Dr

Legend

- Government Sewerage Policy
- Primary Road
- District Road
- Rail

410 205 0 410 Meters

N W E S

SCALE @ A1:

1:400,000

MXD: X:\Planning_&_Development\Planning_Services\Strategic_Planner\ALPS_Review\new ALPS\MXD's_&_shapefiles\Obsolite\Fig 10 Sewer Sensitive Areas.aprx

Appendix 1: Rural Villages East - Wellstead, Manypeaks, South Stirling, Cheynes Beach, Kalgan

Wellstead	
The Place	The town of Wellstead is situated approximately 100km north-east of the city. The name commemorates the Wellstead family who settled in the area in 1860 and had held grazing land between Cape Riche and Bremer Bay. Farmland was opened up in the area in the 1960s for cereal cropping and land was set aside for a town site. The town site was gazetted in 1965. The surrounding areas produce wheat and other cereal crops. The town is a receival site for Cooperative Bulk Handling.
Zone	The town is partly zoned 'Rural Village' (RV1) and therefore requires the preparation of a Structure Plan prior to development occurring. A R'ural Residential' zone (RR37) is located just south of the town site.
Settlement Pattern	Compact
Lot sizes	Urban
Community facilities	The town is centred on a primary school, open space, sporting facilities, a convenience store and a community resource centre with a library. Other community facilities include a community hall and a fire brigade station.
Residential lots	There are nine lots (on the south-east edge of the town) of approximately 2000m^2 which are owned by LandCorp with potential to develop for residential purposes.
Industrial lots	Five lots are zoned 'Light Industry' of which three are developed.
Other lots	Nil
Aboriginal Heritage	Land title claim
Historic Heritage	Nil
Ownership	A large parcel of land zoned 'Rural Village' is crown land and future development would require LandCorp's involvement. One undeveloped industrial lot is crown land managed by the City.
Infrastructure	Wellstead is located on the grid and harvest rainwater for potable supplies with onsite sewer disposal. Refuse is collected once a week.
Function	Supports agricultural hinterland Potential mining service centre

Wellstead	
Future Development Potential	Wellstead was earmarked to part-house future employees of the proposed Southdown Magnetite proposal. At January 2015 Grange Resources was still pushing ahead with the proposed $2.89 billion project and launched a review into ways to cut capital costs.[281] The future development and growth of Wellstead will be dependent on the mining project going ahead. The potential for 40 residential lots under the approved subdivision guide plan (RR37) and the residential development potential under the 'Rural Village' zone are considered sufficient within the timeframe of the Strategy.

[281] Shakespeare, T 2015, Grange progress Southdown. Albany Advertiser. Available from https://au.news.yahoo.com/thewest/regional/great-southern/a/25983444/grange-progress-southdown/

Manypeaks	
The Place	Manypeaks is a town located 38km north-east of the city. The government of Western Australia first developed the area in 1949 as part of the Manypeaks Land Settlement project and established the town site. The name Manypeaks was taken from the distinctive peak of Mount Manypeaks that is situated about 10km from the town site. The town was gazetted in 1951.
Zone	Approximately 47ha north of South Coast Highway is zoned 'Rural Village' (RV2) and a structure plan is required for the land to be developed. Parts of this zone is located over farm land to the north and parts over vegetated crown land to the east.
Settlement Pattern	Compact with urban sized lots
Lot sizes	Urban
Community facilities	The town is centred on a primary school with recreational facilities, a general store and fuel outlet. Other community facilities include a community hall and a fire brigade station.
Residential lots	North of South Coast Highway there are 39 residential lots, of which 12 remain undeveloped. Only three of these lots have road access, the remainder are located on an undeveloped road reserve.
Industrial lots	None
Other lots	Public purposes (school) Parks & Recreation
Aboriginal Heritage	Yoolberup – Myth (Kinjarling Report) Mooilyup
Historic Heritage	Nil
Ownership	Residential land predominantly in private ownership RV2 zone part in crown ownership and part in private
Infrastructure	Manypeaks is located on the grid and harvest rainwater for potable supplies. Waste Water disposal is on site.
Function	Support agricultural hinterland Service centre
Future Development Potential	There is no future economic growth expectation for Manypeaks and there is unlikely to be any demand for additional residential or industrial land. The land zoned 'Rural Village' is considered suitable to meet the future growth needs of the town.

South Stirling	
The Place	South Stirling is a small community located 75km north-east of the City, situated at the foot of the Stirling Ranges. In the early 1950s the government opened up land in this area, and it was known as the "South Stirling's War Service Land Settlement Scheme". The town site was gazetted in 1959. The Stirling Range, from which the town site derives its name, was named in 1835 after the then Governor of Western Australia, Sir James Stirling.
Zone	Zoning in South Stirling is centred on public uses with a few sites zoned 'Residential'.
Settlement Pattern	Community node
Lot sizes	Rural
Community facilities	The community is centred on South Stirling Primary School with a community Hall and fire brigade shed.
Residential lots	There are 6 lots zoned 'Residential R5' of which one is developed. Four of these lots are crown land.
Industrial lots	Nil
Other lots	'Local Centre' zone
Aboriginal Heritage	No
Historic Heritage	No
Ownership	Predominantly crown land
Infrastructure	South Stirling is located on the grid and harvest rainwater for potable supplies with onsite septic disposal. A waste transfer station is located to the north of the town site where refuse is collected once a week.
Function	Community service centre
Future Development Potential	There are no economic or population growth envisaged for South Stirling.

Cheynes Beach	
The Place	Cheynes Beach is a small coastal settlement of holiday homes and a caravan park. The holiday homes are located on Reserve 878 and consist of 29 leases. A new lease term of 21 years commenced January 2016. In accordance with the terms of the Lease and the Management Order for the reserve, the permitted use under the lease is 'Holiday Accommodation'. The caravan park was originally part of the reserve but this has been excised and is now freehold land. The settlement is surrounded by Waychinicup National Park.
Zone	Parks and Recreation Reserve and one lot zoned 'Caravan & Camping'.
Settlement Pattern	Compact
Lot Sizes	Urban
Community facilities	Services at Cheynes Beach are limited. There is a small shop at the caravan park which supplies groceries and fuel.
Residential lots	Nil
Industrial lots	Nil
Other lots	Nil
Aboriginal Heritage	Yoolberup – myth (Kinjarling report)
Historic Heritage	The Cheyne Beach Whaling Company was formed in the early 1950s and soon after relocated to Frenchman Bay to what is the present day Historic Whaling Station.[282]
Ownership	Cheynes Beach is located on crown land. The caravan park is privately owned.
Infrastructure	Cheynes Beach is located on the grid and harvest rainwater for potable supplies with on-site septic disposal.
Function	Tourist Accommodation

[282] Albany Gateway 2016, Cheynes Beach. Available from http://www.albanygateway.com.au/towns/cheynes-beach/

Cheynes Beach	
Future Development Potential	For a number of years the City explored the expansion of the Cheynes Beach town site and the associated possibility of leasehold sites being converted to freehold title. Following preliminary investigation, this was not supported by Council for the following reasons: • costs involved in the purchase of a super lot and subdivision, required infrastructure upgrades, extension of services such as power supply and a sewerage treatment plan; • difficulties in the conversion to freehold, including; the new set backs on coastal development which would likely require the 18 ocean side sites be moved; and • financial burdens that would be placed on both the City of Albany and lessees as a result.

Kalgan	
The Place	The Kalgan Rural Village is located approximately 27km north east of the City and there is evidence that the locality was inhabited by Indigenous people up to 19,000 years ago. It was first settled by non-Indigenous people around 1831 when Governor Stirling granted land to Digory Geake with its northern boundary running up to Riverside Drive. In 1837 the area was gazetted as a town site and called Wyndham Town. The town site consisted of 518ha and encompassed land from Riverside Road northwards. The town site was subsequently reduced in size to 225ha in 1889 and in 1912 the name was changed to Kalgan town site.
Zone	'Rural Village' (RV1), 'General & Priority Agriculture' and one lot 'Local Centre'. Reserved for 'Parks and Recreation', one lot 'Public Use'.
Settlement Pattern	Dispersed pattern of settlement of rural lifestyle lots with a strong linear form along the Kalgan river and highway. A historic community node.
Lot Sizes	Urban
Community facilities	A local shop is located on South Coast Highway and a community hall on Wheeldon Road.
Residential lots	Approximately 56 rural lifestyle lots ranging in size from 3000m^2 to 20ha. Land has developed to the south and west of the gazetted town site boundary. There are approximately 16 undeveloped lots.
Industrial lots	Nil
Other lots	Conservation and recreation along the Kalgan River. A Parks and Recreation lot is located between agricultural lands.
Aboriginal Heritage	Kalgan River – Kinjarling report Significant archaeological artefacts scarred in area Kalgan River Fish Traps
Historic Heritage	The Upper Kalgan Hall. It was built in 1912 and was the centre for schooling, church services and social gatherings.
Ownership	Predominantly private ownership with land along the river reserved for conservation and/or recreational purposes.
Infrastructure	Kalgan is located on the grid and harvest rainwater for potable supplies with on-site septic disposal.
Function	Residential/Rural Service Centre, Local centre and General agriculture.

Kalgan	
Future Development Potential	Kalgan is zoned 'Rural Village' therefore requires the preparation of a Structure Plan prior to development occurring. The approved Kalgan Rural Village Structure Plan promotes subdivision in accordance with the *Government Sewerage Policy (2019)* which requires a minimum of 1ha lots within sewerage sensitive areas. Creation of lots below 2000m^2 to a maximum of 100 is supported within the historic village core (precinct 1) and south of the Kalgan River (precinct 2). This excludes the lots within the historic village core that may be supported subject to reticulated sewerage being provided; or an existing approved limited effluent scheme being in place. Master Planning of the historic village core and precinct 2 is anticipated to refine the Structure Plan.

Appendix 2: Rural Villages West - Torbay Hill, Elleker, Torbay, Youngs Siding, Redmond and Cuthbert

Torbay Hill	
The Place	Torbay Hill has over time grown into an agglomeration of Rural Residential lots and was never gazetted as a town site. The Woodbury Primary School and tourist accommodation is located within this town site too.
Zone	'Rural Residential', 'General Agriculture'
Settlement Pattern	Compact
Lot Sizes	Rural Residential
Community facilities	Woodbury Boston Primary School
Residential lots	Rural Residential
Industrial lots	Nil
Other lots	'Conservation' Zone, 'Hotel/Motel' Zone
Aboriginal Heritage	Nil
Historic Heritage	Nil
Ownership	Predominately private
Infrastructure	Torbay Hill is located on the grid and harvest rainwater for potable supplies with on-site septic disposal.
Function	Rural lifestyle and tourist accommodation
Future Development Potential	No further subdivision will be supported. Approximately 116 lots/houses have been counted in this locality where only 100 lots are supported under the draft Sewer Country Policy.

Elleker	
The Place	The town was planned by the Western Australian Land Company, who built the Great Southern Railway in 1886-1889. It was originally known as Lakeside, due to its proximity to Lake Powell, but did not develop initially. The Government purchased the railway in 1896, redesigned the town and gazetted it as Lakeside in 1899. The town emerged as a railway junction between the Torbay line, which served timber sawmills in the area, and the Great Southern railway, and it was renamed Torbay Junction in 1908. In 1921, it was renamed Elleker.
Zone	Rural Village 4 (RV4) along Lower Denmark Road with smaller agricultural lots zoned 'General Agricultural 'and larger lots zoned 'Priority Agriculture'.
Settlement Pattern	Compact
Lot Sizes	Urban
Community facilities	General store, tavern, Post Office, service station, oval and sport grounds, community hall, fire brigade station
Residential lots	'Rural Village' zone consist of 22 residential lots
Industrial lots	Nil
Other lots	Special Rural for general store and tavern.
Aboriginal Heritage	Yes
Historic Heritage	1240 Lower Denmark Road
Ownership	Private
Infrastructure	Elleker is located on the grid and harvest rainwater for potable supplies with on-site septic disposal.
Function	Residential/rural service centre
Future Development Potential	Subdivision within the 'Rural Village' zone may occur where an approved Structure Plan is in place. There is however, limited potential for economic and population growth. Land to north of the 'Rural Village' zone is constrained by the Marbellup Brook Water Source Protection Area. The *Government Sewerage Policy (2019)* requires a minimum of 1ha lots within sewerage sensitive areas.

Torbay	
The Place	The town site of Torbay is located in the Great Southern agricultural region, not far from the South coast, 20km west of the City. In 1889 a railway line was constructed through this area by Millars Karri and Jarrah Forests Ltd to transport timber from sawmills in the Torbay area, one of the stations on the line being named Torbay. Millars also held the land around the railway, and in 1899 when the good timber had been removed the land was acquired by the government. It was subdivided and released for agriculture in 1900, but land near the old station was reserved for future subdivision as a town site. This area was gazetted as the town site of Torbay in 1910. Torbay derives its name from the bay of the same name located on the coast just south of the town site. The bay was named in 1831 by Governor Stirling while exploring the area with Surveyor-General Roe. It is most likely named after Tor Bay on the coast of Devon, England. A tor is an isolated mass of rock, usually granite.
Zone	'General Agriculture' and reserved for 'Parks and Recreation'
Settlement Pattern	Compact
Lot Sizes	Rural
Community facilities	There is a hall, fire brigade and recreation facilities.
Residential lots	
Industrial lots	Nil
Other lots	Nil
Aboriginal Heritage	Nil
Historic Heritage	498 Hunwick South (Torbay Hall)
Ownership	Private
Infrastructure	Torbay is located on the grid and harvest rainwater for potable supplies with on-site septic disposal.
Function	Rural Residential
Future Development Potential	No Growth.

Youngs Siding	
The Place	The town site of Youngs Siding is located in the South coastal region, 34km west of the City. In 1889 Millars Karri and Jarrah Forests Ltd constructed a railway line from Torbay Junction (now Elleker) to Torbay, and in the mid 1890's Millars extended the line to Denmark. One of the sidings on the extended line was named Young's, and in 1903 the government set aside land at "Young's Siding" for a future town site. In 1911 the "Young's Siding and Lake Saidie Progress Association" requested the government make land available at Young's Siding. The land was very wet and low lying, and it was 1916 before any lots were surveyed. The town site of Youngs was gazetted in 1917, the siding being dropped from the name by a government decision. Although officially Youngs, local usage remained Youngs Siding, and in 1999 the name of the town site was amended to Youngs Siding. The name honours David Young 1825-1918, a farmer who took up land in the area in the 1850s and later farmed at Marbellup.
Zone	'Residential R5' (28 lots)
Settlement Pattern	Compact
Lot sizes	Urban
Community facilities	General store, recreation (oval), hall and fire brigade
Residential lots	30 Residential R5 lots
Industrial lots	Nil
Other lots	Local Centre
Aboriginal Heritage	Nil
Historic Heritage	Nil
Ownership	Private
Infrastructure	Kronkup rubbish tip. Youngs Siding is located on the grid and harvest rainwater for potable supplies with on-site septic disposal.
Function	Residential/Rural service centre
Future Development Potential	No growth

Redmond	
The Place	The town site of Redmond is located in the Great Southern agricultural region, 28km north west of the city. In 1912 the government opened a railway siding named Mulikupp, but changed the name the same year to Redmond. The following year the District Surveyor for the region advised there was settler demand for blocks in the area, and proposed a scheme of subdivision. A school was soon built at the siding, and in 1916 the town site of Redmond was gazetted. The reason for selection of the name Redmond, first for the station, and then the town site, is not known at present, but it is believed to honour John Edward Redmond (1856-1918), Irish nationalist leader and the leader of Irish Home Rule in the British Parliament.
Zone	'Residential R5' (23 lots)
Settlement Pattern	Compact
Lot Sizes	Urban
Community facilities	Hall, fire brigade, recreation
Residential lots	23
Industrial lots	Nil
Other lots	Additional use 'Shop'
Aboriginal Heritage	Yes Aboriginal Heritage Site
Historic Heritage	Nil
Ownership	Private
Infrastructure	Redmond is located on the grid and harvest rainwater for potable supplies with on-site septic disposal.
Function	Residential/rural service centre
Future Development Potential	No growth

Cuthbert	
The Place	Cuthbert is a town site on the western edge of the city. It was originally established as a siding on the Great Southern Railway in the 1890s, and named "Eastwood". In 1909 the government decided to subdivide land here, and when a name for the town site was sought Eastwood was unacceptable because it was already in use in three other Australian states. Alternative names of "Karajinup" and Atwell" were considered before the name "Werillup", an Aboriginal word meaning "place of swamps" was chosen and gazetted as the name of the town site in 1914. The Deputy Postmaster-General objected to Werillup, and the name "Cuthbert" was suggested as an alternative by the Secretary for Railways in 1915. The change of name was gazetted in September 1916, and the name is believed to honour an 1890s settler of the area.
Zone	'Residential R10'
Settlement Pattern	Compact
Community facilities	Nil
Residential lots	10
Industrial lots	Nil
Other lots	Nil
Aboriginal Heritage	Nil
Historic Heritage	Nil
Ownership	Private
Infrastructure	Cuthbert is located on the grid and harvest rainwater for potable supplies with on-site septic disposal.
Function	Residential
Future Development Potential	No growth

List of Abbreviations

ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
ABS	Australian Bureau of Statistics
ABC	Australian Broadcasting Corporation
AEC	Albany Entertainment Centre
ACPS	Activity Centre Planning Strategy
AHD	Australian Height Datum
ALPS (2010)	Albany Local Planning Strategy 2010
APEC	Albany Plantation Export Company
ARI	Average Recurrence Interval
ARVS	Albany Regional Vegetation Survey
AS	Australian Standard
ATU	Alternative Treatment Unit
BAL	Bushfire Attack Level
BFHMS	Bush Fire Hazard Mitigation Strategy
CBD	Central Business District
DC	Development Control Policy
DWSP	Drinking Water Supply Plan
EP	Environmental Protection
EPA	Environmental Protection Authority
ERP	Enterprise Resource Planning
FDI	Fire Danger Index
FIFO	Fly In Fly Out
GSDC	Great Southern Development Commission
GSRWS	Great Southern Regional Water Supply Strategy
GRP	Gross Regional Product
HA	Hectares
HCWA	Heritage Council of Western Australia
HQAL	High Quality Agricultural Land
HMAS	Her Majesty's Australian Ship
IRIS	Integrated Regional Information System Land Supply Model

KM	Kilometres
LGA	Local Government Area
LGSS	Lower Great Southern Strategy
LPG	Liquid Petroleum Gas
ALPS	Albany Local Planning Strategy
LPS1/the Scheme	Local Planning Scheme No.1
MCAS	Multi-Criteria Approach Shell
MHI	Municipal Heritage Inventory
MRIF	Metropolitan Region Improvement Fund
MRWA	Main Roads WA
MST	Model Scheme Text
MW	Megawatts
NBN	National Broadband Network
NLA	Net Lettable Area
OBRM	Office of Bushfire Risk Management
OLS	Obstacle Limitation Surface
PAL	Priority Agricultural Land
PDWSCA	Public Drinking Water Special Control Area
PHP	Public Health Plan
POS	Public Open Space
PIAF	Perth International Arts Festival
PV	Photovoltaic
R-AC	Residential- Activity Centre
REIWA	Real Estate Institute of Western Australia
RPT	Regular Public Transport
RR	Rural Residential Zone
RV	Rural Village
SA2	Statistical Area Level 2
SAT	State Administration Tribunal
SCA	Special Control Area
SCNRM	South Coast Natural Resource Management

SIA	Strategic Industrial Area
SPP	State Planning Policy
SU	Special Use
SWIN	South West Interconnected Network
SWOT	Strength, Weakness, Opportunities, Threats
TAFE	Technical and Further Education
TPS1A	Town Planning Scheme No.1A
UWA	University of Western Australia
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WACHS	Western Australian Country Health Service
WAPC	Western Australian Planning Commission
WSUD	Water Sensitive Urban Design
WWTP	Wastewater Treatment Plant
VHF	Very High Frequency

Glossary

Activity centres
Activity centres are hubs for activities associated with commercial, retail, entertainment, tourism, civic and community, higher education and medical services. Activity centres vary in size from the local or neighbourhood centres to large city centres. Increased residential densities and housing types both in and surrounding these areas can provide a local population to support businesses and provide employment opportunities. Increased housing enable centres to become hubs for high frequency public transport to multiple destinations.

Activity Centre Planning Strategy
An Activity Centre Planning Strategy provides a vision, goals and action plan for future development of activity centres. It considers the current state of activity, what activity is desirable in the future, and sets out a pathway to achieve the desired change. The purpose of a Strategy is to instigate transformational change in a different direction to the existing trajectory, while being grounded in the reality of what is possible or practical to achieve.

Acidification
Happens when a change in an environment's natural chemical balance caused by an increase in the concentration of acidic elements. Ocean acidification is a reduction in the pH of the ocean over an extended period of time caused by uptake of carbon dioxide from the atmosphere.

Agglomeration
Means a mass or collection of things; the action or process of collecting in a mass.

Amenity
A pleasantness or attractiveness of a place, any feature that provides comfort, convenience, or pleasure in a location.

Anecdotal
Not necessarily true or reliable, because based on personal accounts rather than facts or research.

Annual Exceedance Probability (AEP)

The likelihood of occurrence of a flood of given size or larger occurring in any one year. AEP is expressed as a percentage (%) and may be expressed as the reciprocal of ARI (Average Recurrence Interval). For example, if a peak flood discharge of 500 m3/s has an AEP of 5%, it means that there is a 5% risk (ie, a risk of one-in-20) of a peak flood discharge of 500 m3/s or larger occurring in any one year (see also Average Recurrence Interval**)**.

Attenuation basins
Detention basins are surface storage basins or facilities that provide flow control through attenuation of stormwater runoff. They also facilitate some settling of particulate pollutants. Basins tend to be used if extended treatment of the runoff is required or for wildlife or landscape reasons.

Blueprint
Great Southern Regional Investment Blueprint

Bushfire Attack Level BAL
In April 2016 the government introduced increased bushfire housing standards. The building requirements for house design and construction vary according to the Bush Fire Attack Level that a development falls into. The building requirements for each BAL are set out in Australian Standard: 3959 Construction of buildings in bushfire- prone areas.

Break bulk commodities
In shipping, break bulk cargo or general cargo are goods that must be loaded individually, and not in intermodal containers or in bulk as with oil or grain. Ships that carry this sort of cargo are often called general cargo ships

Carbon farming
Managing soil, vegetation, water and animals to increase carbon storage or reduce greenhouse gas emissions or which captures and holds carbon in vegetation and soils.

Ceded
Means to give control of land to another person or government.

Convenience goods
Convenience goods are day-to-day items such as groceries, pharmaceuticals and fast food.

Commodity
There are three commodity crops mainly corn, soybeans and wheat. Cotton and other crops are included basically any crop that can be easily traded, stored for a long time, and grown in large quantities.

Comparative advantage
Comparative Advantage is the ability to carry out activity more efficiently than another activity. Specialisation should occur in producing and exporting goods in which it has a comparative or relative cost advantage over others.

Comparison goods
Comparison goods are items where consumers are willing to travel further distances, and are bought less frequently such as clothing, furniture, electronics or other household items.

Competitive advantage
Competitive Advantage is the ability to create jobs locally, both the size and growth of the industry is important.

Compulsory acquisition
Is the power of government to acquire private rights in land without the willing consent of its owner or occupant in order to benefit society.

Decentralised energy
Is generated or stored by a variety of small, grid-connected devices referred to as distributed energy resources or distributed energy resource systems.

Development contribution plans
Is a mechanism used to levy new development for contributions to planned infrastructure needed by future communities. Council collects development contribution levies from new development through an approved DCP. An approved DCP forms part of a planning scheme.

Diversification
Farm diversification is the introduction of a new business activity to generate another source of farm-based income. The new or additional farming enterprise may be agricultural, such as a new crop or animal, or non-agricultural, such as agri-tourism or on-farm processing of food.

Ethnographic
Ethnographic research is the investigation of a culture through an in-depth study of the members of the culture, it involves the systemic collection, description, and analysis of data for development of theories of cultural behaviour.

Eutrophication
Eutrophication occurs when excessive fertilisers run into lakes and rivers. This encourages the growth of algae (algal bloom) and other aquatic plants. Following this, overcrowding occurs and plants compete for sunlight, space and oxygen.

Flood conveyance
The transport of floodwaters downstream, while allowing flow and debris to pass with little if any damage.

Finite
Means something is of limited size or extent.

Heat plumes
Or a thermal plume is one which is generated by gas rising above heat source. The gas rises because thermal expansion makes warm gas less dense than the surrounding cooler gas.

Historicity
Is the historical actuality of persons and events, meaning the quality of being part of history as opposed to being a historical myth, legend or fiction.

Impervious soils
A very fine-grained soil, such as clay or compacted loam that is so resistant to water penetration that slow capillary creep is the only means by which water can enter.

Improvement area
Is a geographic area in a municipality and are strategic instruments used to facilitate the development of land.

Infill development
Is the process of developing vacant or under-used parcels within existing urban areas that are already largely developed.

Local industries
Local industries provide goods and services for a local population catchment. They therefore tend to be distributed evenly with population and growth in these industries responds to local population increases.

Municipal Heritage Inventory
Is a survey of heritage places in the City, to identify and record cultural heritage places including trees.

Noxious Industry
Any industry that could be harmful, or offensive in smell, chemical waste, incineration.

Permeability
Describes the property of a material that lets fluids such as water to pass through it, especially the ability of a porous rock, sediment or soil to transmit fluid through pores and cracks.

Periphery
Refers to the outer edge of an area.

Potable water
Water that is safe to drink or to use for food preparation, without risk of health problems. Where non-potable water is not safe for human drinking water.

Reticulated sewerage
Refers to the system of pipes, sewers and drains that are used to convey sewage from a property to a sewage treatment plant.

Riparian vegetation
Is the interface between land and a river or stream. Plant habitats and communities along the river margins and banks are called riparian vegetation.

Shallow-sided retention basins
Is used to manage stormwater runoff to prevent flooding and downstream erosion, and improve water quality in an adjacent river, stream, lake or bay. It is distinguished from a detention basin which temporarily stores water after a storm.

Social infrastructure
Includes building for social services like schools, universities, hospitals, prisons and community housing.

Spat
A baby oyster, mollusc seed or juvenile fish species.

Spatial
Spatial describes how objects fit together in space, relating to the occupying, or having the character of space.

Special control area
Is a mechanism used to protect an area from noise, odour or to protect a source like drinking water. Development in the areas may be restricted in certain ways. The use of height restrictions and buffers are the main forms of control.

Survivability
Is the ability of a plant species to remain alive within the environment.

Swales
Is a low tract of land, especially one that is moist or marshy. Artificial swales are often designed to manage water runoff, filter pollutants, and increase rainwater infiltration.

Terminus
Means a final space or time, the end of a journey.

Terrestrial
Means relating to the earth or on dry land.

The City
Refers to the City of Albany and includes surrounding areas.

Traded industry
Traded industries provide goods and services for markets beyond their immediate catchment. They therefore tend to locate in areas that provide comparative advantages, such as access to resources, inputs, labour or markets. As export orientated industries they respond to wider market drivers rather than local population increases. Growth in traded industries provides the conditions for wider population and economic growth.

Urban consolidation
Refers to a diverse set of planning policies intended to make better use of existing urban infrastructure by encouraging development within existing urbanised areas (called brownfield sites) rather than on non-urbanised land (greenfield sites) thus limiting urban sprawl.

Urban sprawl
Describes the expansion of human populations away from central urban areas into low-density, and usually car-dependent communities, in a process called suburbanization.

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