

City of Greater Geraldton Local Planning Strategy

Part Two – LOCAL PROFILE AND CONTEXT REPORT

(Supplementary Information)

- Environmental Profile
- Transport Planning Report
- Economic Research Paper



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LIST OF ACRONYMS

ABS	Australian Bureau of Statistics
CGG	the City of Greater Geraldton
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DBCA	Department of Biodiversity, Conservation and Attractions
JTSI	Department of Jobs, Tourism, Science and Innovation
DMIRS	Department of Mining, Industry Regulation and Safety
DPIRD	Department of Primary Industries and Regional Development
DPLH	Department of Planning, Lands and Heritage
DWER	Department of Water and Environmental Regulation
MRWA	Main Roads Western Australia
MWDC	Mid West Development Commission
MWPA	Mid West Ports Authority
ONIC	Oakajee Narngulu Infrastructure Corridor
SPP	State Planning Policy
WAPC	Western Australian Planning Commission

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1 INTRODUCTION

This *Local Profile and Context Report* provides information on the City of Greater Geraldton (the **CGG**). It is a component of the suite of 'Part 2' documents for the 2015-endorsed *Local Planning Strategy*. It also can be read as a stand-alone document that summarises the planning, development and community context of the CGG. This *Report* is available as a common and consistent background document which could be adopted and used by any organisation that is involved in future planning within the CGG.

The CGG would like to promote consistency across the range of organisations and stakeholders involved in planning for the future of the local government area, and growth assumptions in moving forward. It also forms part of the endorsed *Local Planning Strategy* and is used for the purpose of reference information.

1.1 STRUCTURE OF THE REPORT

This *Local Profile and Context Report* is structured having regard to the four major goals of the *Community Strategic Plan* which are Community, Environment, Economy and Governance. This ensures strong alignment between the community's vision, aspirations and objectives and their direct reflection within the City's *Local Planning Strategy* and thus its local planning framework. **Table 1** outlines matters discussed under each goal.

Table 1 Report Structure under four major goals of the Community Strategic Plan 2017-2027

GOVERNANCE	ENVIRONMENT	COMMUNITY	ECONOMY
State and Regional Planning Context	Landform and Landscape Systems	Population and Housing	Economy and Employment
Local Planning Context	Climate	Recreation and Open Space	Retail and Commerce
	Natural Environmental Features	Community Facilities	Tourism and Visitors
	Bushfire	Urban Design, Character/Culture and Heritage	Rural Land Use, Subdivision and Development
	Soils		Traffic and Transport
	Biodiversity Conservation		Infrastructure Services
	Natural Heritage		
	Water Management		

1.2 BACKGROUND

In 2013, the City embarked upon its first local planning strategy to represent its land use planning response to the City's strategic community vision of the time. The City's *Local Planning Strategy* took a long-term view based on an aspirational population of 100,000 people in order to achieve the best possible regional outcomes. The City's *Local Planning Strategy* was an effort to ensure that planning kept pace with not only the cultural aspects of regional life, the community's desire for continuous improvement to their quality life, and also the coordination of investment by government and the private sector. The City's *Local Planning Strategy* was endorsed by the Western Australian Planning Commission (WAPC) in November 2015, with the new Local Planning Scheme No. 1 gazetted in December 2015.

The original *Local Profile and Context Report* was prepared for the City by Aurecon Australia Pty Ltd in 2013. It contained relevant information for the local profile and sources of more detailed information. The review of the *Local Profile and Context Report* includes 2016 ABS census data and recent documents. The comprehensive list of information sources is contained within the Bibliography section at the end of this report. It is important to note that information is taken from a particular point in time and reflects on the availability, content and timeframe of existing reports.

The *Report* has been structured having regard to the requirements outlined in the *Local Planning Manual* (WAPC, 2010) as a Part 2 – Background information and analysis report. It is supplemented by the:

- *Environmental Profile* (Essential Environmental 2014);
- *Transport Planning Report* (Donald Veal Consultants 2014); and
- *Economic Research Paper* (Taylor Burrell Barnett 2014).

As part of undertaking this review, no modifications were made to the above-mentioned supplementary reports of the *Local Planning Strategy*.

The growth of the City through infill development and urban expansion will place pressure on available land, infrastructure and services, community facilities, and the movement network. The City's *Local Planning Strategy* already has set in place a direction for growth, which was aligned to the strategic vision of the City as a whole. Key considerations and issues are outlined within the chapters of the *Local Profile and Context Report*. The review of the *Local Profile and Context Report* will help ensure information underpinning the *Local Planning Strategy* remains relevant and accurate.

1.2.1 REGIONAL OVERVIEW

The City of Greater Geraldton (CGG) is located in the Mid West region. It contains extensive agricultural areas whilst its urban footprint is generally oriented to the coastline. The Mid West region is almost one fifth of the land area of Western Australia and includes 17 local governments divided into three sub-regions: the Batavia Coast, North Midlands and the Murchison.

The Mid West economy is dominated by mining, but has major contributions from manufacturing, construction, rental, hiring and real estate services and agriculture, forestry and fishing (ABS, 2017). The region has significant resource prospects, with exploration activity and project proposals across the region. Realisation of these projects will affect the rate of growth and the nature of development within the CGG, particularly due to impacts on employment, demand for water and infrastructure, and freight movements. The physical position of the CGG in a State context means road, rail and port infrastructure is critical for regional and state economic function, with substantial throughput activity.

1.2.2 CITY OF GREATER GERALDTON LOCAL GOVERNMENT AREA

The City of Greater Geraldton was formed on 1 July 2011 with the amalgamation of the Shire of Mullewa and the City of Geraldton-Greenough. The City of Geraldton-Greenough itself was the result of a prior amalgamation between the City of Geraldton and Shire of Greenough, which occurred in 2007. The City of Greater Geraldton covers an area of 9,909km² (ABS, 2017), extending from the coast to approximately 170km inland. The City's local government area increased in size due to amendments to local government boundaries which shifted the Houtman Abrolhos Islands into the City of Greater Geraldton district.

The Greater Geraldton local government area is bound by the Indian Ocean to the west and to the north, east and south by Shires including Chapman Valley, Murchison, Yalgoo, Morawa, Mingenew and Irwin (refer **Figure 2**). Geraldton has regular air services via Geraldton Airport and bulk and commodity imports/exports via Geraldton Port.

Geraldton is the main population and regional centre. Mullewa and Walkaway are secondary population and service centres within the district. Other settlements include the historic Central Greenough settlement and the Wandanooka Aboriginal community north of Mullewa. Other gazetted townsites include Narngulu, Eradu, Pindar, Tardun, Tenindewa and Wilroy. Narngulu is now a major industrial area on the outskirts of Geraldton. The remaining townsites are historical railway sidings with limited or no development, aside from grain collection and rail infrastructure.

Across this area there is a diversity of landscape, environmental characteristics, lifestyle and heritage attributes from the more densely settled coastal areas to agricultural areas and the pastoral hinterland. The local government area includes highly valued environmental and cultural features, including the Houtman Abrolhos islands, a spectacular coastline, the unique and important Moresby Range, and a hinterland awash with wildflowers during spring. It also has important Indigenous, maritime and built heritage features further described in **section 9** of this report. This diversity is recognised in this *Local Profile and Context Report* and reflected in the City's key strategic documents.

1.2.2.1 GERALDTON

Geraldton is a coastal city located 424km north of Perth and is a regional hub and the focus of commercial, industrial and community activity for the Mid West. Together with southern sections of the Shire of Chapman Valley (including the future Oakajee Port location and Industrial Estate), it is the area subject to the most intense development pressure within the Mid West region.

The City's governance structure is based on seven wards: Champion Bay, Chapman, Hills, Mullewa, Port, Tarcoola and Willcock. Two Councillors represent each ward and the Mayor represents the district. The suburbs within the Geraldton urban area are depicted in **Figure 1** (right) and for the whole City in **Figure 2**. An aerial photograph of Geraldton is shown at **Figure 3**.

Geraldton orients to the coastline and stretches from Drummond Cove to the north to Cape Burney to the south. The Moresby Ranges provide a scenic backdrop to the town. The urban area is also contained by the Narngulu Industrial area and the Geraldton Airport to the east, and higher quality agricultural land to the south.

As a regional centre, any decisions that are made for how Geraldton develops, and the services and facilities it offers, have broader implications. Planning for the city's orderly growth in the longer term has been made with regard to a number of significant

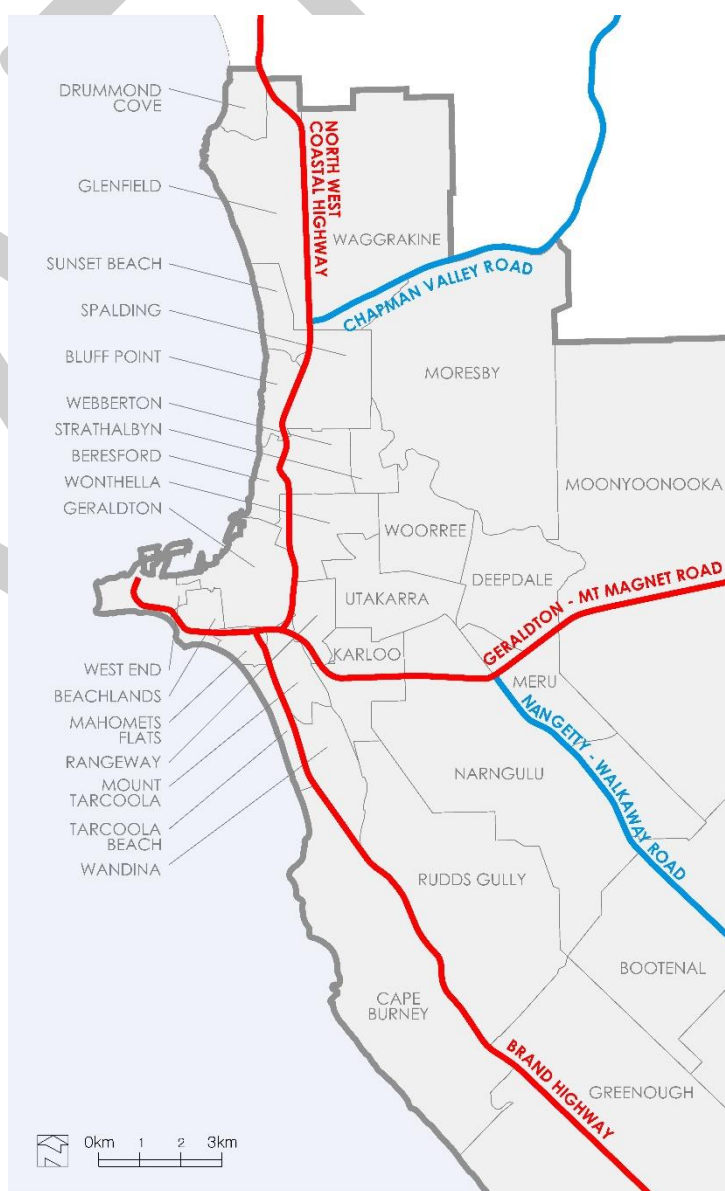


Figure 1 Geraldton urban area

regional economic and infrastructure projects, such as:

- Oakajee Port and industrial area;
- the Oakajee Narngulu Infrastructure Corridor;
- road, power and communication infrastructure network and service improvements; and
- the cumulative impact of mining activity across the region.

Each of these projects have parameters and timeframes which are under constant review, thereby challenging city growth assumptions and the delivery of orderly planning. This includes estimates of local populations, land use demand and development triggers, and coordinated forward planning for projects and servicing needs.

DRAFT

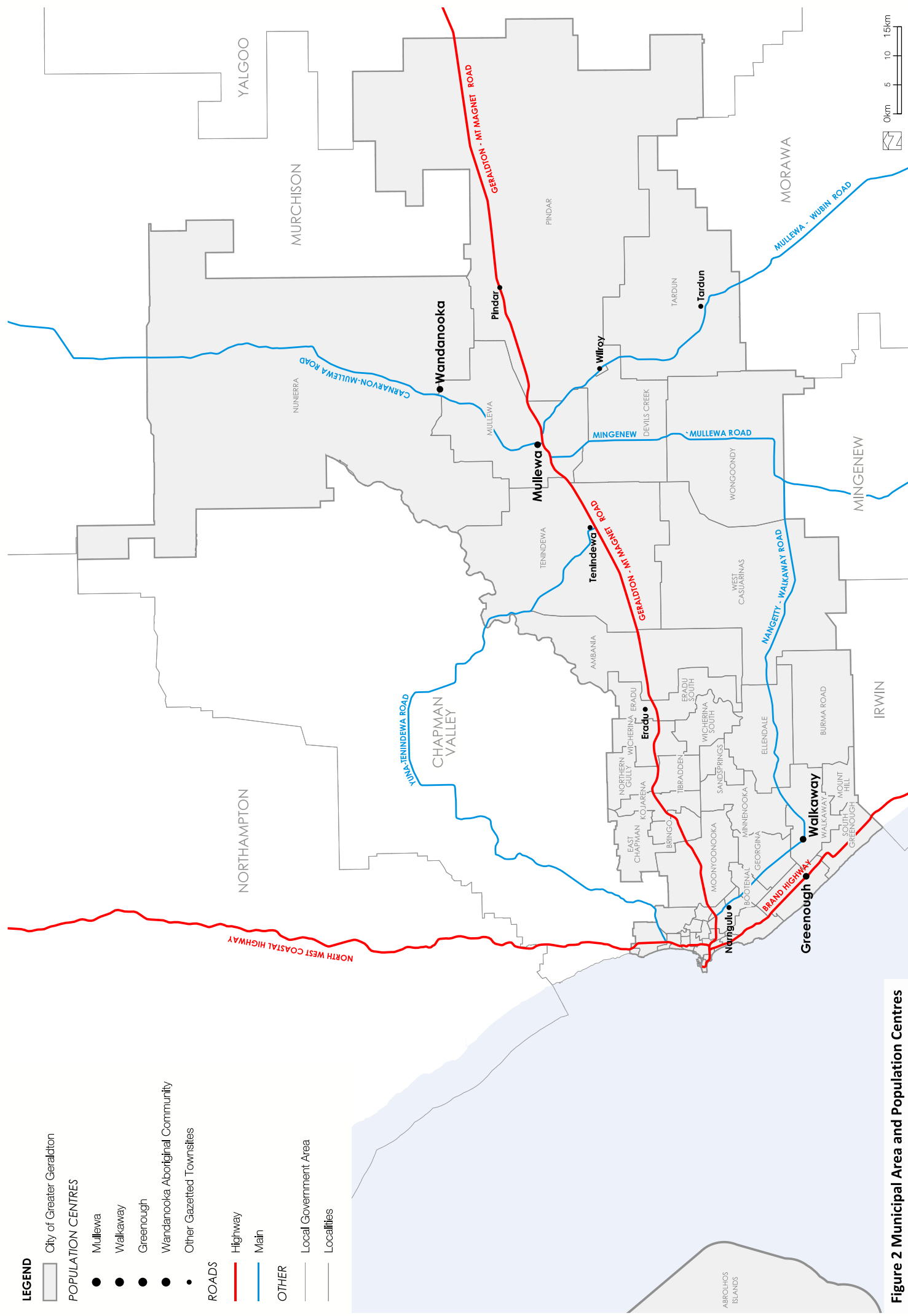


Figure 2 Municipal Area and Population Centres

1.2.2.2 MULLEWA

Mullewa is an inland town 96km east of Geraldton, and the meeting point for the east-west Geraldton-Mt Magnet Road; the Carnarvon – Mullewa Road; and the Mullewa – Wubin Road. It is the northern boundary of the Wildflower Way, a tourist wildflower route through to Morawa, Dalwallinu and Perth. 'Moola-wa' was the name of a small valley towards the north-western boundary of the Badimia Aboriginal people. A permanent spring there became the base for a shepherd's camp, one of many established as European settlement expanded after 1850. In 1894 the government constructed a railway from Geraldton to Mullewa and gazetted an Agricultural Area and the town.

The town has a number of social and economic challenges although the community and government continue to work towards improving local standards of living, economic and employment opportunities.

1.2.2.3 WALKAWAY

Walkaway is a small rural service town approximately 30km south-east of Geraldton. It provides residential, recreation, education, and community services to the surrounding rural area. The Walkaway village was at its peak in earlier years in conjunction with the operation of the Midlands Railway; however, there has been little growth in Walkaway for a number of years. It has some opportunities for consolidation and intensification within the constraints of the Greenough River floodplain, and some additional rural living opportunities in the vicinity of the town.

1.2.2.4 CENTRAL GREENOUGH

Central Greenough, located 24 kilometres south of Geraldton, is a small hamlet that contains settler heritage buildings and places on the Greenough Flats and is an area of tourist interest. It is important to protect and enhance the heritage values and character of this area, which in turn will help maintain its important tourism function.

1.2.2.5 RURAL AREAS

Broad acre agriculture is the predominant land use activity across the balance of the local government area. Small areas of irrigated agriculture occur in proximity to Geraldton; and pastoral grazing occurs in the rangelands in the eastern and north-eastern areas beyond Mullewa. Resource activity within the local government area includes iron ore mining at Talling Peak; solar and wind farms to the south east of Geraldton, and smaller mineral extraction projects. In the eastern sector of the district, the land is used for pastoral activity.



GOAL: GOVERNANCE

We value an open and trusting relationship between the community, Local Government and other decision makers.

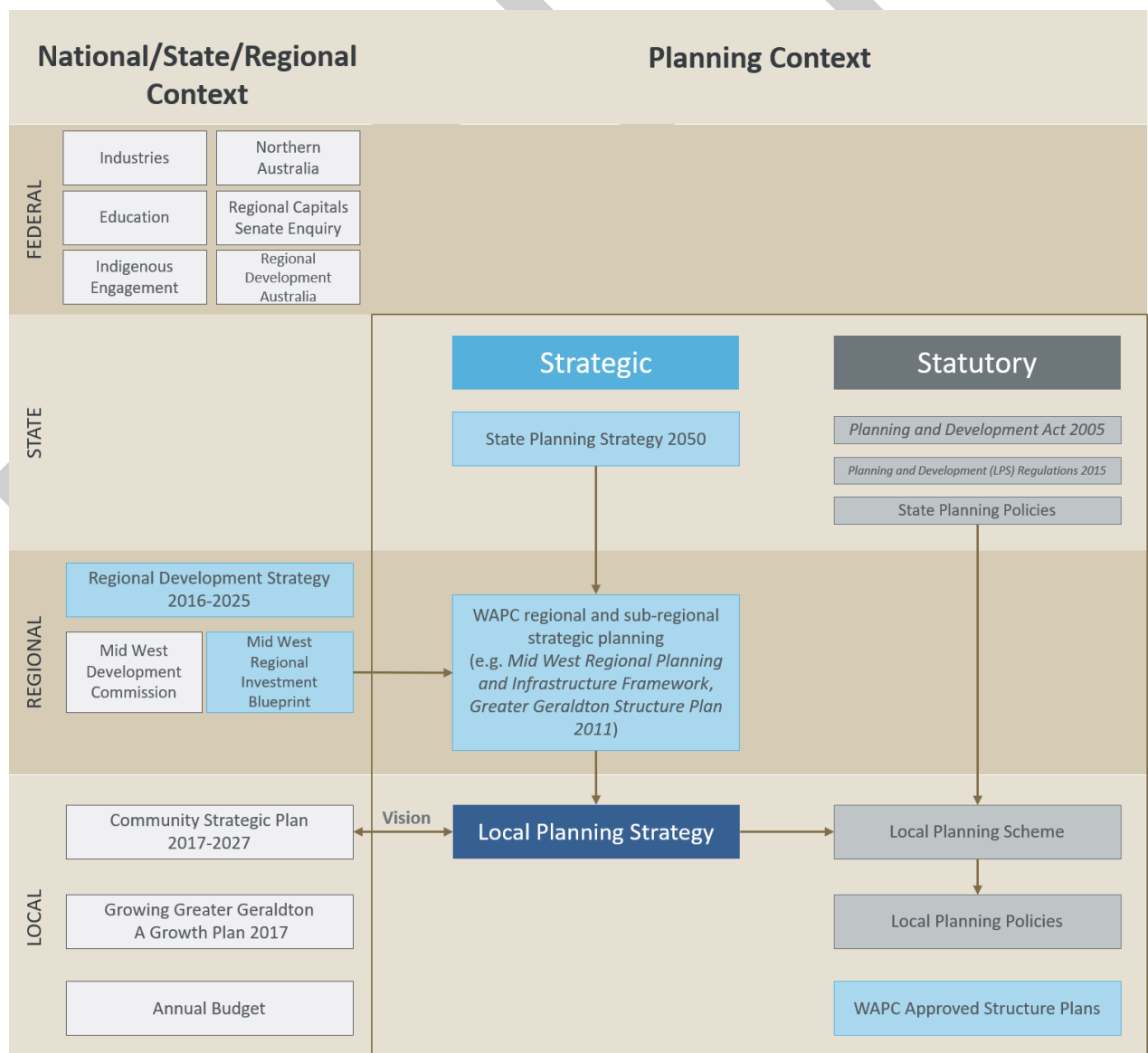


2 STATE AND REGIONAL PLANNING CONTEXT

This Chapter outlines the existing State and Regional literature, projects and policies relevant to the CGG (as shown in **Figure 4**). This State and Regional Planning Context has been prepared to cover:

- *State Planning Strategy 2050*;
- State Planning Framework;
- State Planning Policies;
- *Regional Development Strategy*;
- *City of Greater Geraldton Local Planning Strategy*; and
- *Greater Geraldton Structure Plan 2011*.

Figure 4 The Planning Framework



2.1 STATE PLANNING STRATEGY 2050

The *State Planning Strategy 2050* (WAPC, 2014) is an overarching document that is based on a framework of planning principles, strategic goals and State strategic directions. It is based on a vision to 2050 of sustained growth and prosperity. The purpose and function of the *State Planning Strategy 2050* (WAPC, 2014) is to plan for sustained growth leading toward global competitive advantages, strong and resilient regions, high capacity and adaptive infrastructure, and the conservation and management of natural assets with sustainable communities. The *State Planning Strategy* (WAPC, 2014) *2050* outlines a number of interrelated and interdependent State strategic goals that will influence the future development of Western Australia and these are applicable to the Mid West region:

1. **Community:** enabling diverse, affordable, accessible and safe communities;
2. **Economy:** facilitating trade, investment, innovation, employment and community betterment;
3. **Environment:** conserving the State's natural assets through sustainable development;
4. **Infrastructure:** ensuring infrastructure supports development;
5. **Regional development:** building the competitive and collaborative advantages of the regions; and
6. **Governance:** building community confidence in development processes and practices.

The *State Planning Strategy 2050* (WAPC, 2014) divides Western Australian into three sectors – Northern, Central and South West. The City of Greater Geraldton is within the Central sector. The Central sector is recognised for a growing and diverse economy underpinned by mining, agriculture, fisheries and tourism, all of which are reflected in the district. Importantly, the Central sector is poised to become a significant contributor to the nation's mining, scientific, technological, research and innovation industries by 2050 (WAPC, 2014). Geraldton is also regarded to offer strong lifestyle alternatives to Perth and has substantial growth potential with the investment of appropriate infrastructure.

The *State Planning Strategy 2050* provides the strategic context for the *Mid West Regional Blueprint* (refer **section 2.4.2**) and envisages investment into strategic priority projects through the *Mid West Investment Plan* (refer **section 2.4.3**), designed to have an impact across the region through to the year 2021.

2.2 STATE PLANNING POLICIES (SPP)

State Planning Policies (SPPs) provide the highest level of planning policy control and guidance in WA. SPPs are prepared under Part 3 of the *Planning and Development Act 2005*. Local Governments must have due regard to SPPs in preparing local planning schemes and local planning strategies. The following SPPs have been considered as part of the preparation of the *Local Planning Strategy* and this *Local Profile and Context Report*.

- SPP 1: *State Planning Framework* (Variation 3) (2017);
- SPP 2: *Environment and Natural Resources Policy* (2003);
- SPP 2.4: *Basic Raw Materials* (2000);
- SPP 2.5: *Rural Planning* (2016);
- SPP 2.6: *State Coastal Planning* (2013);
- SPP 2.7: *Public Drinking Water Source Policy* (2003);
- SPP 2.9: *Water Resources* (2006);
- SPP 3: *Urban Growth and Settlement* (2006);
- SPP 3.1: *Residential Design Codes* (2018);
- SPP 3.2: *Aboriginal Settlements* (2011);
- SPP 3.4: *Natural Hazards and Disasters* (2006);
- SPP 3.5: *Historic Heritage Conservation* (2007);
- SPP 3.6: *Development Contributions for Infrastructure* (draft 2017);
- SPP 3.7: *Planning in Bushfire Prone Areas* (2015);

- SPP 4.1: *Industrial Interface* (draft 2017);
- SPP 5.2: *Telecommunications Infrastructure* (2015);
- SPP 5.4: *Road and Rail Noise* (draft 2017); and
- SPP 7: *Design of the Built Environment* (draft 2016), (associate draft policies include *Liveable Neighbourhoods* (draft 2015), *Apartment Design* (draft 2016)).

Details of the State Planning Policies and how they relate to this *Local Planning Strategy* are contained in **Appendix A**.

2.3 REGIONAL AND SUB-REGIONAL STRATEGIC LAND-USE PLANNING

2.3.1 MID WEST REGIONAL PLANNING AND INFRASTRUCTURE FRAMEWORK

The *Mid West Regional Planning and Infrastructure Framework* (WAPC, 2015) will guide regional strategic planning in the Mid West, to help coordinate policy and planning. It is subordinate to the *State Planning Strategy 2050* (WAPC, 2014) and has a similar level of importance as a regional strategy. The *Framework* vision for the Mid West is:

- *Be a significant region in Western Australia in which to live, work and invest;*
- *Continue to support vibrant communities that will play a vital role in developing the region as an economic hub and protect its significant environmental attributes while enhancing liveability and promoting diverse employment opportunities; and*
- *Develop as a strategic region in the State through the collaborative effort of its three sub-regions.*

The vision is underpinned by five strategic goals:

1. A globally competitive region;
2. A strong and resilient Mid West region;
3. Sustainable communities;
4. Infrastructure planning and coordination; and
5. Conservation.

As noted in **Figure 5** key elements from the *Framework* map applicable to the City of Greater Geraldton include:

- An activity centres framework and settlement hierarchy that identifies Geraldton as the regional city, Mullewa as a major local centre and Walkaway as a local centre;
- Geraldton Port as a regional port;
- Oakajee as a proposed regional port (within the Shire of Chapman Valley but adjacent to the City's border);
- The Dampier to Bunbury Gas Pipeline and east-west Mid West Pipeline alignments;
- Potential infrastructure corridors alignments between Geraldton, Mullewa and Yalgoo, Mullewa and Meekatharra, Mullewa and Morawa, and Geraldton and Dongara;
- the proposed OPR rail alignment and ONIC;
- Mid West energy project stage 2 – proposed transmission network improvements (indicative); and
- Square Kilometre Array 150km-250km Radio Quiet Zone.

A number of potential Mid West infrastructure projects were identified in the *Framework* (WAPC, 2015) that may be important from the region's perspective to facilitate further economic and population growth. These will be important to review to ensure alignment with the Mid West's future direction of economic and population growth.

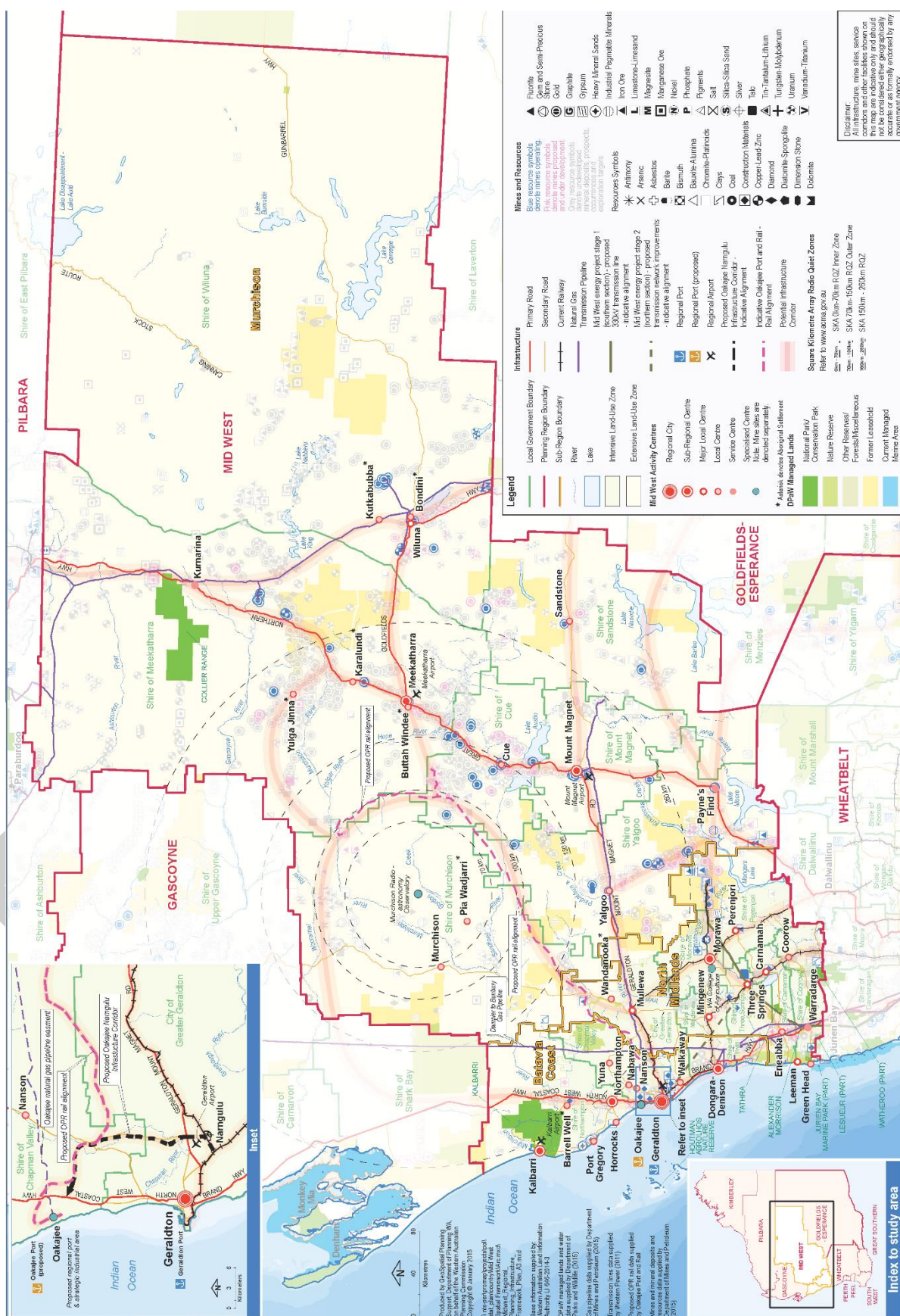


Figure 5 Mid West Regional Planning and Infrastructure Framework Map (WAPC, 2015)

2.3.2 DRAFT GUILDERTON TO KALBARRI SUB-REGIONAL PLANNING STRATEGY

The draft *Guilderton to Kalbarri Sub-regional Planning Strategy* (DPLH, 2017) was released by the WAPC for public submissions until 5 February 2018. It is prepared as an overarching planning document that guides future planning and development of coastal lands within the Shires of Gingin, Dandaragan, Coorow, Carnamah, Irwin, Northampton and the City of Greater Geraldton. Its primary aim is to manage and plan for growth along the coastal zone from the northern extent of the Perth metropolitan region to Kalbarri. It establishes a number of WAPC policy positions that it would have regard to decision-making. These policy positions aim to use available data for encouraging good land use planning outcomes for the established and emerging settlements, and to encourage development within these settlements having regard to known constraints. In particular it aims to limit future rural residential development where there are known bush fire risks, environmental and basic raw material impacts.

The *Sub-regional Planning Strategy* aims to promote a whole-of-government approach in order to integrate land use planning to provide for population and economic growth in a sustainable manner. It sets policy statements relating to planning matters relevant to the sub-region and identifies future actions for the WAPC to undertake.

Geraldton is recognised as the regional city to have a potential population of 96,000, which corresponds with the City's aspiration for a 100,000 population in the city (DPLH, 2017).

Proposed WAPC Future Actions in the draft Strategy applicable to the City would include:

1. Investigate the potential to extend the Geraldton Regional Flora and Vegetation Survey project to include other areas experiencing pressure for development within the study area.
2. Prepare an assessment of the projected non-residential public needs in the Guilderton to Kalbarri sub-region, including developing and driving a land assembly process to identify and assemble land for non-residential public uses.
3. Research the impact of seasonal tourism on local services and infrastructure.
4. Assist local governments to implement options for planned and managed coastal retreat, where this option is identified as appropriate under a relevant CHRMAP (refer **section 4.1.4**).
7. Assist in the preparation of tourism strategies that can provide guidance to local planning strategies on issues including:
 - o Tourism assets, including amount and locations of zoned land, potential locations of future tourism land;
 - o Tourism zoned land and tourist accommodation capacity, including an assessment of the private holiday rental market;
 - o Infrastructure capacity, constraints, gaps (power, water and sewerage limits) and opportunities; and
 - o Protection of caravan parks.
10. Investigate the need for a study to identify future demand for a passenger rail service between Perth and Geraldton that services or passes nearby coastal towns.
11. Prepare a sub-regional strategy for the Mid West's Batavia Coast sub-region.
12. Develop planning guidance that can be used in local planning schemes to provide a flexible approach for the planning and development of aged-care sites.

13. Prepare an assessment of the conservation values of the Guilderton to Kalbarri sub-region, with a specific focus on informing future land use planning decisions and policy and in consultation with relevant government agencies and authorities.

As the WAPC progresses these actions, there will be a need to consider implications for future reviews or Amendments to the City's *Local Planning Strategy*.

2.3.3 GREATER GERALDTON STRUCTURE PLAN 2011

The *Greater Geraldton Structure Plan 2011* (WAPC, 2011) is the incumbent spatial plan to inform the City of Greater Geraldton's *Local Planning Strategy*. The *Greater Geraldton Structure Plan 2011* includes portions of the CGG and the Shire of Chapman Valley and helps coordinate development and growth within the structure plan area (refer **Figure 6**). Whilst the *Greater Geraldton Structure Plan 2011* was intended as an interim measure until local governments had prepared local planning strategies, the CGG favours retention of the *Greater Geraldton Structure Plan 2011* so it is supported with more detail provided in the City's *Local Planning Strategy*. Local planning strategies are not recognised or held in as high regard as forward planning tools by other agencies in the same way as an endorsed WAPC structure plan. The retention of the *Greater Geraldton Structure Plan 2011* with complementary detail in the City's *Local Planning Strategy* may go some way to retain cross-agency coordination.

The extent of the Geraldton urban area was identified in the *Greater Geraldton Structure Plan 2011* via Oakajee to the north; the Moresby Range, Narngulu industrial area and Geraldton Airport to the east; high quality agricultural land to the south; and the Indian Ocean coastline to the west.

Within the CGG, the *Greater Geraldton Structure Plan 2011* identified urban and future urban land (WAPC, 2011). The audit of land available at a variety of residential densities (R10, R20 and R30) was undertaken to determine potential dwelling yields. The audit concluded that there was adequate urban and future urban land available to accommodate a population of more than 100,000 people. This audit has since been updated and contained in the *Central Regions Land Capacity Analysis*, refer to **section 6.1.3.2**.

The *Greater Geraldton Structure Plan 2011* recognised the role that rural living performs in providing an alternative lifestyle opportunity, as a zone of transition between urban and rural areas and adding to the City's sense of place. Some of the rural living land is within the Urban Area, to help limit encroachment into the rural hinterland or consumption of higher versatility agricultural land (CGG, 2015).

Industrial and future industrial land was also considered through the *Greater Geraldton Structure Plan 2011*. Land within the Narngulu industrial area is regarded for general and light industrial development, whilst Oakajee is considered a focus for strategic industry. Development of Oakajee is dependent on investment into delivering services, roads and rail to the future deep-water port and industrial area, via the Oakajee Narngulu Infrastructure Corridor. A rapid transport route through the Geraldton urban area to Oakajee is also identified. This would provide an important public transport service that would link the Geraldton urban area from north to south.

A number of areas were identified in the *Greater Geraldton Structure Plan 2011* as Development Investigation Areas. These Development Investigation Areas, with further refinement, form the basis for those identified on the strategy plans in the City's *Local Planning Strategy*. In turn, it is anticipated that future opportunities for the Development Investigation Areas would be through detailed studies and investigations, and potentially through scheme amendments or structure plans to guide future use and development.

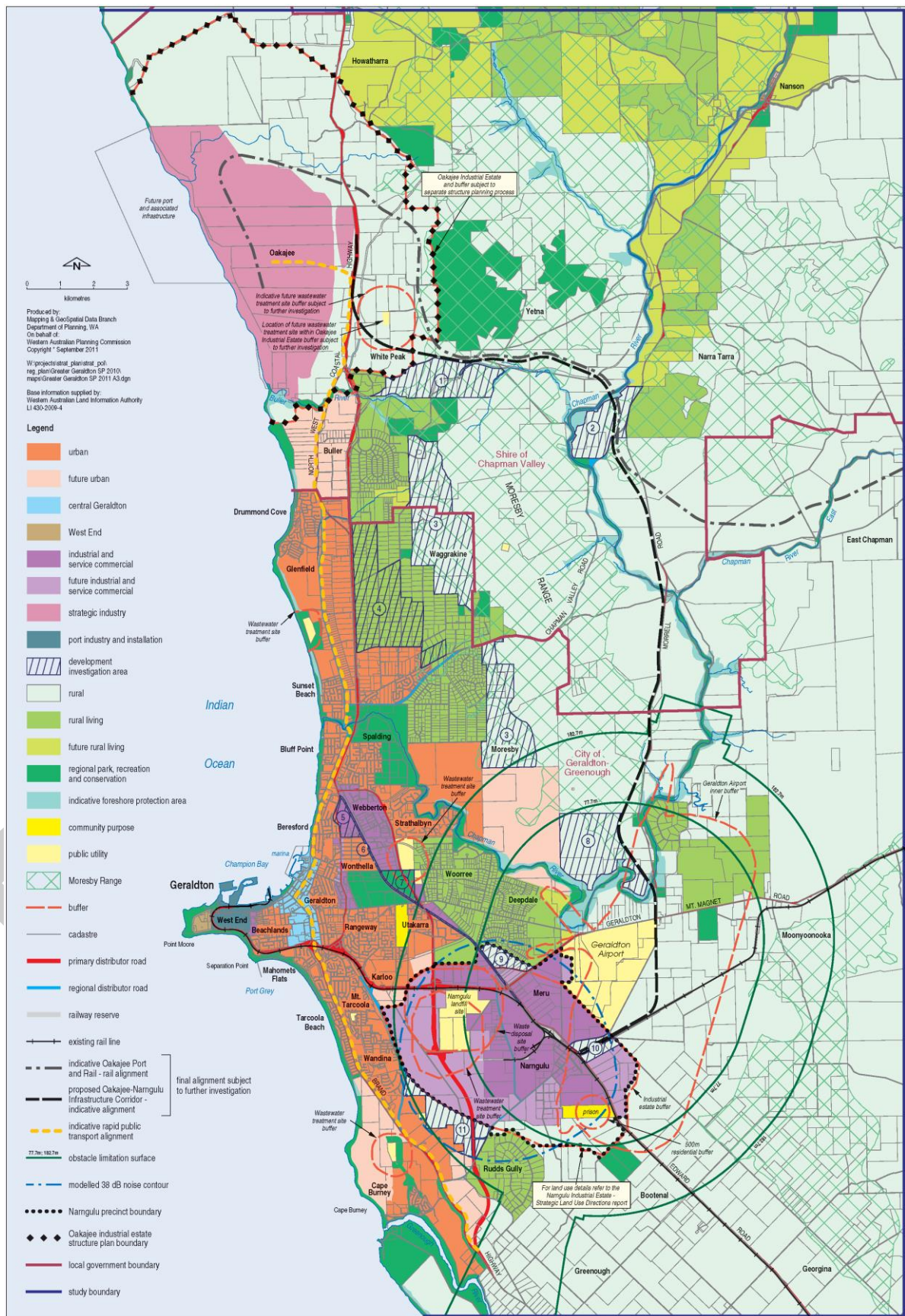


Figure 6 Greater Geraldton Structure Plan 2011 (WAPC, 2011)

2.3.4 GERALDTON REGIONAL LAND SUPPLY ASSESSMENT 2017

The *Geraldton Regional Land Supply Assessment* (DPLH, 2017) was prepared as a component of WAPC's Urban Development Program (UDP) which tracks and models land supply. The Land Supply Assessment assesses land for future residential, industrial and commercial uses, providing context for land use planning and infrastructure provision required to meet demand.

The *Geraldton Regional Land Supply Assessment* (DPLH, 2017) suggests that there is sufficient stock for urban land to accommodate substantial population growth well into the future. Majority of this growth is expected to occur in the eastern and northern parts of the Geraldton urban area. Additionally, there is opportunity for future development of a range of light and general industry at the Narngulu industrial area. The Oakajee port and industrial estate has the potential to generate substantial investment.

Majority of commercial land in the Geraldton CBD is considered to be developed, however there is capacity for intensification of development to support future growth.

2.3.5 MORESBY RANGE MANAGEMENT STRATEGY

The *Moresby Range Management Strategy* (DPLH, 2009) seeks to promote coordinated management of the Moresby Range by government agencies, private sector organisations, landowners and community groups; and to protect, enhance and promote the regional significance of the Moresby Range by establishing common objectives and recommendations that assist with planning decision-making, local policy formation, and consistent management of future land uses and development. The strategy considers that the key issues are fragmented land ownership, increasing development pressures, and the legacy of historical land clearing and management practices which threaten the integrity of the range. A key recommendation was for the preparation of a Moresby Range Management Plan, which was completed in 2010.

2.3.6 GERALDTON REGIONAL FLORA AND VEGETATION SURVEY

The *Geraldton Regional Flora and Vegetation Survey* (WAPC, 2010) Phase 1 has been endorsed by the EPA. The Survey included vegetation mapping, conservation and regional planning for the Geraldton area and recommended further Phases to extend the flora and vegetation surveys throughout the region. The further Phases are recognised in the future actions of the draft *Guilderton to Kalbarri Sub-regional Planning Strategy* (DPLH, 2017), refer **section 2.3.2**.

2.3.7 GERALDTON REGION PLAN

The *Geraldton Region Plan* (WAPC, 1999) provided a regional framework and recognised Geraldton as the regional centre for the Mid-West. The *Greater Geraldton Structure Plan 2011* (WAPC, 2011) updated the structure plan in Part 3 of the *Geraldton Region Plan*.

2.4 OTHER REGIONAL STRATEGIES

2.4.1 REGIONAL DEVELOPMENT STRATEGY

The *Regional Development Strategy* (Government of Western Australia, 2016) provides a framework to prioritise and progress opportunities for regional development and investment to encourage vibrant regions with strong economies. The Regional Investment Blueprints provide comprehensive development plans, prepared by the Regional Development Commissions, outlining transformative strategies, priority actions and investment opportunities. The Blueprints will guide the types of investment and inform the strategic allocation of Royalties for Regions funding into infrastructure and services for regional communities. The *Regional Development Strategy* (Government of Western Australia, 2016) aims to prioritise and progress the opportunities emerging in the Blueprints. It has three focus areas:

- Establish the socio-economic foundations for development;
- Drive growth and new investment; and
- An ongoing commitment to communities.

2.4.2 MID WEST REGIONAL BLUEPRINT

The vision of the *Mid West Regional Blueprint* (MWDC, 2015) aims to reflect the export-driven regional economy but to also pursue beneficial outcomes for the regional community. Its vision therefore looks outwards and inwards:

The Mid West is a national gateway to the globe through its diverse and entrepreneurial business and export economy.

High value industries generate prosperity and the most desirable, adaptive and connected communities in Australia.

The *Mid West Regional Blueprint* (MWDC, 2015) identifies a number of strategies under the five pillars of physical infrastructure, digital and communications, economic development, highly desirable communities, and knowledge and learning. A summary overview of the economic drivers for the region is spatially outlined in the Blueprint and shown below in **Figure 7**.

The purpose of the Blueprint is to provide a context and define an aspirational growth challenge for the Mid West, which is predicated upon the delivery of the Oakajee deep water port and associated projects (MWDC, 2015). The Oakajee project is expected to deliver 5% growth compared to a maximum 3% 'business as usual' scenario that has been modelled for the Mid West (MWDC, 2015). Without Oakajee, the 'business as usual' scenarios consider the lost opportunity for a number of major economic development opportunities (particularly iron ore).

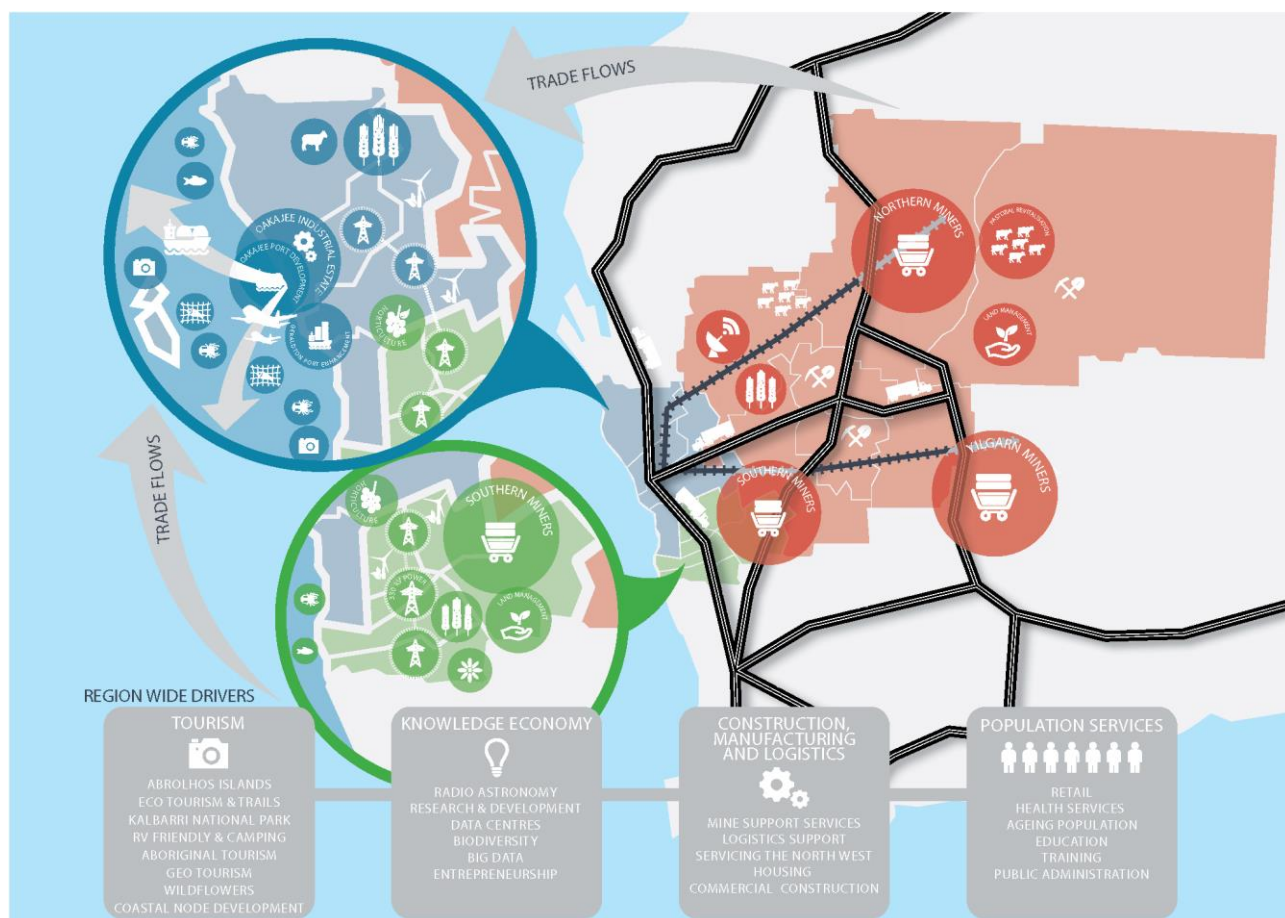


Figure 7 Economic Drivers Spatial Representation (MWDC, 2015)

The Blueprint describes five key pillars that focus on creating more jobs, improvements to education, connecting and enhancing communities and supporting economic development to deliver the 2050 vision and to harness the economic drivers for transformational economic development. The five pillars include:

1. **Physical Infrastructure** – *create an integrated network of infrastructure to generate new industry opportunities for an annual economic growth rate of 5% by 2025.* The goal is for optimal linkages to facilitate movement of people and product to domestic and international markets using rail, roads, pipelines, transmission lines, airports, ports and public transport.

The region will focus on expanding supply of its products and services to new domestic and global markets which will require substantial investment in physical infrastructure. Focus areas: movement of people and resources, water, energy and waste.

2. **Digital and Communications** – *the Mid West will be a connected, digitally empowered and innovative region with competitive mobile and network infrastructure, creating opportunities for growth and development.* The goal is for internationally competitive communications networks to enable high business productivity and community safety and amenity.

Investment in new communications infrastructure is necessary to achieve equity of provision in the region and help position Mid West business / industry on the global stage and will enhance productivity and competitiveness. Focus areas: communications infrastructure and connecting communities.

3. **Economic Development** – *generate 10,000+ new jobs in the Mid West by 2025, and an additional 35,000 by 2050.* The goal is to realise the growth and potential of the region’s mineral and energy resources, tourism, agriculture and food sector, small businesses, defence force strategic positioning, and trade links.

There is a need to capitalise on the Mid West’s diverse economy while also identifying new sources for future growth and increase in innovation to drive productivity. In order to achieve sustained growth and a goal of around 71,500 jobs by 2050, the region needs to enhance its global competitiveness and create resilience. Focus areas: resource economy, tourism, agriculture and food, land availability, business and industry development, trade development and security.

4. **Highly Desirable Communities** – *build communities with strong social capital and infrastructure that creates a regional population of 80,000 by 2025 and 190,000 by 2050.* The goal is to build community development, leadership, collaboration and identity.

To facilitate growth, communities must be vibrant and inclusive with appropriate infrastructure and services that support social fabric and wellbeing. Urbanisation and the ageing of regional populations, also present both challenges and opportunities to developing the Mid West as a region of choice to live in. Focus areas: community development, leadership and collaboration, spaces and places, regional housing, health and wellbeing, remote communities and environment.

5. **Knowledge and Learning** – *create highly educated and skilled communities that meet the region’s future workforce requirements.* The goal is to provide equitable access to world-class education and training and ensure the workforce has the right skills and dynamics to match the region’s economic growth and development.

The Mid West faces a number of education training challenges and continues investment is crucial for regional growth and development. Focus areas: education and training, workforce development, and research and development.

Some of the initiatives expected to have significant State and national benefit (MWDC, 2015) that are particularly relevant to Geraldton include:

- development of the proposed Oakajee deep water port and the Oakajee Industrial Estate (refer **sections 10.1.4.2** and **14.3**);
- the completion of new road and railway corridors connecting the region’s southern, eastern and northern mining provinces to Geraldton / Oakajee;
- completion of the 330kV transmission line to Geraldton / Oakajee (refer **section 15.1**);
- expansion of food production (refer **section 13**);
- development of education, knowledge and innovation sectors (refer **sections 8** and **10**);
- development of telecommunications and digital networks (refer **section 15.2**); and
- the connection of the Yilgarn area, Mid West and Pilbara regions to ports in Geraldton / Oakajee, Esperance, Port Hedland and Fremantle as part of the PortLink Inland Freight Corridor project.

2.4.3 MID WEST INVESTMENT PLAN

The *Mid West Investment Plan* (MWIP) (MWDC, 2011) outlines the region’s strategic infrastructure priorities for enabling economic and social development. It recognised the main constraints in exporting commodities were associated with limitations from the rail network and the Geraldton Port. Both of these are being addressed – refer **section 14**.

The MWIP outlined \$1.45 billion of flagship projects for the years 2011-2015 across the Mid West Region (WAPC, 2015). To date, the MWIP has successfully led to the funding of 37 projects across the region, with a total project value of \$207.138 million (MWDC, 2017). Relevant projects to the City include:

- Place Road/Flores Road Intersection Reconfiguration (\$7.3 million project);
- Batavia Coast Marina stage 2 (\$3.86 million project);
- Geraldton Universities Centre (\$3 million project);
- Wubin Mullewa Road (\$21.6 million project);
- Geraldton Airport Landside Development (\$2.755 million project);
- Building Better Regional Cities – Urban Expansion Package (\$28.97 million project);
- Original Railway Building Restoration (\$1.85 million project);
- Geraldton Residential College (\$2.6 million project);
- Strategic Alignment Study – Dongara-Geraldton-Northampton (\$1.1 million project);
- Foodbank WA (\$3.29 million project);
- Wonthella Oval Lighting (\$1.5 million project);
- Monsignor Hawes Interpretive Centre (\$7.119 million project);
- Lot 601 Marine Terrace (\$5.875 million project);
- Central Regional TAFE Student Services Interactive Hub (\$3.0 million project);
- Geraldton Cemetery Board (\$1.462 million project); and
- Beresford Foreshore protection works and amenity (\$23.125 million project).

2.4.4 IDENTIFICATION OF HIGH QUALITY AGRICULTURAL LAND IN THE MID WEST REGION: STAGE 1 – GERALDTON PLANNING REGION

The challenge for planning is to set aside the most productive and versatile areas of agricultural land for food security to meet the needs of projected global, national and state population growth (DAFWA, 2013).

An extensive assessment of high quality broadacre and irrigated agricultural land has recently been undertaken across the CGG, and the Shires of Northampton, Chapman Valley and Irwin. The Study was led by the Department of Agriculture and Food (DAFWA) and intended as a Stage 1 pilot project to be applied more widely across the Mid West region.

High quality agricultural land is defined as areas of land identified from a combination of soil, land capability, water resources and rainfall data as the most productive and versatile for either irrigated or broadacre agriculture (DAFWA, 2013).

The Study (DAFWA, 2013) provided detailed, up to date information on the agricultural characteristics of land in the study area, and:

- Characterised agricultural land, and generated a series of maps and accompanying tables depicting agricultural potential;
- Defined 'agricultural land areas' as homogenous units in terms of irrigated and broadacre productive potential, soils, landforms and property size provided for each agricultural land area and suitable information to support strategic planning and the identification of planning boundaries; and
- Grouped agricultural land areas according to their versatility, and therefore their priority for protection from encroaching land uses.

2.4.5 GROWING GREATER GERALDTON: A GROWTH PLAN (2017)

The State Government's "Regional Centres Development Plan" (RCDP) is a State Government initiative to support the economic development and growth of 20 regional centres of greatest strategic importance to WA's economy and regional communities. A number of regional centres are already supported such as those covered by the Pilbara Cities Program and the SuperTowns Program. *Growing Greater Geraldton* is a growth plan with a planning horizon out to the year 2036. Its vision is "The Growth Plan has a vision of a globally recognised, growing and resilient economy – a strong regional centre in a strong region."

Growing Greater Geraldton: A Growth Plan has three focus areas that are supported by interdependent and mutually reinforcing strategies, which aim to successfully deliver outcomes in line with aspirational transformation growth of the economy and population. The Plan aims to bring more wealth into Geraldton by growing the trade economy. The Plan envisions Geraldton to be globally recognised with a growing and resilient economy with a population of 65,000. The strategies to achieve this have been outlined into three focus areas and five platforms for success. The three focus areas are outlined below:

- **Growth Engine – Clustering for Growth:** To identify and grow Greater Geraldton's niche specialisations, where deep local competencies align with global demand.
- **Strong Heart – City Centre Revitalisation:** To revitalise the Greater Geraldton city centre as a distinctive and magnetic place for residents, businesses and visitors – an active destination embracing Geraldton's nautical history and assets.
- **Healthy Circulation:** To retain wealth within Greater Geraldton and minimise economic leakage through innovative and thriving businesses seizing opportunities to serve the population of the City and region.

There is a proposed program structure for Progress Midwest, refer **Figure 8**.

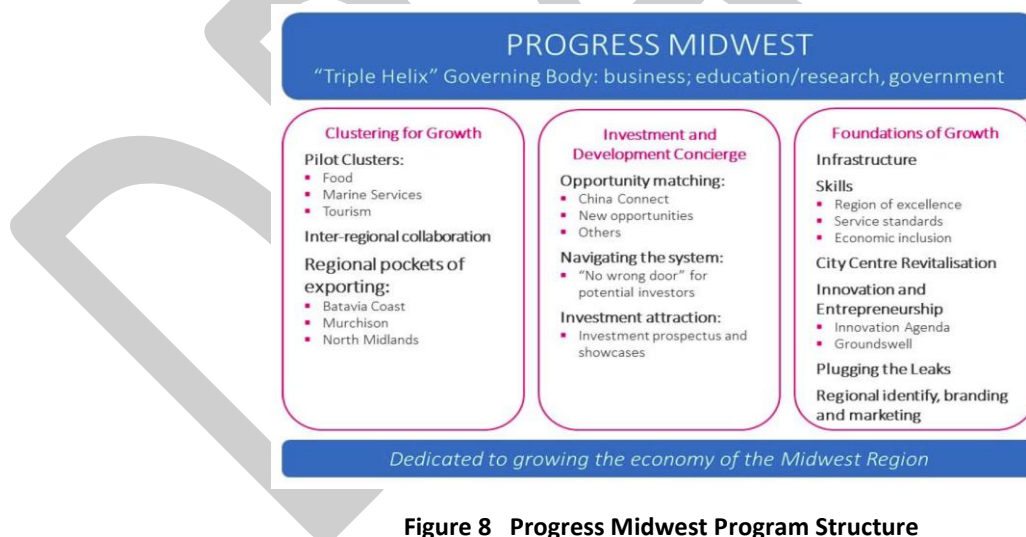


Figure 8 Progress Midwest Program Structure

2.5 REGIONAL GOVERNANCE ROLES

The State Government plays a regional role through:

- Department of Primary Industries and Regional Development – providing support through its Regional Centres Development Plan initiative;
- Mid West Development Commission – delivering the 2050 Regional Blueprint vision for the Mid West (refer **section 2.4.2**); and

- Western Australian Planning Commission – delivering the *State Planning Strategy 2050* (WAPC, 2014) through sub-regional planning strategies and other strategic planning, and implementing the State planning framework.

A number of government agencies and service providers are responsible for a wide range of infrastructure and essential services (such as ports, roads, rail, health, education, training and workforce development, justice, social services, fire and emergency services, water, power, etc).

The City of Greater Geraldton plays a key role and is responsible for matters relating to governance, policy, local laws and budget appropriation on behalf of its constituents. The City is also custodian of *Growing Greater Geraldton: A Growth Plan* (CGG, 2017), refer **section 2.4.5**.

2.5.1 COORDINATED GOVERNANCE

Geraldton is a regional centre with increasing intensity of land use. This necessitates more sophisticated, coordinated planning and servicing. As Geraldton continues to grow, it will be necessary to reassess future regional requirements, and the adequacy of existing mechanisms. Sustainable growth will require infrastructure coordination and prioritisation across service providers and government agencies. Advanced planning for the acquisition of land for reserves and other regional purposes has been identified as a Future Action of the WAPC (refer to **section 2.3.2**).

Implementation of strategies in *Growing Greater Geraldton: A Growth Plan* (CGG, 2017) (refer **section 2.4.5**) that require engagement and participation by the private sector will be facilitated through a new entity, Progress Midwest. This entity will initially operate using personnel from the City of Greater Geraldton, with in-kind support from other collaborators – State Government Departments, Mid West Development Commission, RDA Mid West and Gascoyne, and Mid West Chamber of Commerce and Industry. Other strategies will be driven and facilitated directly by City departments.

Growing Greater Geraldton: A Growth Plan (CGG, 2017) identified potential funding sources including:

- Grant funding assistance from the Commonwealth;
- In-kind people contributions from Federal agencies;
- Grant funding assistance through the State;
- Projects funded and undertaken by State Agencies;
- In-kind people contributions from State agencies;
- Funding and people resources from the City, as well as wider in-kind contributions;
- Projects funded and undertaken by the City; and
- Funding and in-kind contributions from, and capital investments by, commercial and not-for-profit entities.

2.5.2 FUNDING OF SERVICES (DEVELOPER CONTRIBUTIONS)

Local government is continually challenged to provide facilities and services that keep pace with the rate of population growth, and to secure adequate funding to compliment modest rate revenue to deliver on community expectations. The expenditure would be linked to project priorities established by the 10 Year Capital Works Plan (required and audited under the *Local Government Act 1999*). Current funding pathways are summarised in the following **Figure 9**. The availability of funding mechanisms can be relatively limited for a local government, and funds need to be expended, which can make it difficult to accumulate necessary funds for large infrastructure projects.

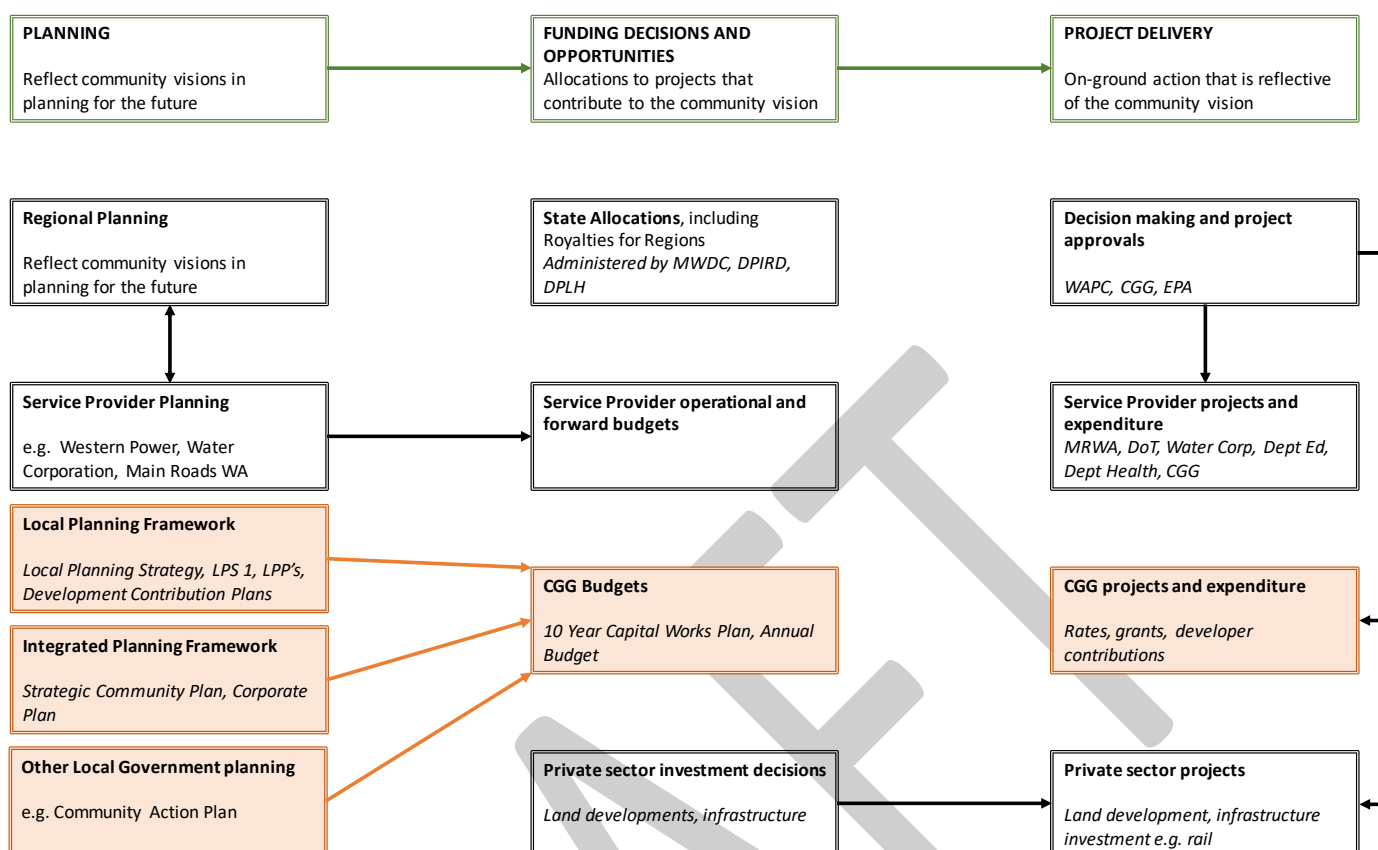


Figure 9 Implementation Pathways

The *Planning and Development Act 2005* provides a head of power to deliver a district development contribution plan, using the SPP 3.6 methodology. Provisions for developer contributions are included in the City's Local Planning Scheme No. 1. The SPP 3.6 *Developer Contributions for Infrastructure* sets out the principles and considerations that apply to development contributions for the provision of infrastructure in new and established urban areas. It also sets out the form, content and process to be followed. In this instance, development contribution plans could be prepared for the whole or part of the local government area.

Analysis of the CGG's aspirations for a district development contribution plan model is required to:

- Recommend an appropriate head of power to enable the City to impose a district development contribution charge, including the appropriateness of provisions in the LPS 1;
- Propose a methodology and administration requirements, including methods for reporting on expenditure in accordance with the *Local Government Act 1999*; and
- Consider the impact on land development costs and housing affordability.

2.6 OPERATIONAL POLICIES

Development control and operational policies, in which are adopted by the WAPC, guide decision-making in relation to subdivision and development applications. The following development control and operational policies are relevant to the CGG:

- DC 1.1 *Subdivision of Land – General Principles* (draft 2018);
- DC 1.2 *Development Control – General Principles* (draft 2018);
- DC 1.3 *Strata Titles* (2009);

- DC 1.5 *Bicycle Planning* (1998);
- DC 1.7 *General Road Planning* (draft 2018);
- DC 2.2 *Residential Subdivision* (2017);
- DC 2.3 *Public Open Space in Residential Areas* (2002);
- DC 2.4 *School Sites* (1998);
- DC 2.5 *Special Residential zones* (draft 2018);
- DC 2.6 *Residential Road Planning* (1998);
- DC 3.4 *Subdivision of Rural Land* (2016);
- DC 4.1 *Industrial Subdivision* (1988);
- DC 4.2 *Planning for Hazards and Safety* (1991);
- DC 4.3 *Planning for High-Pressure Gas Pipelines* (draft 2016); and
- DC 5.1 *Regional Roads (Vehicular Access)* (draft 2018).

2.7 OTHER RELEVANT STRATEGIES, PLANS AND POLICIES

Additional State and Regional strategies, plans and policies that have assisted in informing the City of Greater Geraldton *Local Planning Strategy* and this *Local Profile and Context Report* have been summarised in **Appendix A**.

2.8 ADDITIONAL GUIDELINES, FORECASTING AND REPORTS

Additional guidelines, forecasting and reports that have assisted in informing the City of Greater Geraldton *Local Planning Strategy* and this *Local Profile and Context Report* have been summarised in **Appendix A**.

3 LOCAL PLANNING CONTEXT

3.1 LOCAL PLANNING FRAMEWORK

3.1.1 LOCAL PLANNING STRATEGY

The City of Greater Geraldton *Local Planning Strategy* was originally endorsed by the WAPC on 21 October 2015. This amendment proposes to update Part 2 of the *Local Planning Strategy*.

The *Local Planning Strategy* was one of the first to be approved under the new *Planning and Development (Local Planning Schemes) Regulations 2015*. It also reflects a consolidation of planning information from the previous three local governments that were voluntarily amalgamated together (the former City of Geraldton and Shires of Greenough and Mullewa). It encapsulated many existing strategic documents including two local planning strategies and four local planning schemes, and represented one of the remaining implementation actions from the *2029 and Beyond* project, which has now been fully completed.

The *Local Planning Strategy* is part of an integrated suite of documents that collectively form the City's planning framework, consisting of the *Strategic Community Plan*, the Strategy itself, and the Local Planning Scheme No. 1. The *Local Planning Strategy* reflects the community's 'Preferred Scenario' which was generated through the City's *2029 and Beyond* project. By its nature the *Local Planning Strategy* is intended to be dynamic and to provide flexibility, rather than being prescriptive, to achieve the aspirations of the City and ultimately the community.

The *Local Planning Strategy* is a statutory requirement under the *Planning and Development Act 2005* to form the strategic basis for the preparation of the Local Planning Scheme No. 1 (LPS 1). Therefore, it forms the strategic plans and actions that are primarily implemented through the LPS 1 and through land use planning decision making.

3.1.2 LOCAL PLANNING SCHEME NO. 1

The City of Greater Geraldton Local Planning Scheme No. 1 (LPS 1) was published in the *Government Gazette* on 11 December 2015, and is to be read in conjunction with the *Local Planning Strategy*. The current aims of LPS 1 are:

- (a) *Provide for vibrant arts, culture and education.*
- (b) *Promote a sustainable built form and natural environment.*
- (c) *Facilitate a strong healthy community which is equitable, connected and cohesive.*
- (d) *Foster a dynamic, diverse and sustainable economy.*
- (e) *Support inclusive civic and community engagement and leadership.*

The City is looking at the intended alignment of the LPS 1's aims and its *Strategic Community Plan*, and the above aims may be refined over time.

LPS 1 outlines reserves, zones and special control areas that apply within the Scheme Area:

Scheme Reserve	Scheme Zone	Special Control Area
– Civic and Community – District Distributor Road – Environmental Conservation – Foreshore – Primary Distributor Road	– Regional Centre – Commercial – Mixed Use – Service Commercial – Tourism	– SCA1 – Moresby Range – SCA2 – Wastewater Treatment Plants – SCA3 – Geraldton Airport – SCA4 – Meru Waste Disposal Facility – SCA5 – Greenough Flats

Scheme Reserve	Scheme Zone	Special Control Area
– Public Open Space – Public Purposes – Railways – Special Purpose Infrastructure Corridor – Strategic Infrastructure – Airport – Strategic Infrastructure – Port	– Residential – General Industry – Light Industry – Rural Residential – Rural – Settlement – Urban Development – Special Use	– SCA6 – Flood Prone Area – SCA7 – South Greenough to Cape Burney Coastal Planning Strategy

3.1.3 TOWN PLANNING SCHEME NO. 1A

Scheme 1A was published in the *Government Gazette* on 30 May 1986. On gazettal of LPS 1 in December 2015, the Scheme Area of TPS 1A was simultaneously amended to reduce its size to extend over a smaller area of Cape Burney.

The objectives of the Scheme 1A are:

- (a) *To facilitate and co-ordinate progressive development of the Scheme Area.*
- (b) *To specify desirable areas for residential development and for holiday resort development and for recreational purposes.*
- (c) *To secure the amenity, health and convenience of the Scheme Area and the inhabitants thereof.*
- (d) *To ensure the provision of adequate recreation areas.*
- (e) *To make provision for other matters necessary or incidental to town planning and housing.*

TPS 1A outlines reserves and zones that apply within the Scheme Area:

Scheme Reserve	Scheme Zone
– Dune Preservation – Parks and Recreation – Public Use	– Residential – Commercial – Residential Development – Resort Development – General Farming

The ultimate intention is for the full consolidation of the Scheme 1A scheme area into LPS 1. This would occur through a scheme amendment process or through a future scheme review of LPS 1 and/or TPS 1A.

3.1.4 LOCAL PLANNING POLICIES

The following local planning policies apply within the CGG and are implemented through applicable local planning schemes:

- Alfresco Dining;
- Bed and Breakfast;
- Caravans for Temporary Accommodation;
- City Centre Planning Policy;
- Commercial Tourism Activity on Crown Land;
- Compliance and Enforcement of Planning Laws;
- Consultation for Town Planning Proposals;
- Design Guidelines – Beresford Beachfront Mixed Use;
- Design Guidelines – Geraldton Airport Technology Park;

- Design Guidelines – Marine Terrace Foreshore Precinct Mixed Use;
- Design Guidelines – Mount Scott (Brede Street);
- Development Approvals;
- Display Homes and Sales Offices;
- Dividing Fences;
- Extractive Industry;
- Fast Food Outlets;
- Geraldton / Beachlands Heritage Area;
- Geraldton City Centre Revitalisation Plan;
- Geraldton – From a Local to Global Regional City;
- Geraldton Airport Special Control Area;
- Geraldton Health Education and Training Precinct Conceptual Master Plan;
- Geraldton North-South Transport Corridor;
- Heritage Conservation and Development;
- Holiday Houses;
- Home Based Business (Including Industry – Cottage);
- Industrial Development;
- International Charter for Walking;
- Low Impact Rural Tourism;
- Mobile and Itinerant Vendors;
- Non-Residential Development in the Residential Zone;
- Parking of Commercial Vehicles in Residential and Rural Residential Areas;
- Precinct Plan – Rangeway Utakarra Karloo;
- Precinct Plan – Sunset Beach;
- R-Codes – Ancillary Dwellings;
- R-Codes – Outbuildings;
- R-Codes – Retaining Walls;
- R-Codes – Setback Variations;
- R-Codes – Vehicular Access;
- Repurposed Dwellings;
- Revegetation in the Rural Residential Zone;
- Shipping Containers;
- Signage;
- Single House and Ancillary Structures Assessments;
- Telecommunications Infrastructure;
- Towards Sustainable Residential Development;
- Travel Plans;
- Tree Farms;
- Verita Road Contributions; and
- Workforce Accommodation.

3.1.5 RELEVANT MUNICIPAL STRATEGIES AND REPORTS

In addition to all aforementioned strategies in chapter 2 of this document, the following have relevance to the CGG:

- Commercial Activity Centres Strategy (refer **section 11.2**);
- Central Regions Land Capacity Analysis – City of Greater Geraldton (refer **section 6.1.3.2**);
- Geraldton-Greenough Tourism Strategy (refer **section 12**);

- Greater Geraldton Structure Plan 2011 (refer **section 2.4.5**);
- Identification of High Quality Agricultural Land in the Midwest Region (refer to *Environmental Profile* prepared for the *Local Planning Strategy*);
- Integrated Transport Strategy (refer **section 14**);
- Local Biodiversity Strategy (refer to *Environmental Profile* prepared for the *Local Planning Strategy*);
- Local Planning Strategy (refer **section 3.1.1**);
- Midwest Infrastructure Analysis (refer **section 15**);
- Moresby Range Management Plan and Strategy (refer to *Environmental Profile* prepared for the *Local Planning Strategy*);
- Narngulu Industrial Area Strategic Land Use Directions (refer **section 10.1.4**);
- Public Open Space Strategy (refer **section 7**);
- Residential Development Strategy (refer **section 6.2**);
- South Greenough to Cape Burney Coastal Planning Strategy; and
- Waggrakine Sewer Infrastructure Planning Report (refer **section 15.4**).

3.2 COMMUNITY STRATEGIC PLAN (2017-2027)

The City's *Community Strategic Plan 2017-2027* outlines the vision for the local government and the community, being:

"A prosperous, diverse, vibrant and sustainable community".

The City's mission is focused on *"serving today while building tomorrow"*, based on its values of Service, Trust, Accountability, Respect, and Solidarity.

The *Community Strategic Plan* identifies a shared set of community objectives and priorities, taking into account current and projected changes in community demographics, social issues and local, national and global influences. The *Community Strategic Plan* also outlines ways in which each key objective can be achieved, and how to measure its progress.

The *Community Strategic Plan* was prepared in close consultation with the private sector and the local community to realise the vision, mission and values for Greater Geraldton. The purpose of the *Community Strategic Plan* is to strengthen strategic positioning, attract business and investment, support the growth of competitive industries, and build a better place to live for existing and new residents. Extensive community consultation found that the environment and Geraldton's coastal lifestyle were both considered to be the community's most valued assets, which was a significant reason why people live in the area.

The *Community Strategic Plan* outlines four major goals and describes how targets will be achieved and progressed:

1. **"Community** - *While growing towards a regional city with the capacity to sustain a population of 80,000-100,000 we value our sense of community, our small town feel and the lifestyle opportunities of our coastal location and bushland. We value our cultural heritage and our creative community."* This will be achieved through targets under the headings of:
 - Our Heritage
 - Recreation and Sport
 - Community Health and Safety
 - Emergency Management
 - Recognise, Value and Support Everyone

2. **"Environment** - *We value our natural and built environment and live sustainably, in balance with nature.*" This will be achieved through targets under the headings of:
- Revegetation-Rehabilitation-Preservation
 - Sustainability
 - Built Environment
 - Asset Management
3. **"Economy** - *We value a healthy thriving economy that provides diverse employment opportunities while protecting the environment and enhancing social and cultural outcomes.*" This will be achieved through targets under the headings of:
- Growth
 - Lifestyle and Vibrancy
4. **"Governance** - *We value an open and trusting relationship between the community, Local Government and other decision makers.*" This will be achieved through targets under the headings of:
- Community Engagement
 - Planning and Policy
 - Advocacy and Partnerships
 - Financial Sustainability and Performance
 - Good Governance and Leadership

GOAL: ENVIRONMENT

We value our natural and built environment and live sustainably, in balance with nature.



4 PHYSICAL FEATURES, CLIMATE, NATURAL HERITAGE AND NATURAL RESOURCE MANAGEMENT

The CGG has a number of distinct landscape features of regional significance including coastal flats, river valleys, the Moresby Range and the flat hinterland. The topography slopes up from the coast to a ridge 30-50 metres above sea level that runs through the Geraldton urban area. The land then slopes more gently eastwards to the foot of the Moresby Range – a dominant landscape feature close to 200 metres above sea level. Beyond the Moresby Range, the landscape is generally flat, dissected by the Chapman and Greenough river catchments (CGG, 2011).

Past investigations, including the *Geraldton Region Plan* (WAPC, 1999) and the EPA System 5 Report have noted that conservation reserves in the region are inadequate to represent the range of ecosystems that once existed across the Mid West region, and that conservation efforts by private landholders are an important aspect of maintaining highly valued locations.

4.1 LANDFORM AND LANDSCAPE SYSTEMS

4.1.1 MORESBY RANGE

The Moresby Range is a significant and defining landscape feature that provides a backdrop to the Geraldton area and it is highly valued by the local and regional community. It extends linearly for approximately 33 kilometres through the Shires of Northampton and Chapman Valley and the CGG. Just under 11 kilometres of the Moresby Range is within the City. The majority of the Range today is privately owned, whilst several small portions of the flat tops of the Range are in public ownership. Fragmented land ownership, increasing development, and the legacy of historical land clearing and management practices has placed increasing pressure on the Range.

The majority of the Range's flat top has been cleared for agricultural purposes, although reasonable stands of remnant vegetation occur in the north. Remnant vegetation is heath and tall shrub, with several rare and restricted species of flora. The EPA System 5 Report recognised the Moresby Range (as part of the northern sand plains) as floristically rich and worthy of protection as a national park.

Through the management planning process, the community has recognised the importance of the Range's conservation value and its position as a unique recreational and environmental asset to the area. The *Moresby Range Management Plan* (Ferart Design, 2010) sought to address issues relating to the southern section of the Moresby Range, and recommends creation of a park south of White Peak Road and east of Geraldton. Despite considerable efforts to investigate and recommend options for the Moresby Range that aligns with community expectations, creating a park over the Moresby Range will require a commitment to implementation across the public and private sector, the allocation of funding for land acquisition, and ongoing funding for land restoration, establishment of visitor facilities, and on-going management.

The recommended park aimed to include 3,021 hectares of the Moresby Range, with approximately 1,052 hectares being located within the CGG. The creation of the park was recommended with a timeframe set to 2030, however this recommendation is dependent on private landowners.

4.1.2 CHAPMAN RIVER

The Chapman River is a major regional landscape feature. The majority of the Chapman River System is within the Shire of Chapman Valley, however the lower reaches which are in closest proximity to urban areas and under the most recreational demand, are within the CGG. A number of management plans have been prepared for the Chapman River including reports prepared by Mitchell McCotter and Associates in 1993 and Landform Research in 1999. In addition, assessments of the Chapman and Greenough River foreshores were prepared in 2001 by the Waters and Rivers Commission. The above-mentioned reports have made recommendations relating to planning, weed control, site preparation, planting, maintenance and monitoring.

The previous *Greenough Local Planning Strategy* recommended that a Chapman River Regional Park be established to provide an opportunity for the river to be restored to its original quality. The Chapman River Regional Park was recommended to be established as the Chapman River Wildlife Corridor; however, the Chapman Regional Wildlife Corridor management plan has yet to be adopted by Council. Although a Chapman River Regional Park has not yet been established, about 35 kilometres of the river and tributaries is protected within an 'Environmental Conservation' reserve in LPS 1. The LPS 1 also applies a 'foreshore' reserve to parts of the river, with the objective to set aside land for foreshore reserves and provide for conservation and/or public access with a range of active and passive recreational uses.

4.1.3 GREENOUGH RIVER

The Greenough River is a regionally significant waterway in terms of biodiversity, habitat provision, aesthetic values, cultural values and recreation in the region. The Greenough river system is proclaimed under the *Rights in Water and Irrigation Act 1914* and is the major surface water asset within the City. It has a large catchment area that has historically been utilised for broad acre agriculture.

Towards the river mouth, parts of the area are currently within the TPS 1A scheme area and are zoned for more intensive 'urban' type uses such as tourism and residential. Of the approximately 820 kilometres of Greenough River and tributaries located within the City, around 200 kilometres (approximately 24%) are protected in reserves.

Part of the Greenough River system, Ellendale Pool is a permanent water pool 20km east of Walkaway. It is recognised as the home of the peregrine falcon and is a significant bird-breeding area. The pool is within a 14-hectare reserve at the foot of steep river cliffs and surrounded by river gums. Ellendale Pool is a recreation and tourist attraction and has associated facilities.

4.1.4 COASTAL AREAS

There is approximately 58 kilometres of coastline within the CGG, from Drummond Cove to South Greenough. The coastal environment is highly valued by the Greater Geraldton community for environmental, economic and social functions, (NACC, 2010) including:

- Recreation and lifestyle opportunities for residents and visitors, including windsurfing, boating, surfing, fishing, and off-road vehicle use;
- Economic opportunities including commercial and recreational fishing, port activities, tourism, and emerging aquaculture opportunities. Opportunities for proximity to the coast have also been recognised as of value for land purchase and the residential development industry;
- Cultural values relating to an important sense of place, visual amenity, physical health and community wellbeing benefits. Coastal areas are recognised as important to 'the Geraldton lifestyle' as well as ongoing Aboriginal cultural connection; and

- Environmental functions, including protecting property and infrastructure from climatic extremes (e.g. storms, wind, waves). Dunes, seagrass beds and coral reefs are important habitats for food and have high intellectual and scientific value. Dune vegetation has an important role in preventing erosion.

Coastal access by off road vehicles

Off-road vehicle activity can have impacts on coastal ecosystems, social amenity, and safety. Areas of high activity along the coast have been heavily affected by the increased use of 4WD vehicles on the foredunes and beaches. The most severely disturbed areas are adjacent to Geraldton; however, accessing more remote surfing, fishing and camping spots along the coast has also caused significant degradation.

Land ownership and public access

Coastal areas are largely urbanised north of the Greenough River mouth. Between Drummond Cove and Beresford, established residential neighbourhoods sit adjacent to the coastal foreshore, with further development to occur in Glenfield adjacent to the existing waste water treatment plant. It is noted that the majority of the coastline within the City is within the 'Foreshore' reserve under LPS 1 and 'Parks and Recreation' and 'Dune Preservation' under TPS 1A. However, the width of the foreshore reserve varies quite considerably.

In addition to established foreshore reserves, the *Greater Geraldton Structure Plan 2011* (WAPC, 2011) identified 'indicative foreshore protection areas' in Cape Burney, Sunset Beach, Glenfield and Drummond Cove. For Cape Burney, the 'indicative foreshore protection area' remains zoned 'General Farming' in TPS 1A. For Sunset Beach, the 'indicative foreshore protection area' is generally contained within the 'Foreshore' reserve. For Glenfield, the 'indicative foreshore protection area' is zoned 'Urban Development' in LPS 1. A small 'indicative foreshore protection area' in Drummond Cove is zoned 'Residential R20' in LPS 1.

In some areas, the only coastal access is through private property, creating conflicts for landowners, the public and coastal managers. The adequacy of foreshore reserves and public access points may require a review in some locations, and particularly as the population grows. There are no state-managed coastal conservation reserves, and the responsibility for coastal management is largely with the local government.

The *Geraldton-Greenough Coastal Strategy & Foreshore Management Plan* (ATA Environmental, 2005) largely encompasses the coastal area between Drummond Cove in the north and the Greenough River mouth to the south. The *Management Plan* aims to guide decision making in relation to the management, protection and planning of foreshore and coastal areas. It discusses the need for more foreshore reserves and the provision and improved management of public access.

Coastal development

The majority of the population of the City resides in coastal areas, predominately focussed around the Geraldton urban area. The Batavia Coast marina, the redeveloped CBD foreshore, and the activities of the Geraldton Port make up the central municipal coast, while in the south to the Greenough River mouth (between the suburbs of Beachlands and Tarcoola) established urban neighbourhoods again sit adjacent to the coastal foreshore. Immediately north of the Greenough River mouth, the Cape Burney area has been identified in the *Greater Geraldton Structure Plan 2011* (WAPC, 2011) as future urban, however is shown as a development investigation area in the *Local Planning Strategy*. South of the Greenough River mouth, rural land uses are dominant and coastal foreshore areas, including the Greenough Dunes, are mostly in private ownership with increasing pressure for development. The dunes, which have recognised conservation values, can become mobile from strong winds in this locality.

Development pressure along the coast has the potential to result in direct impacts to coastal resources. In addition, the level of use of the coast by businesses, residents and visitors for recreation and industry requires appropriate consideration and management. The adequacy of coastal setbacks and the application of SPP 2.6 *State Coastal Planning Policy* will be important to ensure coastal development is also considered in terms of its impact on coastal processes, social amenity and public access.

Coastal erosion and accretion

Coastal infrastructure related to the port, groynes and marina has been suggested to have affected natural sand nourishment patterns, with current management measures (for example, transporting sand to the beaches between the marina and the Chapman River to the north) not considered viable long-term solutions. These accelerated changes are affecting the use of local beaches, and the issues are expected to become more pronounced with climate change.

Coastal Management

The impact of coastal hazards on the City's coastline is expected to increase in the future due to the effects of sea level rise and climate change. Coastal erosion and the inundation of low-lying coastal areas are already occurring. Projected climate change and sea level rise scenarios and modelling is likely to increase in accuracy into the future as more data becomes available to the scientific community.

In response to the concerns surrounding coastal hazards, the City commissioned Inundation and Coastal Processes Studies for:

- Town Beach to Drummond Cove (MPRA, 2016);
- Point Moore (MPRA, 2015); and
- Cape Burney to Greys Beach (MPRA, 2017).

The studies comply with the State Planning Policy No. 2.6 (SPP 2.6) and involved detailed modelling and assessment of:

- Storm surge modelling to determine the potential inundation caused by cyclonic events, non-cyclonic event and tsunami events;
- Modelling the potential beach and dune erosion caused by severe storm event;
- Assessment of historic and potential future shoreline movement caused by the cation of natural coastal processes; and
- Assessment of the effects of potential sea level rise on the coastal inundation and erosion.

A draft *Coastal Hazard Risk Management and Adaptation Plan* (draft CHRMAP) was prepared during 2016-2017, based upon the previously mentioned studies. The draft report was subject to and incorporated community and stakeholder feedback and public comment. The final Geraldton CHRMAP report was adopted by Council on 27 November 2018 along with direction to undertake further geophysical investigations and coastal monitoring.

The CHRMAP analysed the coastal infrastructure and property at risk from erosion and inundation, and provides recommendations to guide strategic and operational decision making by the City in terms of the location and maintenance of its coastal infrastructure, development of statutory planning controls and the key focus areas for coastal monitoring, management and adaptation in the short term (to 2032) and longer timeframes out to 2110 (Baird Australia Pty Ltd, 2018). The report contains an implementation plan which includes a planning framework for special control areas, plans for managing the erosion and inundation risks to properties in the special control areas, specific adaptation pathways and planning actions such as built form and design requirements, trigger points, title notifications and emergency evacuation planning.

The CHRMAP (Baird Australia Pty Ltd, 2018) divides the City's coastline into 12 Coastal Management Units. There are coastal management and adaptation recommendations based on the adaptation hierarchy set out in the *Coastal Hazard Risk Management and Adaptation Planning Guidelines* (WAPC, 2014).

The City is now in Stage 3 of a four-stage process to assist in adapting to climate change and rising sea levels. The third stage is for the City to develop a local coastal planning policy in alignment with the adopted CHRMAP (Baird Australia Pty Ltd, 2018) and outcomes of the additional investigations and monitoring. Stage 3 will include community engagement for the policy development. Following the development of the policy, the fourth stage is to adopt the local coastal planning policy to provide direction for the City to implement the CHRMAP. It is anticipated that Stage 3 and Stage 4 will be undertaken during 2019 onwards.

4.2 CLIMATE

The Greater Geraldton climate can be broadly described as subtropical at the coast with dry summers and a winter dominant rainfall pattern with areas further inland characterised by summer droughts and low winter rainfall (Essential Environmental, 2014). Mean rainfall in Geraldton is just under 450mm per year, and in Mullewa is just under 350mm per year.

Cyclone activity generally occurs in the Pilbara region further north, however wind and flash flooding can occur in the Geraldton region. Tropical cyclones can cause damage along the coastline and result in flooding, damage to pasture and stock feed, and buildings (Essential Environmental, 2014).

4.2.1 PREDICTIONS FOR CLIMATE CHANGE

Potential implications of climate change that may affect the Mid West (MWDC, 2015), include:

- Increasing ambient temperatures through the 'urban heat island' effect which can increase heat stress on people, plants and animals (Essential Environmental, 2014);
- The frequency of extreme weather patterns;
- Measured declining rainfall in the South West;
- Lengthening of the fire season and increased extreme fire weather patterns;
- Measured increases in average annual global atmospheric greenhouse gas concentrations; and
- Projected sea level rise and ocean acidification.

The policy response to these projections is becoming more relevant to planning. Implications from a State Planning Policy perspective are contained in **Appendix A**.

4.3 NATURAL ENVIRONMENTAL FEATURES

4.3.1 BIODIVERSITY AND VEGETATION

4.3.1.1 OVERVIEW

Interim Biogeographic Regionalisation for Australia (IBRA) classifies major divisions of land defined by distinct assemblages of climate, geology, landform, animals and plants. IBRA bioregions and sub-bioregions are the reporting unit for assessing the status of natural ecosystems and their protection in the National Reserve System. The Geraldton area is found within one of the 15 national biodiversity hotspots and one of the 34 global biodiversity hotspots (CGG & SCV, 2013). The Geraldton Sandplains IBRA bioregion hotspot is characterised by its sandplains and extensive heaths and scrub-heaths home to a diverse range of endemic plants and animals, for example small skinks and the Western Australian Carpet Python. Hotspots for biodiversity conservation are areas with many endemic species that are experiencing high levels of stress or future threats.

While much of its native vegetation has been degraded through clearing, grazing and extraction, the Mid West contains areas of exceptional biodiversity that are well protected (e.g. Kalbarri National Park) or of conservation significance (e.g. Houtman Abrolhos Islands).

The *Mid West Regional Planning and Infrastructure Framework* (WAPC, 2015) outlines some of the key considerations regarding the biodiversity in the Mid West region:

- Two of the eight IBRA regions within the Mid West (the Murchison and Avon Wheatbelt) are underrepresented in the National Reserve System, and a high priority should therefore be given to protecting these ecosystems;
- The Geraldton Sandplains IBRA bioregion, extending from Kalbarri to Coorow, are recognised as a national and international biodiversity hotspot rich in plant and animal ecosystems that have high numbers of endemic species under immediate threat;
- The majority of the agricultural zone has been cleared of native vegetation therefore remnant vegetation in good condition is considered of particularly high value; and
- There are some aspects of biodiversity that have identified conservation priorities and some sites have management plans, however the identification of conservation priorities within the Mid West is constrained by as few areas have been assessed at a suitable scale resulting in the majority of information on vegetation, flora and fauna for the region being very sparse.

Information contributing to the protection of regionally significant biodiversity and vegetation in the Greater Geraldton local government area has evolved through the preparation of numerous planning and analysis tools:

- The *Local Biodiversity Strategy* (CGG & SCV, 2013), covering the coastal portion of the City of Greater Geraldton, the Shire of Chapman Valley and small portion of the Shire of Northampton, and builds on the vegetation surveys for urban areas surrounding Geraldton; provides a framework for existing local area management plans; and suggests a prioritised list of natural areas for retention, protection, management, engagement and regeneration of local natural areas outside the conservation estate;
- The *Geraldton Regional Conservation Report* (Perth Biodiversity Project and Eco Logical Australia, 2012) provides a framework for prioritising areas of remaining vegetation outside the Conservation Estate, and identifies criteria and mechanisms for the protection and retention of biodiversity around Geraldton;
- The *Geraldton Regional Flora and Vegetation Survey* (WAPC, 2010) provides a regional context for land use planning and the environmental impact assessment of proposal affecting native vegetation in the Geraldton region; and

- The Environmental Protection Authority released Bulletin 891 (1998) on the Geraldton Region Plan (WAPC, 1999) highlighting the need for identification, retention and conservation of remnant vegetation and retention and extension of conservation areas in regional parks and open space.

4.3.1.2 GERALDTON

According to the Environmental Protection Bulletin No. 10 the remnant natural vegetation in Geraldton is of very high value. The Environmental Protection Authority's position on vegetation clearing around Geraldton is that protecting remaining natural vegetation is best achieved by concentrating future development on land which has already been cleared for other uses. Significant blocks of vegetation are located south of Cape Burney and the Greenough River mouth, and in the suburb of Glenfield. A conservation reserve exists south of Cape Burney adjacent to rural land.

The *Local Biodiversity Strategy* is founded on the *Geraldton Regional Flora and Vegetation Survey* (WAPC, 2010) which considered and assessed the conservation significance of native vegetation over a similar study area. The Survey included detailed information on vegetation types at the regional scale with nine Beard Vegetation Associations; and at the local scale as 17 Geraldton Regional Flora and Vegetation Survey Plant Communities. 625 discrete remnants were identified, and 376 species recorded, including two declared rare flora, eight priority listed species, and three species at the extent of or beyond their usual range. While the *Geraldton Regional Flora and Vegetation Survey* (WAPC, 2010) was undertaken for the area under most development pressure, there was a recognised need to undertake further studies over a broader area in order to understand the regional conservation significance of the identified plant communities.

Within the study area for the *Local Biodiversity Strategy* (CGG & SCV, 2013), there is 6,041 hectares of vegetation remaining, which represents only 18% of pre-European extent of native vegetation. Below 30%, species loss is recognised to accelerate exponentially. Within the 6,041 hectares of remaining vegetation:

- Only 2% is in State conservation estate, with the remainder privately owned or vested in government;
- More than 30% of land identified for potential future high-density development and an additional 20% is within land where potential future development could result in further vegetation clearing; and
- Most is under threat from weed invasion, grazing, fire, and recreational uses.

The *Local Biodiversity Strategy* (CGG & SCV, 2013) acknowledged the high risk of threats to biodiversity which in turn could result in the loss of Geraldton's biodiversity. This loss is considered in terms of ecological, cultural and economic value. Threats to the remaining native vegetation are increasing, and these threats can be from invading weeds and pests, under-resourcing of management, incompatible recreational use, and accelerated climate change. Clearing for urban development is also a direct threat with considerable conflict between the location of remaining vegetation and the intended extension of urban activity.

The *Local Biodiversity Strategy* (CGG & SCV, 2013) outlined recommendations based on the following five goals:

- **Goal 1: Retention** – Retain natural areas. Aim to retain at least 3,334 hectares of the remaining 6,041 hectares of natural areas remaining.
- **Goal 2: Protection** – Protect natural areas and specific biodiversity features, targeting at least 5% of the original extent of natural areas, leading to the protection of an additional 1,058 hectares of areas of conservation value.
- **Goal: Management** – Manage natural areas and specific biodiversity features, targeting at least 5% of the original extent of natural areas, leading to the protection of an additional 1,058 hectares of areas of conservation value.
- **Goal 3: Engagement** – Increased community contributions to biodiversity conservation. Decrease in behaviours identified as threats to biodiversity values.

- **Goal 4: Regeneration** – Ensure the rate of regeneration exceeds the rate of degradation, e.g. restore more than 1,500 hectares of natural areas in the CGG.

4.3.1.3 MULLEWA AND SURROUNDS

Large sections of the Mullewa area have been subject to extensive clearing for farming activities. Remnant vegetation remains in pastoral areas to the north east, in conservation reserves, and on some private land. To the south of the Mullewa townsite, gum woodland exists in broad valleys of red sandy loam over calcrete, and mallee heath vegetation sits over sandy loam to sand. Acacia shrubs with scattered eucalypts and tall acacia trees are in drainage channels, and the area is renowned for spectacular displays of wildflowers following rainfall seasons. The area particularly around Mullewa is also renowned for its spectacular displays of wildflowers following rainfall seasons (Essential Environmental, 2014).

There is a need to extend the vegetation survey work conducted for the *Geraldton Regional Flora and Vegetation Survey* (WAPC, 2010) to a broader area, to understand the regional conservation significance of plant communities.

4.4 BUSHFIRE

There are limited areas within the City of Greater Geraldton that are considered Bushfire Prone Areas (DFES, 2018), and predominately these areas are not within identified locations for future development. The *Guidelines for Planning in Bushfire Prone Areas* (WAPC, 2017) under SPP 3.7 otherwise provide the framework and methodology for determining bushfire hazard levels in Western Australia.

Bush fire risk is a land management issue that is recognised appropriately by the land use planning system, primarily in terms of the location of firebreaks in rural and rural living areas; emergency management including access routes; and population-intensive land uses in proximity to bushfire prone areas. Bushfire Management Plans have been produced for a number of subdivisions, developments and special risk sites, according to development requirements and/or as required.

4.5 SOILS

4.5.1 SOIL TYPES AND DISTRIBUTION

Coastal areas generally have deep sandy soils, and the Moresby Range area contains texture contrast soils. Further inland, soils change to deep sand/sandy earth soils, and soil type becomes increasingly diverse (CGG, 2011).

Soil-Landscape zones are regional units that are based on geomorphologic or geological criteria. The (then) Department of Agriculture and Food identified five soil-Landscape zones in the CGG, refer **Figure 10** (DAFWA, 2013):

- 220 (Southern Victoria Sandplain) – gently undulating, weakly dissected sand plain on in-situ weathered Yarragadee sandstone and alluvium. Yellow deep sands with Pale deep sand over gravel. Minor areas of lateritic duricrust occur;
- 221 (Geraldton Coastal zone) – low hills of Tamala limestone, recent calcareous and siliceous dunes with alluvial plains and sand sheets. Mainly shallow and deep sands with some Loamy and Sandy earths;
- 224 (Arrowsmith) – dissected lateritic terrain with hills, breakaways, plateau and sand plain remnants on colluvium and deeply weathered mantle over sedimentary rocks. Soils are mainly Pale deep sand (often gravelly), Yellow deep sand, Deep sandy gravel and Grey deep sandy duplex;

- 227 (Tenindewa) – alluvial valley slopes and sand plain remnants with hardpan wash plains; on Permian and Carboniferous sedimentary rocks of the Perth basin. Yellow deep sand and Red-brown hardpan shallow loams with some Yellow and Red sandy earths; and
- 271 (Irwin River Zone) – the Irwin and upper Lockier catchments within the undulating Yilgarn Craton. Archaean granites, gneisses, meta-sediments and basic igneous rocks. Soils are shallow loams with loamy and sandy earths, deep sands and sandy duplex.

4.5.2 SOIL SALINITY

Only very minor soil salinity has been detected around Geraldton, although soil salinity is an issue towards Mullewa. In 2000 the water table under the Mullewa townsite was less than 2m below ground level. At this point it was not clear if the water table was stable or rising.

4.5.3 ACID SULFATE SOILS

Acid sulfate soil risk has been mapped for the Greater Geraldton area (DEC 2010) and there are areas of high and moderate risk of acid sulfate soils within 3 m of the ground surface associated with river and estuary beds throughout the area (Essential Environmental, 2014).

The *Acid Sulfate Soils Planning Guidelines* (WAPC, 2008) outlines a range of matters that need to be addressed at various stages of the planning process to ensure that the subdivision and development of land containing acid sulfate soils is planned and managed to avoid potential adverse effects on the natural and built environment.

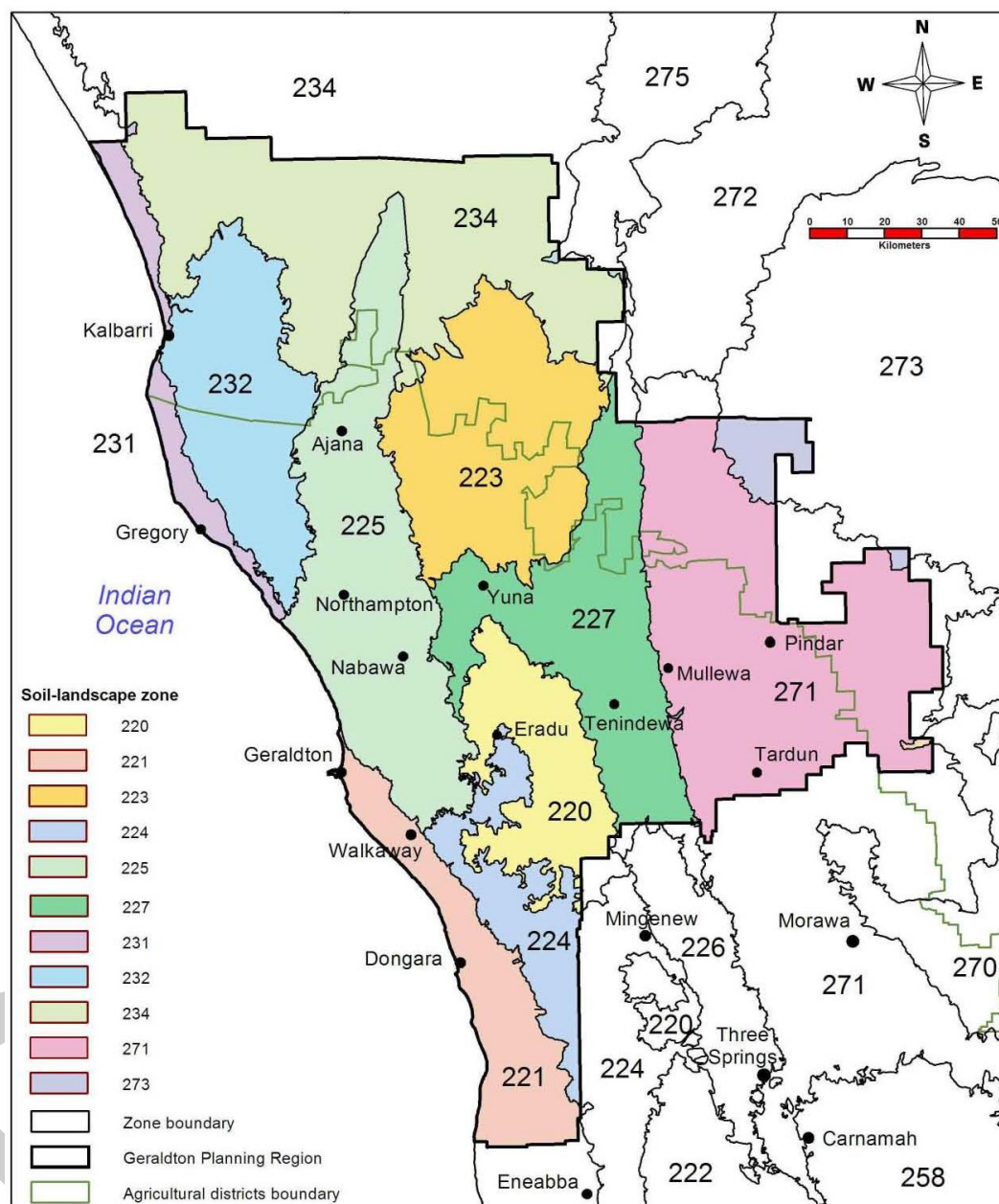


Figure 10 Soil-landscape zones of the Geraldton planning region. Source (DAFWA, 2013)

4.5.4 CONTAMINATED SITES

The *Contaminated Sites Act 2003* requires that sites be reported to the relevant authority where sites are known or suspected to be contaminated with substances at above background concentrations which could cause risk or harm to human health, the environment or any environmental value.

The Department of Water and Environmental Regulation (DWER) contaminated sites database revealed nine registered sites situated within close proximity to the Geraldton townsite. These sites have been affected by hydrocarbons and six still require remediation. It should be noted that these sites are not likely to be the only contaminated sites within the City. Contamination may be associated with a number of land uses including landfill, intensive horticulture, petrol stations, piggeries, poultry farms and market gardens (Essential Environmental, 2014).

4.6 BIODIVERSITY CONSERVATION

4.6.1 CONSERVATION RESERVES

The following are conservation reserves located within the City of Greater Geraldton.

Wicherina Catchment Area Reserve

The Wicherina catchment area is located east of Geraldton near the Eradu townsite. The 2,247-hectare reserve is the site of the Wicherina Dam which used to provide the original water supply to Geraldton and Mullewa (prior to development of the Allanooka borefield). The dam has not been in use for some time and is no longer suitable to provide town water supplies. The reserve is set aside for water supply purposes and vested in the Minister for Water Resources. There is the potential for long-term tourism development; however, there are many management issues to be resolved prior to this occurring.

Byne Park

Byne Park is approximately 3 kilometres south-east of the Narngulu townsite and managed jointly by the CGG and the Central TAFE. It is an 86-hectare flora and fauna reserve used for recreation and education that provides for youth-training programs in conjunction with local environmental groups. This has served to revegetate an area of land previously cleared for agricultural purposes with much of the native flora seed being propagated on-site.

Burma Road Nature Reserve (Reserve 26663)

The Burma Road Nature Reserve is a 'C' class reserve 20 kilometres south-east of Walkaway. It is 6,889 hectares in size and is vested jointly in the Tree Society and the NPNCA for conservation of flora and fauna. The Kwongan vegetation is characterised as being species rich. The vegetation growing on the leached laterite sand plain soils of the reserve is a scrub heath (sand heath) which is typical of the Tathra vegetation system. This heath is found on the shallower soils of the higher areas with low banksia woodland on deeper soils of the shallow valleys. The scrub heath's plant assemblage is dominated by the *Leguminosae* (pea family), *Proteaceae* (banksia family) and *Myrtaceae* (bottlebrush, eucalyptus families).

Indarra Springs Nature Reserve (Reserve 41885)

Indarra Spring Nature Reserve is a 'C' class reserve 25 kilometres south-west of Mullewa. This 2,655-hectare reserve is characterised by sand plain heath with mallee formations. *Acacia*, *melaleuca* and *allocasuarina* thicket also are present with several examples of samphire located on the reserve. This was in private property until it was vested with the NPNCA in 1991.

Urawa Nature Reserve (Reserves 33466 and 33475)

Urawa Nature Reserve includes 'A' class and 'C' class reserve land. It is 8,783-hectares in size, located north of Mullewa and was part of the De Grey-Mullewa Stock Route with three stock watering points of historical interest being the Perkins No. 2 Government Well, Woodenooka Government Well and Hughies Rock.

4.6.2 OTHER RESERVES

There are additional conservation areas managed by the Department of Biodiversity, Conservation and Attractions (DBCA). These are managed under the provisions of the *Conservation and Land Management Act 1984* and are vested in the Conservation and Parks Commission of Western Australia. The following is a list of DBCA-managed conservation areas within the City of Greater Geraldton:

- Reserve 28313 – Barrabarra Nature Reserve;
- Reserve 2069 – Beetalyinna Nature Reserve;
- Reserves 30844 and 24555 – Bindoo Hill Nature Reserve;
- Reserve 893 – Cutubury Nature Reserve;
- Reserve 2070 – Eradu Nature Reserve;
- LR3074/589 and LR3135/277 – former leasehold land (ex. Barnong) proposed for conservation;
- LR3165/667 and LR3165/669 – former leasehold land (ex. Mallee) proposed for conservation;
- Reserve 21906 – Kockatea Nature Reserve;
- Reserve 1017 – Forty Four Mile Nature Reserve;
- Reserve 23949 – Warrawah Nature Reserve;
- Reserve 26196 – Wilroy Nature Reserve;
- Reserve 21140 – Wongoody Nature Reserve; and
- Reserves 48173, 24185, 14776, 33799, 23920, and 51564.

4.7 NATURAL HERITAGE

In Western Australia, the Department of Biodiversity, Conservation and Attractions (DBCA) has the lead responsibility for the State conservation estate, including through the protection and management of the State's national parks, marine parks, conservation and nature reserves, State forests and marine nature reserves and management areas (Essential Environmental, 2014).

The City of Greater Geraldton local government area contains a number of sites which are listed on the Register of the National Estate including; Wandana Nature Reserve, sections of the Greenough River and Bootenal Spring, Bindoo Spring Area, Burma Road Reserve, East Yuna Nature Reserves, Greenough Dune System, Bringo Railway Cutting, and the Moore River to Murchison River area (Essential Environmental, 2014).

4.8 KEY CONSIDERATIONS / ISSUES

Maintaining and enhancing environmental and natural resource integrity is critical for a sustainable economic and social future and requires access to appropriate natural resource management information. The Greater Geraldton area contains landscape features of regional value. Less than 18% of the pre-European extent remains, with only 1.8% of the original extent of vegetation having some level of protection. Most is threatened by development, weed invasion, grazing, fire, or recreational use. Impacts on these landscapes need to be considered and addressed as a component of decision making about future development areas, such as in the preparation of structure plans. The recommendations of the *Local Biodiversity Strategy* (CGG & SCV, 2013) have implications for a number of proposed development areas and will need to be integrated into future planning decisions in order to achieve biodiversity conservation goals.

Flora and vegetation surveys undertaken for the Geraldton area have previously been recommended to be extended over a wider geographic area in order to understand and determine the regional significance of plant communities contained in the *Geraldton Regional Flora and Vegetation Survey* (WAPC, 2010). Work completed to date represents Phase 1 of an intended three-phase project, which would be subject to further funding. Fauna is also an integral component of biodiversity, and fauna habitat requirements need to be a component of future studies.

Past investigations including the *Geraldton Region Plan* (WAPC, 1999) and the EPA System 5 Report noted that conservation areas in the region are inadequate to represent the range of ecosystems that once existed across the Mid West region, and that conservation efforts by private landowners are an important aspect of maintaining highly valued locations. The LPS 1 includes an 'environmental conservation' zone which would be capable of being applied to private land. The objective of the 'environmental conservation' zone is to identify land set aside for environmental conservation purposes, and to provide for the preservation, maintenance, restoration or sustainable use of the natural environment.

The *Moresby Range Management Strategy* (DPLH, 2009) and *Moresby Range Management Plan* (Ferart Design, 2010) offer guidance for the protection and enhancement of the Range's landscape and environmental values. However, resources and responsibilities for implementation of key proposals, such as creation of a park, appear uncommitted. Restrictions on development through the planning framework are providing interim protection of aesthetic values, yet these do not respond to community expectations regarding ecological condition and public access.

More active management of the coastal zone will be required as population and visitor numbers increase and place additional pressure on the landform and vegetation. The identification of coastal zones (based on environmental, use and amenity characteristics) could assist to better protect the coastal environment and reduce the potential for user conflicts. Future development proposals will also need to account for proposed extensions to coastal and river foreshore areas to ensure that values of these areas are maintained for the long term. These areas are identified as 'indicative foreshore protection areas' in the *Greater Geraldton Structure Plan 2011* (WAPC, 2011) refer **Figure 6**.

Other environmental considerations and issues are summarised below:

- Extensive clearing practices in rural areas means protection of remaining vegetation is also a priority;
- Soil erosion risk is widespread, attributable to large areas of light to medium soils cleared of vegetation, and exposed to strong winds in hot and dry parts of the year;
- Salinity is an issue in the Mullewa area, with 4.9% of the former Shire area affected in 2001, and increasing;
- The location of potential contaminated sites in the Geraldton area need to be considered in future recommendations regarding land uses, particularly for residential and rural living activities; and
- Soil acidity is a serious issue within the CGG. According to DAFWA's 2013 *report card on sustainable resource use in agriculture*, the current state of soil acidity is poor in the CGG.

5 WATER MANAGEMENT

5.1 WATER

The availability of water to support new population growth and industry, business and environmental needs is a major issue for future development and land use within the region. The Department of Water and Environmental Regulation (DWER) has published the *Mid West Regional Water Supply Strategy* (DoW, 2015) to consider a range of water demand scenarios for mining, industry, agriculture and towns in the region and identifies potential water supply options to meet demand into the future.

5.2 SURFACE WATER

Twelve wetlands in the Mid West are listed as nationally important in the Directory of Important Wetlands in Australia. Regionally significant rivers in the CGG are the Greenough and Chapman, as described in **section 4.1**. The *Mid West Planning and Infrastructure Framework* (WAPC, 2015) noted the DWER has prepared a conservation report of waterways in the Mid West. This is intended to provide a fundamental understanding of the status of the planning and management for waterways in the region.

The Greenough and Chapman River systems are important for biodiversity, habitat provision, aesthetic values, cultural values and recreation. Waterways assessments for both rivers examined catchment hydrology, floodplain mapping, levels of flood protection and the development of land use controls. The assessments identified the need for improved and coordinated management of these rivers to repair, minimise and prevent further degradation.

5.3 WATER MANAGEMENT

The *Better Urban Water Management* document (WAPC, 2008) identifies the need to manage the urban water cycle as a single system in which all urban water flows are recognised as a potential resource and where the interconnectedness of water supply, groundwater, storm water, wastewater, flooding, water quality, wetlands, watercourses, estuaries and coastal waters is recognised. Water efficiency, reuse and recycling are integral components of total water cycle management.

5.4 KEY CONSIDERATIONS / ISSUES

- Low and varied rainfall across the CGG has impacts on the water balance, and water availability;
- Significant impacts on water resources and the environment emerge from population growth, land use change and development intensity and climate change;
- Future development has the potential to increase prevalence of existing water quality issues through increased clearing and erosion, nutrient rich runoff from fertiliser use and irrigation; and
- Major water quality issues are related to salinisation and sedimentation whereby much of the land has been cleared to support agriculture and horticulture;
- In uncleared areas, much of the land has been overgrazed by livestock which has contributed to loss of native vegetation and exacerbated erosion problems leading to sedimentation;
- Land uses, such as mining, industrial and commercial activities may also have the ability to contaminate water quality;
- *Towards a Water Sensitive City: the Greater Geraldton Water Planning and Management Strategy* (ENV Australia & Essential Environmental, 2014) has suggested the CGG may experience a significant shortfall in water supply in the future if business-as-usual approaches are maintained, rainfall decline continues, large industrial

development proceeds and population expands at the predicted rates at the higher levels of the growth scenarios in chapter 6 of this document;

- *Towards a Water Sensitive City* (ENV Australia & Essential Environmental, 2014) establishes objectives for water planning, and a framework for the management and use of water resources in the Geraldton area, and:
 - Provides detailed information on key water features and assets;
 - Includes a number of short and longer term water planning and management responses to be incorporated into local planning, operations and works schedules, and preparation of management plans and strategies; and;
 - Should be referred to as a technical report for future planning, and in the development of a local planning strategy and future structure plans; and
- Mullewa has limited availability of fresh groundwater, and potable water is imported from Allanooka near Geraldton. This is affecting the local water balance as well as the economic viability of high water demand projects and activities.
- Inappropriate stormwater and wastewater management may increase the potential for flooding and may lead to changes in groundwater levels due to changes in infiltration and an increased demand.

GOAL: COMMUNITY

While growing towards a regional city with the capacity to sustain a population of 80,000-100,000 we value our sense of community, our small town feel and the lifestyle opportunities of our coastal location and bushland. We value our cultural heritage and our creative community.



6 POPULATION AND HOUSING

6.1 SOCIAL PROFILE

Information on community characteristics offers an insight into community values and priorities, as well as the nature of social facilities, education, and community infrastructure likely to be in demand. **Table 2** provides a snapshot of the characteristics of the CGG local government area population and the Mid West regional population.

Table 2 Population characteristics by statistical local area. Source: (ABS, 2017) (REMPAN, 2017)

Population characteristics	City of GG (2016)	City of GG (2011)	City of GG (2006)	Mid West (2016)	Mid West (2011)	Mid West (2006)
Population	38,634	37,157	33,864	54,019	53,657	48,542
Male	19,167	18,516	16,918	27,497	27,643	24,742
Female	19,465	18,640	16,944	26,517	26,013	23,797
Median Age (years)	38	36	35	40	38	36
Families	9,844	9,567	8,539	13,441	13,373	12,205
Average Children (all families)	1.9	N/A	N/A	1.9	1.9	N/A
Private dwellings	17,538	16,113	14,020	26,949	25,309	22,210
Average household size	2.5	2.6	2.6	2.5	2.5	2.6
Median weekly household income	\$1,348	\$1,204	\$958	\$1,254	\$1,100	\$909
Median monthly mortgage repayments	\$1,733	\$1,649	\$1,000	\$1,690	\$1,583	\$1,000
Median weekly rent	\$265	\$230	\$135	\$249	\$200	\$125

The following observations can be made from the information in **Table 2**:

- The City experienced high growth of 9.72% between 2006 and 2011, yet more recently the population has been a more subdued 3.98% between 2011 and 2016;
- 72% (38,634 people) of the Mid West population resides in the CGG local government area;
- CGG has a slightly lower median age (38 compared with 40 for the region), with the proportion of men and women both being evenly spread within the CGG (49.61% male to 50.38% female) than the Mid West (50.90% male to 49.09% female);
- CGG residents pay slightly higher median weekly rent and mortgage payments (\$265/wk, \$1,733/mth) when compared to the Mid West (\$249/wk, \$1,690/mth), but also have a slightly higher median weekly household income (\$1,348/wk) than the Mid West (\$1,254/wk);
- The number of families within CGG has remained relatively the same between 2011 and 2016.

Other characteristics for the CGG as a whole are included in **Table 3**.

Table 3 Social characteristics of the City of Greater Geraldton. Source: (ABS, 2017)

Social characteristics of the City of Greater Geraldton – ABS 2016 Census		
Diversity	Indigenous	9.72%
	Born overseas	14.77%
	Non-indigenous born in Australia	76.49%
Households	One person household:	25.3%
	One family household:	55.11%
	Non-family household:	22.05%
	Multiple family household:	0.98%
Level of education (people aged 15 years and over)	Bachelor Degree and above:	10.5%
	Advanced Diploma and Diploma:	7.2%
	Certificate:	20.6%
	Years 10/11/12:	36.8%
Dwelling internet connection	Internet	79.3%
	No internet	17.9%

6.1.1 AGE PROFILE

The following **Figure 11** provides context for how the age profile for the CGG has changed over the previous ABS census periods, 2006-2016.

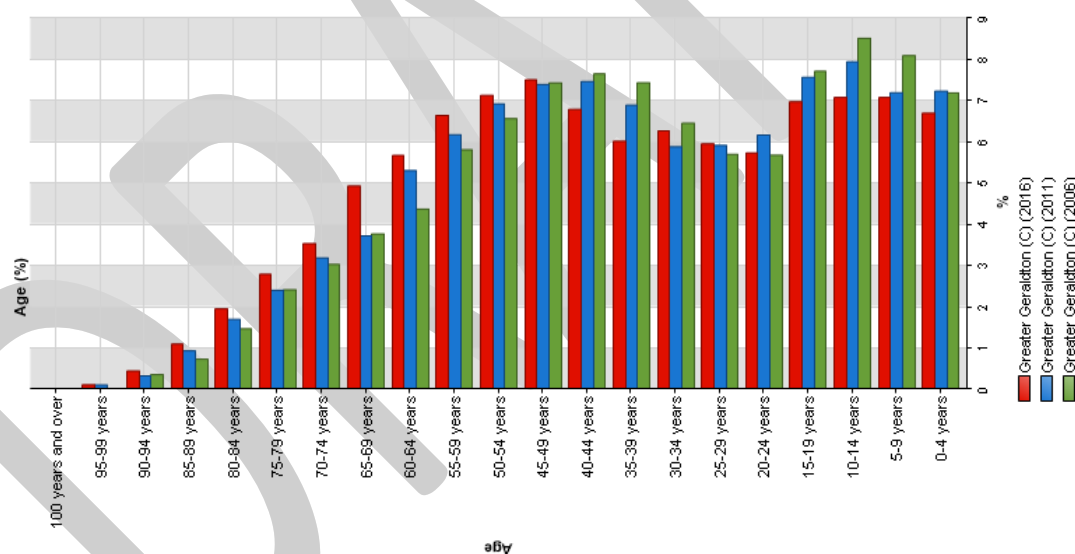


Figure 11 Age Profile for CGG, 2006-2016 (REMPLAN, 2017)

This indicates that the population as a whole is ageing. The trends show that over the census periods, the ratio of persons aged 0-4, 5-9, 10-14 and 15-19 years have declined. All cohorts from 50-54 years and above have increased as a percentage of the CGG population. There has been relative stability between the 20-24 and 30-34 year cohorts.

6.1.2 BIRTHPLACE

The following **Table 4** indicates that during 2006-2016 the number of persons born in 'Australasia and Oceania' has declined, from 81.4% to 78.5%. The largest ratios of birthplace were from North-West Europe (6.07%), South-East Asia (2.24%) and Sub-Saharan Africa (1.92%). Between 2006 and 2016, the largest increases have been from South-East Asia (267%), Sub-Saharan Africa (344%), Southern and Eastern Europe (377%), North East Asia (386%) and North Africa and Middle East (378%). These changes are significant, yet still represent small percentages of the community.

Table 4 Place of Birth (REMPAN, 2017)

Birthplace – City of Greater Geraldton	Persons (2016)	% (2016)	2016-2011 change	Persons (2011)	% (2011)	2011-2006 change	Persons (2006)	% (2006)
Australasia and Oceania	30,335	78.52%	99%	30,731	82.69%	111%	27,572	81.43%
North-West Europe	2,346	6.07%	101%	2,334	6.28%	109%	2,133	6.30%
South-East Asia	865	2.24%	142%	608	1.64%	188%	324	0.96%
Sub-Saharan Africa	742	1.92%	135%	550	1.48%	255%	216	0.64%
Southern and Central Asia	332	0.86%	189%	176	0.47%	200%	88	0.26%
Southern and Eastern Europe	283	0.73%	94%	301	0.81%	94%	321	0.95%
Americas	172	0.45%	118%	146	0.39%	111%	131	0.39%
North-East Asia	112	0.29%	211%	53	0.14%	183%	29	0.09%
North Africa and Middle East	68	0.18%	166%	41	0.11%	228%	18	0.05%
Other	9	0.02%	113%	8	0.02%	53%	15	0.04%
Not Stated	3,368	8.72%	152%	2,214	5.96%	74%	3,012	8.90%
Total	38,632	100.00%	104%	37,162	100%	110%	33,859	100%

6.1.3 PROJECTING FUTURE POPULATIONS

At a regional level, the *Mid West Regional Blueprint* (MWDC, 2015) notes that the City of Greater Geraldton's growth trajectory has remained strong, and population growth in the Shires of Chapman Valley and Irwin has also been steady over the last decade.

The *WA Tomorrow Population Report No. 10* (WAPC, 2015) contains population forecasts produced by the State Demographer. Forecasts include five bands (bands A to E) that represent possible different levels of future population growth. Forecasts applicable to the City of Greater Geraldton are presented in **Figure 12**. 'Band C' represents the median forecast and is widely regarded to reflect a stable pattern of growth. The *WA Tomorrow* forecasts do not take into account unforeseen events that may change trends, such as significant shifts in government policy, significant economic shifts, natural disasters and epidemics.

Part 1 of the *Local Planning Strategy* referred to the *WA Tomorrow Population Report No. 7* (WAPC, 2012) and so this *Local Profile and Context Report* reflects updated 2015 'Band C' population forecasts for the City of Greater Geraldton, the Mid West region and Western Australia, refer **Table 5** below. The forecasts represent the best estimate of future population size based on fertility, mortality and migration trends.

Table 5 Band C Population Trends, 2016 to 2026 (WAPC, 2015)

BAND C (WAPC, 2015)				
Year	Geraldton urban area (% of CGG Population)	CGG Population (% of Mid West Region population)	Mid West Region Population (% of WA Population)	Western Australian Population
2011	36,880 (96.19%)	38,340 (69.32%)	55,310 (2.35%)	2,353,370
2016	40,440 (97.61%)	41,430 (69.56%)	59,560 (2.23%)	2,667,430
2021	43,890 (97.95%)	44,810 (70.57%)	63,500 (2.13%)	2,975,910
2026	47,110 (98.10%)	48,020 (71.44%)	67,220 (2.05%)	3,274,340
BAND C – AVERAGE ANNUAL GROWTH RATE (WAPC, 2015)				
Year	Geraldton urban area	City of Greater Geraldton	Mid West Region	Western Australia
2016	1.86%	1.56%	1.49%	2.61%
2021	1.76%	1.57%	1.39%	2.37%
2026	1.65%	1.51%	1.31%	2.23%
Data source	This column utilises the SA2 regions 'Geraldton', 'Geraldton – North', 'Geraldton – East' and 'Geraldton – South' sourced from WA Tomorrow Population Report No. 10	This column utilises the Local Government Area region 'Greater Geraldton (C)' from WA Tomorrow Population Report No. 10	This column utilises the SA3 region 'Mid West' from WA Tomorrow Population Report No. 10	This column utilises the 'Western Australia' region from WA Tomorrow Population Report No. 10

The Geraldton urban area is considered to continue increasing its share of the local government population and over time the CGG is projected to be home to a greater proportion of the Mid West regional population. This ties well into the economic advantages that have been identified with regards to clustering (refer **section 10.1**). The clustering of businesses and industries within Geraldton, close to existing residents and established links and infrastructure, would contribute towards a robust and more sustainable pattern of development.

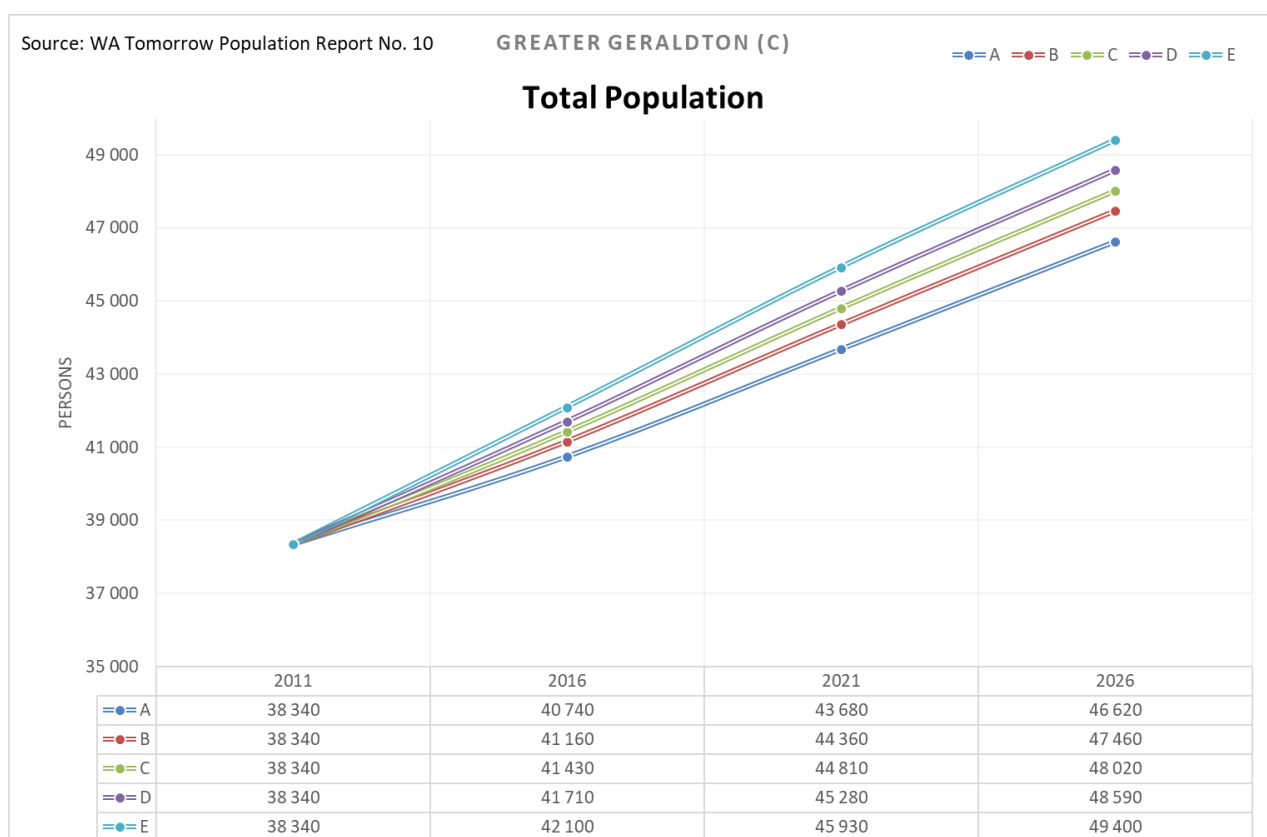


Figure 12 Total CGG Population (Bands A-E) 2011-2026 (WAPC, 2015)

The *WA Tomorrow* population forecasts for the year 2016 (41,430 people) have not been reflected in the ABS 2016 census (38,634 people). The City's population at the 2016 Census was 38,634 people, which is closer to the Band C 2011 growth forecast than the Band C 2016 growth forecast. This corresponds with an average annual growth rate of about 0.79%, well below the forecasted growth rate of 1.51-1.57% for the CGG.

The Mid West population at the 2016 Census was 54,019, which is lower than the Band C 2011 growth forecast and well under the Band C 2016 growth forecast. The Western Australian population at the 2016 Census was 2,474,410 which is closer to the Band C 2011 growth forecast for the state than the Band C 2016 growth forecast.

Importantly, this means that whilst population growth has not occurred in line with forecasts, there is more than sufficient land available for growth to be accommodated.

6.1.3.1 GERALDTON REGIONAL LAND SUPPLY ASSESSMENT

The *Geraldton Regional Land Supply Assessment* (DPLH, 2017) notes that the rate of population growth in the Geraldton urban area has been higher than for the district and the Mid West region, but lower than rates of growth for Western Australia. It also notes that there is sufficient stock of urban land to accommodate substantial population growth, with 1,960 hectares developed, 1,150 hectares undeveloped, and a further 2,220 hectares unrated.

As outlined in the City's *Local Planning Strategy*, more intensive residential development around activity centres is preferred and encouraged as it can achieve better utilisation of established and planned community services (refer to **section 8**). This is reflected in the *Assessment* where it is recognised that some rural living land in Waggrakine and Moresby may be subject to further intensification (DPLH, 2017).

Importantly, the *Assessment* also considers there to be substantial stocks of industrial zoned land such as light and general industry at Narngulu industrial area, and the potential of the Oakajee port and industrial estate (refer to **section 10.1.4**). Further, there is less available land for commercial purposes, with land capable of being more intensively developed to support long-term growth (refer to **section 11**).

6.1.3.2 CENTRAL REGIONS LAND CAPACITY ANALYSIS

The *Central Regions Land Capacity Analysis* (DPLH, 2016) presents land supply mapping and analysis relevant to the settlements in the City of Greater Geraldton – Geraldton; Greenough-Walkaway; Mullewa and Wandanooka. The mapping in the *Central Regions Land Capacity Analysis* (DPLH, 2016) identify areas within the City of Greater Geraldton and Shire of Chapman Valley for the development status assessment of land for residential, rural small holdings, commercial and industrial purposes. The mapping provides an overview of the development status of land for the settlements, condensed into **Table 6** below.

Based on the land deemed capable of residential, rural residential and rural smallholdings land, the *Analysis* provides an estimated capacity for the CGG. The City's aspirational population for 80,000-100,000 people is capable of being accommodated within the 3,345 hectares in Geraldton and 21 hectares in Mullewa, at a calculated residential density code of R20. Notwithstanding the capability of the aspirational population to be accommodated within available residential and future residential land, the *Local Planning Strategy* advocates for a more efficient approach to future growth. This would be based on more intensive development around activity centres, with the potential to also more efficiently run public transport systems and optimise use of existing service infrastructure (CGG, 2015).

Table 6 Development Status of Land – City of Greater Geraldton (DPLH, 2016)

Settlement	Category	Total (ha)	Developed (ha)	Capable of substantial further development (ha)
Geraldton	Residential and future residential	4,936	1,591	3,345
	Rural residential and future rural residential	3,196	2,685	511
	Rural smallholdings and future rural smallholdings	0	0	0
	Commercial and future commercial	252	116	136
	Industrial and future industrial	2,650	709	1,941
Mullewa	Residential and future residential	53	32	21
	Rural residential and future rural residential	0	0	0
	Rural smallholdings and future rural smallholdings	0	0	0
	Commercial and future commercial	10	7	3
	Industrial and future industrial	35	11	24
Greenough-Walkaway	Residential and future residential	28	28	0
	Rural residential and future rural residential	219	141	78
	Rural smallholdings and future rural smallholdings	0	0	0
	Commercial and future commercial	1	1	0
	Industrial and future industrial	0	0	0

6.2 HOUSING

6.2.1 EXISTING HOUSING AND DENSITIES

The 2016 Census identified 16,179 private dwellings in the CGG, including 2,474 (or 15.3%) unoccupied dwellings (ABS, 2017). Dwellings are concentrated in Geraldton and within the smaller settlements of Mullewa and Walkaway.

Occupied dwellings are categorised as either: separate houses; semi-detached, row or terrace house, townhouse etc; flat or apartment; or other dwelling (caravan, cabin, tent, house/flat attached to a shop, etc). Housing stock is dominated by separate houses (85.3%). Semi-detached, row or terrace houses, townhouses etc make up the next most common dwelling type (10.4%), predominately at single-storey. 1.83% of occupied dwellings were classified as flats or apartments, typically in a one or two storey block. 2.07% of occupied dwellings were classified as 'other' relating to caravans, cabins, improvised homes/tents/sleepers, or houses/flats attached to a shop/office.

The average household size is 2.5. The most common household sizes were: 2 people (35.6%); single-person households (25.3%); 3 persons (14.9%); 4 persons (14.7%); 5 persons (6.4%); 6 or more persons (3.1%) (ABS, 2017).

The Residential Design Codes (R-Codes) form the basis of residential development control, applied through local planning schemes across Western Australia. A range of residential density codes are applicable to 2,450 hectares of zoned land within the district, as shown on the Scheme Maps. **Figure 13** and **Figure 14** demonstrate the application of R-Codes across the CGG. Collectively, low-density codes account for almost 60% of the area, with R20 as the most common density code (41%).

TPS 1A around the Greenough River mouth is largely dedicated to existing and future residential development with significant areas set aside for tourist accommodation sleeved by large areas of land reserved for conservation. Detailed planning of these future residential areas is required prior to development (CGG, 2011).

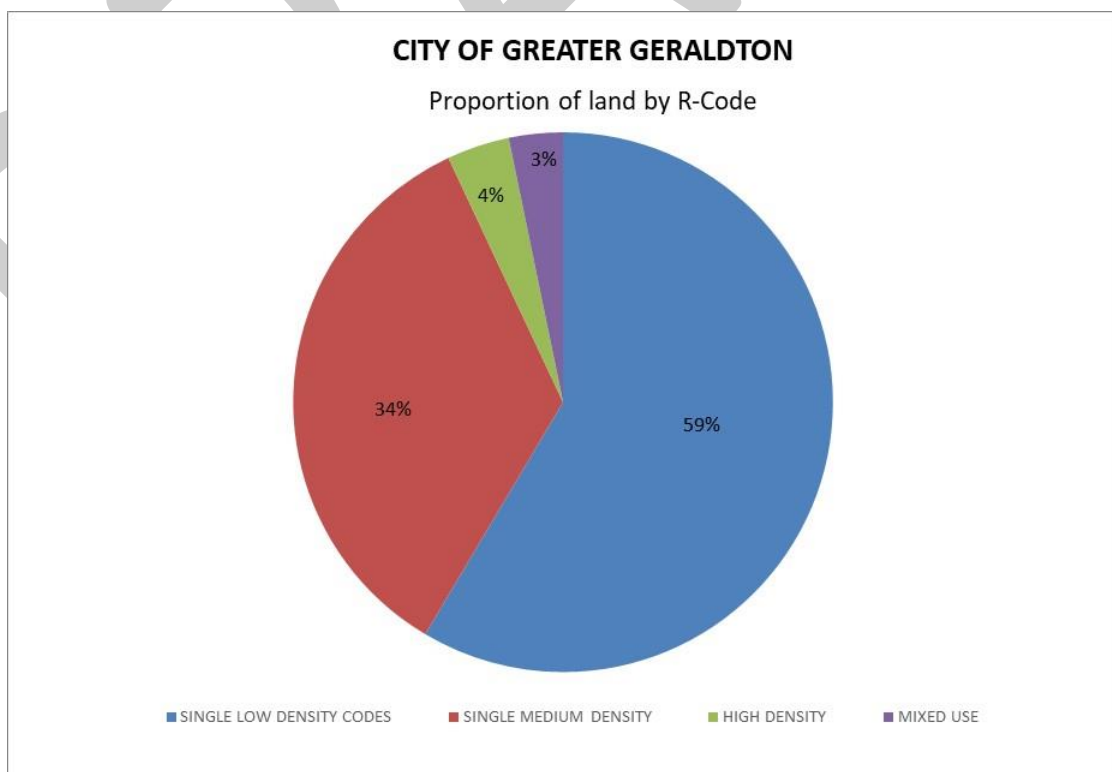


Figure 13 Proportion of land by R-Code, Geraldton urban area (Source: Local Planning Scheme No. 1)

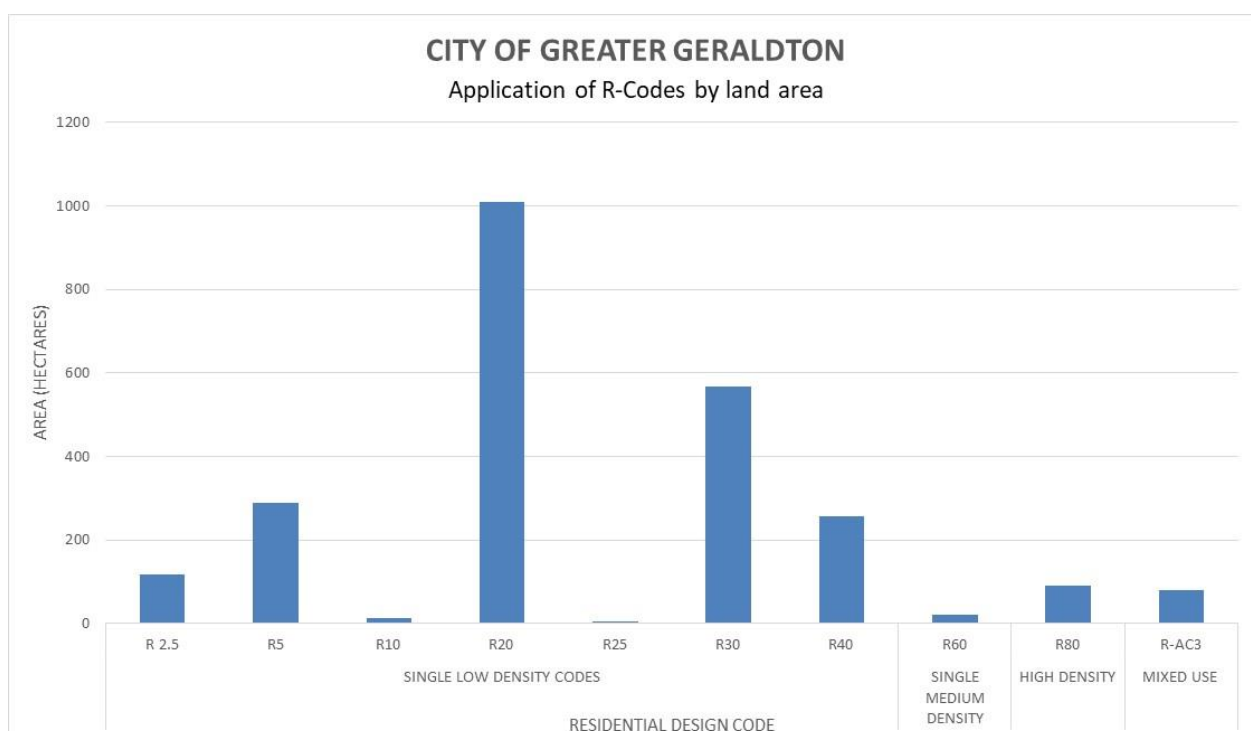


Figure 14 CGG Application of R-Codes by land area (hectares) (Source: Local Planning Scheme No. 1)

Research conducted as part of the *City of Greater Geraldton Part 2 – Background Report for Residential Development Strategy and Commercial Activity Centres Strategy* (CGG, 2011) provides some insight into the housing product on offer via project builders, generalised below:

- Standard designs are detached single residential homes. They commonly have three to four bedrooms; two bathrooms; double car garaging; and are single level;
- Floor areas range from 150 to 300m²;
- Lots range from 500 to 800m²;
- Lot widths range from 8m to 16m; lot depths vary from 12m to 30m; and
- House and land packages are a common offering, limiting decisions from individual owners.

6.2.2 THE NEEDS OF COMMUNITY SECTORS

6.2.2.1 INDIGENOUS HOUSING

The ABS Census data indicates an increase in the percentage of population recognised as Aboriginal and/or Torres Strait Islander from 8.4% to 9.7% over the 2006-2016 period. The following **Table 7** outlines a snapshot of the City, Mid West region, Gascoyne and WA. The percentage of the population that is Aboriginal and/or Torres Strait Islander is relatively comparable between the City of Greater Geraldton and the Mid West region (presumably as 70% of the Mid West population resides within the City). It is a lower ratio when compared to the Gascoyne region, however, is generally triple that of Western Australia. As such, it is important to ensure that appropriate housing is provided within the region, and particularly the City of Greater Geraldton, to best accommodate the needs of Aboriginal and/or Torres Strait Islander persons.

According to the *Geraldton Aboriginal Housing Action Plan* (MAOA and CURCH, 2012), 33% of Aboriginal households own their own homes and around 30% reside in public housing. 17% rent through private real estate agents, and 20% rent through community housing organisations, caravan parks and private landlords.

Table 7 Analysis of Indigenous Status of Persons (ABS, 2017)

Aboriginal and/or Torres Strait Islander Status – Time Series Profile (ABS, 2017)				
Year	City of Greater Geraldton	Mid West Region	Gascoyne Region	Western Australia
2016	9.7%	9.6%	13.4%	3.1%
2011	9.5%	9.9%	14.7%	3.1%
2006	8.4%	9.1%	15.3%	3.0%
Non-Indigenous Status – Time Series Profile (ABS, 2017)				
Year	City of Greater Geraldton	Mid West Region	Gascoyne Region	Western Australia
2016	82.5%	81.6%	74.8%	90.4%
2011	85.6%	84.5%	76.3%	91.1%
2006	84.0%	83.3%	76.1%	90.5%

The *Geraldton Aboriginal Housing Action Plan* (MAOA and CURCH, 2012) suggested levels of overcrowding in Aboriginal housing not reflected by ABS data, with overcrowding attributed to a lack of affordable housing in Geraldton and high rental costs; barriers to Aboriginal youth finding homes of their own; restrictions to entry into the housing market as a result of previous non-payment of rent, damage, general discrimination or existing extensive debt levels; and visiting Aboriginal people seeking access to services within the city and staying with friends or family.

Given the high proportion of Aboriginal people in the CGG community, it is important that the needs of this sector are recognised, and opportunities to positively tackle housing challenges are incorporated into policy and decisions. The *Geraldton Aboriginal Housing Action Plan* includes a number of actions to improve opportunities and access to housing, including a suggestion that new public housing could be more robustly designed and finished to reduce damage, thereby reducing the likelihood of large liability bills at the close of any tenancy. Suggested actions included provision of a specification to social housing providers to outline structural materials and finishes that are attributed to lower maintenance.

6.2.2.2 LONE PERSON HOUSEHOLDS

There is a prevalence of single person households (25%) in the local government area (ABS, 2017), however this does not align with the choice of dwelling types available. With Separate Houses accounting for 85% of the total dwellings in the CGG, it is expected there would be a greater demand for more compact housing forms, as well as affordable housing and adaptable housing, particularly recognising the ageing population and student presence.

6.2.2.3 HOUSING FOR THE ELDERLY

An action identified in the draft *Guilderton to Kalbarri Sub-regional Planning Strategy* proposes that the WAPC develops planning guidance for local planning schemes to provide a flexible approach for the planning and development of aged-care sites.

The City's *Residential Development Strategy* (CGG, 2013) notes that, to allow aged people to stay in their own dwellings for longer, that medium density, universally design single-level dwellings should be considered. These would still have three bedrooms and flexible layouts to adjust to differing needs and accommodate visitors.

6.2.2.4 STUDENT ACCOMMODATION

The Central Regional TAFE campus provides student accommodation with 48 bedrooms available for post-secondary students clustered in 12 x 4-bed self-contained units. Training demand at the moment is subdued, however, in the longer term there is likely to be further demand for accommodation of this type and viable student housing options are essential to facilitate their retention in the region.

The City's *Residential Development Strategy* (CGG, 2013) advocates for the availability of viable housing options for students to stay in the City and avoid costs of relocation (such as to Perth), and thereafter add to the pool of skilled workers in the region. Affordability and proximity to place of study, activity and facilities are important attributes to appeal to this market. The suburbs of Geraldton, Mahomets Flats and Beachlands are also areas where good opportunities for future development of housing for this group exist. The development of additional student accommodation within the Geraldton Health Education and Training Precinct is currently being evaluated.

6.2.2.5 AFFORDABLE HOUSING

Table 2 provided an indication of household income and costs of renting and mortgage repayments across the local government area. The table indicated that weekly household incomes in the City have overtaken the regional equivalent of incomes. However, median monthly mortgage repayments and median weekly rent within the City exceed the regional equivalents. An examination of mortgage repayments and rent, to household incomes, is outlined below in **Table 8**.

Table 8 Measures of Median Mortgage Repayments or Rent (REMPPLAN, 2017)

Population characteristics	City of GG (2016)	City of GG (2011)	City of GG (2006)	Mid West (2016)	Mid West (2011)	Mid West (2006)
Median weekly household income	\$1,335	\$1,204	\$958	\$1,254	\$1,100	\$909
Median monthly mortgage repayments	\$1,733	\$1,649	\$1,000	\$1,690	\$1,583	\$1,000
Median monthly mortgage repayments, as a percentage of Median Monthly Household Income	30.0%	31.6%	24.1%	31.1%	33.2%	25.4%
Median weekly rent	\$265	\$230	\$135	\$249	\$200	\$125
Median Weekly Rent, as a percentage of Median Weekly Household Income	19.9%	19.1%	14.1%	19.9%	18.2%	13.8%

The generally accepted interpretation of 'mortgage stress' is where 30% of income (usually pre-tax) is spent on home loan repayments. The above table considers household income to rent repayments and to mortgage repayments, as it is assumed that households would contribute towards these forms of repayments. It is notable that median monthly mortgage repayments were approximately 30% of median monthly household incomes as at the 2016 census. This increased from 24.1% in 2006 yet is lower than 31.6% in 2011.

As a measure against other regional centres in 2016, the City of Greater Geraldton has similar monthly mortgage repayments as households in Carnarvon, Bunbury, and Albany; and comparable weekly rent as households in Carnarvon and Broome. The City of Kalgoorlie-Boulder has the lowest mortgage and weekly rent out of the selected regional centres.

In contrast, the Shire of Broome and City of Mandurah have notably higher median monthly mortgage repayments and weekly rent (refer **Table 10**). The Shire of Broome has higher median weekly household incomes and higher median mortgage repayments when compared to CGG households. The City of Mandurah has lower median weekly household incomes than CGG households, and higher median monthly mortgage repayments than CGG households. Therefore, it will be important to ensure that housing supply is at a rate where mortgage repayments are suitably contained in context of household incomes.

Table 9 Median Weekly Rent and Monthly Mortgage Payments, Selected Regional Centres, 2016 (ABS, 2017)

Regional Centres	CGG	Carnarvon	Broome	Bunbury	Kalgoorlie-Boulder	Albany	Busselton	Kununurra	Mandurah
Median monthly mortgage repayments, as a percentage of Median Monthly Household Income	30.0%	30.7%	38.4%	30.9%	20.2%	30.6%	33.1%	32.0%	36.2%
Median Weekly Rent, as a percentage of Median Weekly Household Income	19.9%	17.5%	17.5%	24.7%	14.1%	23.2%	26.9%	12.8%	27.6%

**Table 10 Median Weekly Income, Monthly Mortgage Repayments, Weekly Rent
Geraldton, Broome and Mandurah (ABS, 2017)**

	CGG 2006	CGG 2011	CGG 2016	Broome 2006	Broome 2011	Broome 2016	Mandurah 2006	Mandurah 2011	Mandurah 2016
Median weekly household income	\$958	\$1,204	\$1,335	\$1,087	\$1,366	\$1,547	\$812	\$982	\$1,159
Median monthly mortgage repayments	\$1,000	\$1,649	\$1,733	\$1,733	\$2,600	\$2,573	\$1,200	\$1,950	\$1,820
Median weekly rent	\$135	\$230	\$265	\$150	\$200	\$270	\$170	\$270	\$320

Tying into student housing, affordable housing is also important for people on low or fixed incomes, and requires diversity in housing types, functionality, sizes and densities. The City's *Residential Development Strategy* (CGG, 2013) utilised median incomes to identify affordable housing price-points between \$150,000-\$200,000, which was (at the time) significantly below the Geraldton median house price of \$358,000. Depending on the data used, 2018 median house prices in Geraldton are recorded between \$266,000-\$345,000.

It was noted that public housing appeared to be in short supply, although there was significant demand for public landlord properties. The City's *Residential Development Strategy* recommended increasing the stock of affordable or public housing to keep pace with the City's growth. Further consideration and integration of public housing, community housing and consideration of servicing costs for development sites, impact purchase prices.

6.2.3 FUTURE HOUSING PROVISION IN GERALDTON

The demand for housing will be driven by the rate and nature of population growth; the local economic climate and future project development; household formation pressures; and affordability.

The latest ABS census identified 13,712 households within the CGG, made up of 9,844 family households (71.8%); single households (25.3%); and 400 group households (2.9%).

WA Tomorrow Population Report No. 10 (WAPC, 2015) as discussed in **section 6.1.3** provides population projections for the City of Greater Geraldton; however, WA Tomorrow Population Report No. 8 (WAPC, 2012) provides information for household projections that is useful to better understand future housing needs and associated service provision. These forecasts are provided for family and group household size, by local government area. The forecasts also include the number of people in lone person households and non-private dwellings.

Based on the average household size of 2.5 (ABS, 2017), and using a population growth rate of 1.5% per annum to 2026 (i.e. Band C), household numbers are projected to rise from 18,700 to 21,400 by 2026. This is a 19% increase on the population of the City of Greater Geraldton in 2016 or just under 2% annual increase. The complete extent of potential housing demand scenarios across the other possible WA Tomorrow Population Report No. 8 (WAPC, 2012) population bands are shown in **Figure 15** and summarised as follows:

- Band A: 16,800 households in 2018 to 19,000 households by 2026;
- Band B: 17,900 households in 2018 to 20,400 households by 2026;
- Band C: 18,700 households in 2018 to 21,400 households by 2026;
- Band D: 19,400 households in 2018 to 22,400 households by 2026; and
- Band E: 20,600 households in 2018 to 23,800 households by 2026.

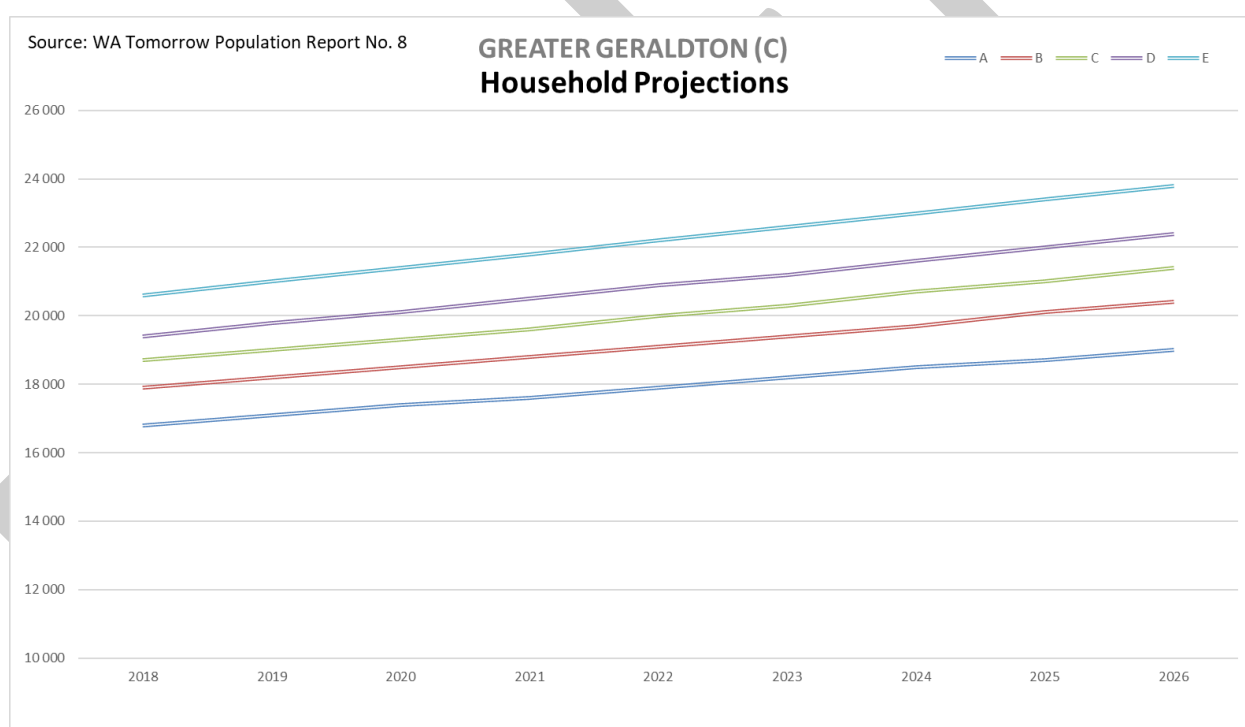


Figure 15 Household Projections (Bands A-E) 2006-2026 (WAPC, 2012)

3,345 hectares of urban and future urban land in the CGG has been identified in the *Greater Geraldton Structure Plan 2011* (WAPC, 2011) as adequate land supply to accommodate substantial growth of residential activity even at current densities (refer to **Figure 6**). This aligns with more recent research outlined in the *Central Regions Land Capacity Analysis* (DPLH, 2016) which suggests that there is 3,345 hectares in Geraldton and 21 hectares in Mullewa to accommodate future residential development.

The City's *Residential Development Strategy* (CGG, 2013), *City Vibrancy Strategy* (CGG, 2012) and *Growing Greater Geraldton: A Growth Plan* (CGG, 2017) prioritise intensification of activity in inner urban areas and existing and proposed activity centres and activity centre catchments, to deliver a more sustainable urban form. Furthermore, the City's *Residential Development Strategy* (CGG, 2013) and *Local Planning Strategy* (CGG, 2015) advocate for intensive growth around the city centre. The following have been identified as 'Status 1 Activity Centres' as outlined in the City's *Commercial Activity Centres Strategy* (CGG, 2013):

- Bluff Point;
- Rangeway;
- Sunset Beach; and
- Wonthella.

The Status 1 Activity Centres are existing Neighbourhood Centres and have been identified as areas where increased residential development should be prioritised as there they are in close proximity to existing and planned facilities and services. The City's *Residential Development Strategy* Map, refer **Figure 16**, details the recommendations for future residential growth and indicates the extent of residential and future residential land, along with rural living areas within the City of Greater Geraldton. The City's *Residential Development Strategy* Map, refer **Figure 16** displays the location of the abovementioned Neighbourhood Centres which are generally located north-south in proximity to the coastline.

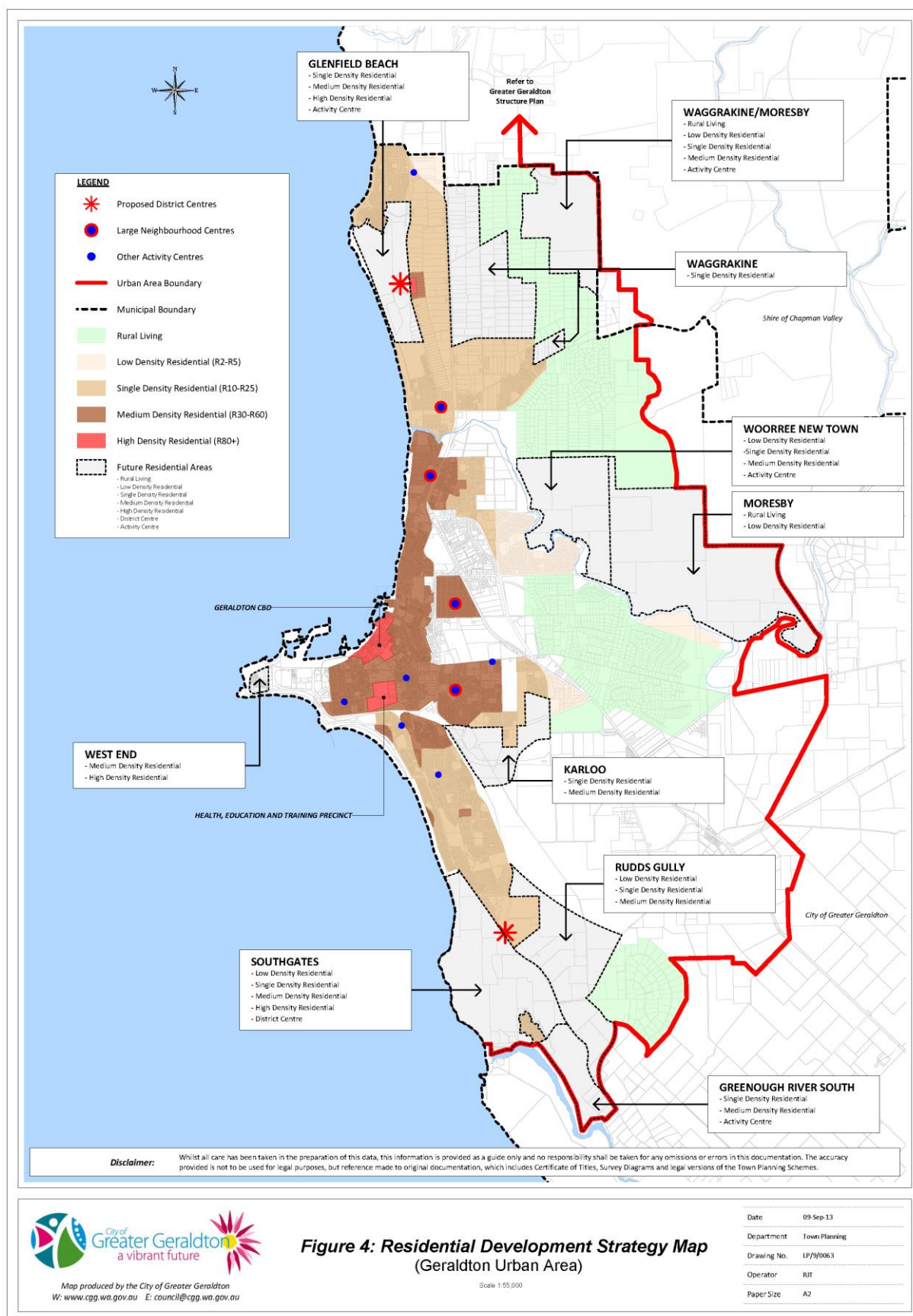


Figure 16 Residential Development Strategy Map (CGG, 2013)

6.2.4 STAGING OF RESIDENTIAL DEVELOPMENT

The City's *Residential Development Strategy* (CGG, 2013) proposes indicative prioritising of residential development in order to align provision of services and infrastructure to support future development. When population reaches a certain level, staging of residential development is triggered (refer **Table 11**):

- Priority 1: Development may proceed now.
- Priority 2: Optimal development between 50,000 to 70,000 population.
- Priority 3: Optimal development between 70,000 to 100,000 population.
- Priority 4: Optimal development at 100,000 plus population.

The City's *Residential Development Strategy* (CGG, 2013) acknowledges that land ownership and availability of servicing infrastructure are critical factors in determining development timeframes.

Table 11 Residential Development Priorities under scenarios outlined in the *Residential Development Strategy* (CGG, 2013)

Development Type	Population Scenario			
	Develop Now	Between Now and 50,000 residents	Between 50,000-70,000 residents	Beyond 100,000 residents
	Priority 1	Priority 2	Priority 3	Priority 4
Activity Centres Residential density to be increased using the total population scenarios as a trigger	• Geraldton CBD • Bluff Point • Rangeway • Sunset Beach • Wonthella	• Beachlands • Geraldton	• Mt. Tarcoola • Utakarra	• Drummond Cove • Mahomets Flats
Future Residential Areas Population scenarios to be used as a guide for optimal development timing.	• Glenfield Beach • Wooree New Town • Karloo	• Waggrakine / Moresby • Greenough River South	• Moresby • Rudds Gully	• West End • Southgates • Waggrakine
Regional Towns	• Mullewa	• Walkaway		• Central Greenough

With the total population of Greater Geraldton currently at 38,634 (ABS, 2017), future residential development will focus on 'Priority 1 Develop Now' which identifies future residential areas within Glenfield Beach, Wooree New Town and Karloo.

6.2.5 RURAL LIVING

Rural living areas form a zone of transition between urban and rural areas that add to the sense of place in regional areas (WAPC, 2011). They are an important element of housing and lifestyle provision in regional locations.

The *Greater Geraldton Structure Plan 2011* (WAPC, 2011) identified that 4,350 hectares (67%) of rural living land around Geraldton (including a portion in the Shire of Chapman Valley) is developed. The remaining 2,150 hectares was considered capable of substantial further development (refer **Figure 6**).

Rural Residential areas provide a residential lifestyle in a rural setting. Lots are generally 1-4 hectares in size, are required to be serviced with potable scheme water, and are predominantly in close proximity to the urban area of Geraldton. Rural residential areas around Geraldton include:

- Waggrakine – between the North West Coastal Highway in the west and Moresby Range in the east. Waggrakine is a relatively recent rural residential area with good proximity to Geraldton and surrounding services;
- Moresby – between the Chapman River in the west and the Moresby Range in the east. Previous studies have identified the need for additional rural living along the Moresby Range footslopes. Given the landscape significance of this area, any development of this type would be subject to analysis, justification and development controls that considers public value of the Moresby Range;
- Woorree – has a strong equestrian land use character;
- Deepdale – located on the eastern edge of Geraldton between the Chapman River and the Geraldton-Mt Magnet Road;
- Eastlyn – located to the south of Deepdale on the southern side of the Geraldton-Mt Magnet Road;
- Meru – located to the west of Walkway Road, with unsealed access to Karloo to the west. The proximity to Narngulu will need to be considered in any future development proposals;
- Jandanol Road – located south of Rudds Gully Road. Proximity to Narngulu and associated buffer areas (and special control areas) will need to be considered in any future development proposals; and
- West Bank – located on dunes south of the reserve area, near the Greenough River mouth.

The Urban Growth Boundary shown on the Geraldton Urban Area Strategy Plan of the *Local Planning Strategy* creates a separation between the urban expansion of Geraldton, part of Chapman Valley, and the retention of the rural hinterland. Generally, there are large areas to the north and east, zoned or identified for future urban development in which could provide for future housing provisions. However, this may be challenging in some areas, as in some instances substantial infrastructure will be required to enable development.

6.3 KEY CONSIDERATIONS / ISSUES

- The City's *Residential Development Strategy* (CGG, 2013) provides direction on living and housing demand, affordability, residential activity within future activity centres, land availability and staging and prioritisation of future residential development;
- The needs of specific community sectors, particularly Aboriginal, aged, student and lone person households needs to be further integrated into future residential planning and development;
- Single detached dwellings low densities account for the vast majority of dwellings within the City of Greater Geraldton. Further consideration of incentives to encourage infill development should be considered in order to accommodate projected and aspirational population growth;
- Provision of infrastructure in areas identified for future urban development will be required to enable future residential development;
- The city centre and activity centres have been prioritised to accommodate future higher density residential development; and
- Rural residential will also provide an important yet smaller component of the future housing market, providing lifestyle and housing choice for residents.

7 RECREATION & OPEN SPACE

7.1 OVERVIEW

The City and the Department of Local Government, Sport and Cultural Industries through the State-Wide Club Development Scheme, is committed to developing sport and recreation clubs in the Greater Geraldton and Mid West region. The City provides resources, advice and opportunities for sporting groups within the region.

The City's *Public Open Space Strategy* (CGG, 2015) adopts a 5-tiered hierarchy system for open space to reflect the different roles served by the diversity of open spaces and the different purposes and catchments for each category. The hierarchy consists of:

1. Local Open Space;
2. Neighbourhood Open Space;
3. District Open Space;
4. Regional Open Space; and
5. Conservation Areas.

7.2 PUBLIC OPEN SPACE – DISTRICT, NEIGHBOURHOOD AND LOCAL

The City is responsible for a significant number of parks and public open space across the City. A number of community facilities are operated by the City within Geraldton and Mullewa and are discussed in **section 8.2**.

67 parks are identified in the City's Park Schedule (CGG, 2016). The parks are categorised at district, neighbourhood and local level having regard to the City's *Public Open Space Strategy* (CGG, 2015). The *Strategy* also utilises the five-tiered hierarchy system to take advantage of the ability to create regional variations, including:

- Increasing the percentage of restricted use public open space, for the preservation of native vegetation;
- Requesting cash-in-lieu contributions in subdivisions and strata subdivisions of three or more lots; and
- Extending the maintenance period of public open space to five years.

Geraldton has a wide range of sporting facilities to support a strong and healthy community, including:

- Numerous ovals and recreational parks which provide for football, baseball, softball, cricket, hockey, soccer, rugby and touch football;
- Numerous courts providing for tennis, netball, basketball, squash and badminton;
- Tracks which provide for polocrosse, turf, equestrian, horse and pony clubs, go cart and BMX clubs; and
- Swimming pool, archery, gymnasium, bowling and golf.

Mullewa also has a range of high quality recreation facilities including:

- Sporting oval and active football club; and
- Recreation centre providing for tennis, netball, basketball, squash and badminton.

The Aquarena is a multi-purpose swimming facility in Geraldton with a 50-metre outdoor pool, 25-metre indoor lap pool, leisure pool and hydrotherapy facilities. It offers swimming lessons and activities for swimming squads, water polo and group fitness. The Mullewa Pool is located on Jose Street and includes a 33-metre main pool and a small children's wading pool.

Two golf clubs operate in Geraldton. The Geraldton Golf Club on Pass Street is a public/private 18-hole golf course. The Spalding Park Golf Club is an 18-hole golf course that is nestled within the surrounding Chapman River Regional Park.

The City has nine skateparks that are available for skateboard, scooter and BMX riders. Skateparks are located in Walkaway, Cape Burney, Glendinning Park, Maitland Park, Wonthella, Strathalbyn, Forrester Park, Drummond Cove, and Mullewa.

In 2015, the City undertook extensive play equipment safety inspections. As a result, a number of playgrounds and individual pieces of equipment were removed to ensure community safety. In a number of parks, equipment and facilities were replaced.

The City provides many different sports clubs and facilities for the community, including: 8 Ball, angling, archery, Little Athletics, badminton, basketball, the Wooree Park BMX club, bridge, cricket, croquet, cycling clubs, dance clubs, darts, equestrian, football, golf, hockey, horse racing, karate, dog training, lawn bowls, netball, polocrosse, rowing, rugby, running, sailing, scouts, shooting, soccer, softball, squash, surf life saving, surfing, swimming, table tennis, taekwondo, tee ball, tennis, touch football, triathlon, water polo, and wind surfing.

7.3 REGIONAL OPEN SPACE AND CONSERVATION AREAS

Regional Open Space may accommodate significant conservation and/or environmental features, as well as important recreation and organised sport spaces. Conservation areas are managed by the Department of Biodiversity, Conservation and Attractions. These would be regarded as having regional significance. The conservation areas are addressed in **section 4.6**. The City's *Local Planning Strategy* has reflected these areas as 'Foreshore / Regional and District Open Space' on the Regional Townsites – Mullewa Strategy Plan, Regional Townsites – Central Greenough & Walkaway Strategy Plan, and on the Rural Land Strategy Plan. These reserved areas for Geraldton and Mullewa are shown as reserves for open space in the Local Planning Scheme No. 1, reflected in **Figure 17**.

The *Greater Geraldton Structure Plan 2011* (WAPC, 2011) went some way to identify regional parks, recreation and conservation. The areas typically included the coastal foreshores, and many of the sporting grounds in the Geraldton urban area. In turn, the City's *Local Planning Strategy* (CGG, 2015) has reflected these areas as 'Conservation / Foreshore / Regional and District Open Space' on the Geraldton Urban Area Strategy Plan.

The Foreshores within the district, whilst not considered to be public open space under *Liveable Neighbourhoods*, are considered to play a major role within the Geraldton community (CGG, 2015). The extensive coastline and its accessibility to the community provides for active and passive recreational use and facilities. The City's *Public Open Space Strategy* (CGG, 2015) identifies some foreshore areas as 'activated foreshore areas' which are those with facilities and services and considers that these areas be targeted for investment and development as part of locality actions.



Figure 17 Geraldton and Mullewa townsites, reserves for Open Space

7.4 KEY CONSIDERATIONS / ISSUES

On average, the provision of public open space within the urban areas of the City is below (but close to) the average 10% typically required for residential areas. It is important to note that whilst foreshore reserves are not included within the 10% POS calculation, some of the foreshore is valued by the communities and used for recreation and leisure. In some locations, the foreshore would represent a significant amount of open space in proximity to established residential areas.

Within new urban areas, it is envisaged that the amount of public open space will increase. Within established localities the aim would be to increase the quality of public open space with less an emphasis on simply increasing the quantity of public open space (CGG, 2015).

DRAFT

8 COMMUNITY FACILITIES

8.1 HEALTH AND EDUCATION

8.1.1 REGIONAL EDUCATION FACILITIES

Within the Geraldton urban area and Mullewa, education facilities are shown in **Figure 18**. Several specialist education facilities exist for particular population sectors. Educational support for children with special needs is provided by Holland Street School and Phoenix West Vocational College; and specific agricultural education is provided in Morawa.

25% of Aboriginal students across the region attend government or district schools. Remote Community Schools also operate out of Wiluna, Yulga Jinna, Pia Wadjarri, Sandstone, and the Abrolhos Islands, and an Aboriginal Education Centre is based in Karalundi. Remote communities are serviced by the Meekatharra School of the Air, primarily servicing students living on pastoral stations.

The following **Table 12** outlines the schools in the City of Greater Geraldton:

Table 12 Schools in CGG (Department of Education, 2018)

School	Location	Type	K	PP-Y6	Y7-Y12	Total
Allendale Primary School	Wonthella	Primary K-6	27	350	-	377
Beachlands Primary School	Beachlands	Primary K-6	11	121	-	132
Bluff Point Primary School	Bluff Point	Primary K-6	16	248	-	264
Geraldton Primary School	Geraldton	Primary K-6	20	328	-	348
Holland Street School	Geraldton	Primary K-6	1	27	-	28
Mt Tarcoola Primary School	Mount Tarcoola	Primary K-6	21	382	-	403
Waggrakine Primary School	Waggrakine	Primary K-6	30	473	-	503
Wandina Primary School	Wandina	Primary K-6	27	384	-	411
Geraldton Senior High School	Geraldton	Secondary 10-12	-	-	777	777
Champion Bay Senior High School	Geraldton	Secondary 7-9	-	-	793	793
Mullewa District High School	Mullewa	Secondary K-12	4	46	29	79
Leaning Tree Community School	Geraldton	Independent Community K-6	n/a	n/a	n/a	71
Geraldton Grammar School	Geraldton	Independent Christian K-12	33	210	313	556
Strathalbyn Christian College	Strathalbyn	Independent Christian K-12	n/a	n/a	n/a	403

The following **Table 13** outlines the Catholic schools in the City of Greater Geraldton, with enrolments as of February 2017 (Catholic Education WA, pers. comm. 2017). Geraldton Flexible Learning Centre is a Curriculum and Re-Engagement (CARE) school. St Mary's Christian Brothers' Agricultural School (Tardun) is no longer in operation.

Table 13 Catholic Schools in CGG, and enrolments (Catholic Education WA, pers. comm. 2017)

School	Location	Type	K	PP-Y6	Y7-Y12	Total
St Lawrence's Primary School	Bluff Point	Primary	58	512	-	570
Nagle Catholic College	Geraldton	Secondary	-	-	1,271	1,271
Geraldton Flexible Learning Centre	Geraldton	CARE	-	-	103	103
St Francis Xavier Primary School	Geraldton	Primary	56	400	-	456
St John's School	Rangeway	Primary	28	174	-	202
Our Lady of Mount Carmel School	Mullewa	Primary	5	51	-	56

Vocational and tertiary education facilities in the Mid West include:

- Central Regional TAFE;
- Batavia Coast Maritime Institute in Geraldton;
- Geraldton Universities Centre; and
- WA Centre for Rural Health.

These facilities provide higher education, research and vocational education and training programs, with a large variety of courses available.

Geraldton does not have a high school presence in the growing northern suburbs, which impacts on local traffic at peak school periods. With the projected population increases in the Geraldton area, the on-going review of education facilities will be critical (MWDC, 2012).

There has been a gradual reduction in enrolment figures at the Mullewa district high school. As at the year 2002 there was a total of 127 students. This reduced to 93 enrolments in 2006, and as per **Table 12** there were 79 enrolments recorded in 2018.

8.1.2 REGIONAL HEALTH FACILITIES

The Geraldton Health Campus provides healthcare services to the region, including support for smaller regional hospitals, and services for remote communities. Remote areas such as Sandstone, Cue and Yalgoo have Health Services and visiting clinics are provided by the Royal Flying Doctor Service.

Health care services, incorporating a wide subsection of health are available in the Mid West including, but not limited to: general practitioners; dental; physiotherapy; occupational therapy; speech pathology; podiatry; mental health and drug and alcohol; clinical psychology; dietetics and chiropractors. Services catering for specific groups such as women, children, and the elderly are also available. In addition, aged and community care, population health, cancer and palliative care, mental health and community alcohol and drug services are also offered.

Geraldton is one of two non-metropolitan towns in Western Australia that has both public and private hospitals providing access to a broad range of specialist health services. Health facilities within the Geraldton urban area are shown at **Figure 18**. The Geraldton Health Campus is the site of the Geraldton Hospital, which is a public hospital with 93 beds, regional health service teams and other clinical and non-clinical support services.

The Geraldton Health Campus was redeveloped in 2005 at a cost of \$50 million, and currently provides a 24-hour emergency department with a 4-bed short-stay unit as well as 69 acute inpatient multiday beds, comprising maternity, neonate, paediatric, medical and surgical beds.

The *Mid-West Infrastructure Analysis* (WAPC, 2008) identified that the public Geraldton Hospital was experiencing bed shortage pressures due to a growing population. According to the MWDC, the Geraldton Hospital was under-developed and is still too small to service the current population. A substantial redevelopment has been identified, including upgrading the Emergency Department and provision of 18 new mental health beds (DPLH, 2017). A high priority to expand the hospital has been recognised, however funding has not been made available.

The St John of God Hospital is a 60-bed private hospital established in 1935. The hospital facilities include operating theatres, general medical and surgical, a maternity unit, hospice, medical imaging and a specialist centre.

The Geraldton Regional Aboriginal Medical Service operates a mobile clinic and has a medical centre in Rangeway.

The town of Mullewa has a medical centre with a private General Practitioner. The Mullewa Health Service offers emergency and palliative care services and has a nursing home care unit. Mullewa is set to receive a new Primary Health Care Centre in coming years, with construction expected to begin in 2018.

8.2 COMMUNITY FACILITIES

Community facilities within the district are generally of a high standard, and seek to support a strong and healthy community. Examples of facilities in the Geraldton area include:

- Entertainment centres;
- Police and Citizen Youth Club;
- Speedway;
- Rifle range;
- Numerous playgroups;
- Community halls;
- Volunteer Fire Brigade;
- Geraldton Police Station, which acts as a district hub facility; and
- Greenough Regional Prison, whose proximity to Narngulu Industrial Estate may present challenges for the future.

Mullewa also has a wide range of high quality community facilities, including:

- Mullewa Police Station;
- Volunteer Fire Brigade and Bush Fire Brigade;
- Telecentre, arts and crafts, and Indigenous women's art centre; and
- Playgroup.

The City operates a number of community facilities. Sports and leisure facilities are identified in **section 7**.

The Geraldton Multipurpose Centre is located on the Geraldton Foreshore at the intersection of Francis Street and Marine Terrace. It provides facilities for functions of up to 120 people, meeting rooms, an outdoor stage and park. It is available for hire.

The City operates the Geraldton Regional Library at Marine Terrace and the Mullewa Public Library at the corner of Padbury and Thomas Street. The facilities are open Monday-Sunday. The State provides book stock and other materials and facilitates the provision of information services. The City provides the buildings and staff. Both libraries provide computer and internet access for the public. The Geraldton Regional Library also has meeting rooms that can be booked. Homebound and Outreach Services are operated from the Geraldton Regional Library.

The Geraldton Regional Art Gallery is housed in the 1907 Town Hall and is managed by the City of Greater Geraldton with support from the State. The Gallery houses and cares for the City of Greater Geraldton Art Collection, which was initiated in 1959 and now comprises of over 475 artworks. The Gallery conducts education and youth activities.

The Queens Park Theatre is located on Cathedral Avenue and provides the Mid West's premier live music venue and attracts local, national and international acts. The theatre auditorium has a seating capacity of 656, whilst an outdoor amphitheatre has a capacity for 300 patrons.

The City runs the Geraldton Visitor Centre, located on the Geraldton Foreshore. The Visitors Centre provides tourist information on events, accommodation, experiences and general visitor information about Geraldton and the surrounding region.

The Queen Elizabeth II Seniors and Community Centre is located near Durlacher Street, providing accessibility to businesses and facilities within the city centre. It is owned and operated by the City and is assisted with grant funding from the Department of Communities. Facilities include two large halls, two meeting rooms, a lounge room and library, computer room, and a seniors resource centre. It provides for regular community groups to meet, and runs a number of social, mental and physical positive ageing programmes.

8.3 KEY CONSIDERATIONS / ISSUES

- Equal access to health and education services is important to retaining and attracting community members.
- Increasing trends to locate health services in larger regional centres will create challenges for population growth and service provision in smaller rural service communities.
- Urgent facility expansion of the Geraldton Hospital is required to accommodate the growth in local and regional population. Appropriate zoning, buffers and land uses surrounding the current site should reflect this expected growth.
- It is considered that there is a current surplus of school sites. It is important to align school site identification with the actual development of school sites and staging of urban growth.

LEGEND

City of Greater Geraldton

ROADS

Highway

Main

Minor

OTHER

Localities

EDUCATION FACILITIES

- 1 Waggrakine Primary School
- 2 Bluff Point Primary School
- 3 Geraldton Camp School
- 4 St Lawrence's School
- 5 Allendale Primary School
- 6 Strathalbyn Christian College
- 7 Geraldton Grammar School
- 8 Leaning Tree Community School
- 9 Geraldton Flexible Learning Centre
- 10 St Francis Xavier Primary School
- 11 Nagle Catholic College
- 12 Geraldton Primary School

EDUCATION FACILITIES (continued)

- 13 Holland Street School
- 14 Geraldton Senior High School
- 15 Rangeway Primary School
- 16 Batavia Coast Maritime Institute
- 17 Geraldton Universities Centre
- 18 Central West College of Tafe Geraldton Campus
- 19 St John's School
- 20 Champion Bay Senior High School
- 21 Mount Taroona Primary School
- 22 Wandina Primary School
- 23 Mullewa District High School
- 24 Our Lady of Mt Carmel Primary School

HOSPITAL FACILITY

- 1 WA Centre for Rural Health
- 2 Geraldton Regional Hospital
- 3 St John of God Hospital
- 4 Mullewa Hospital

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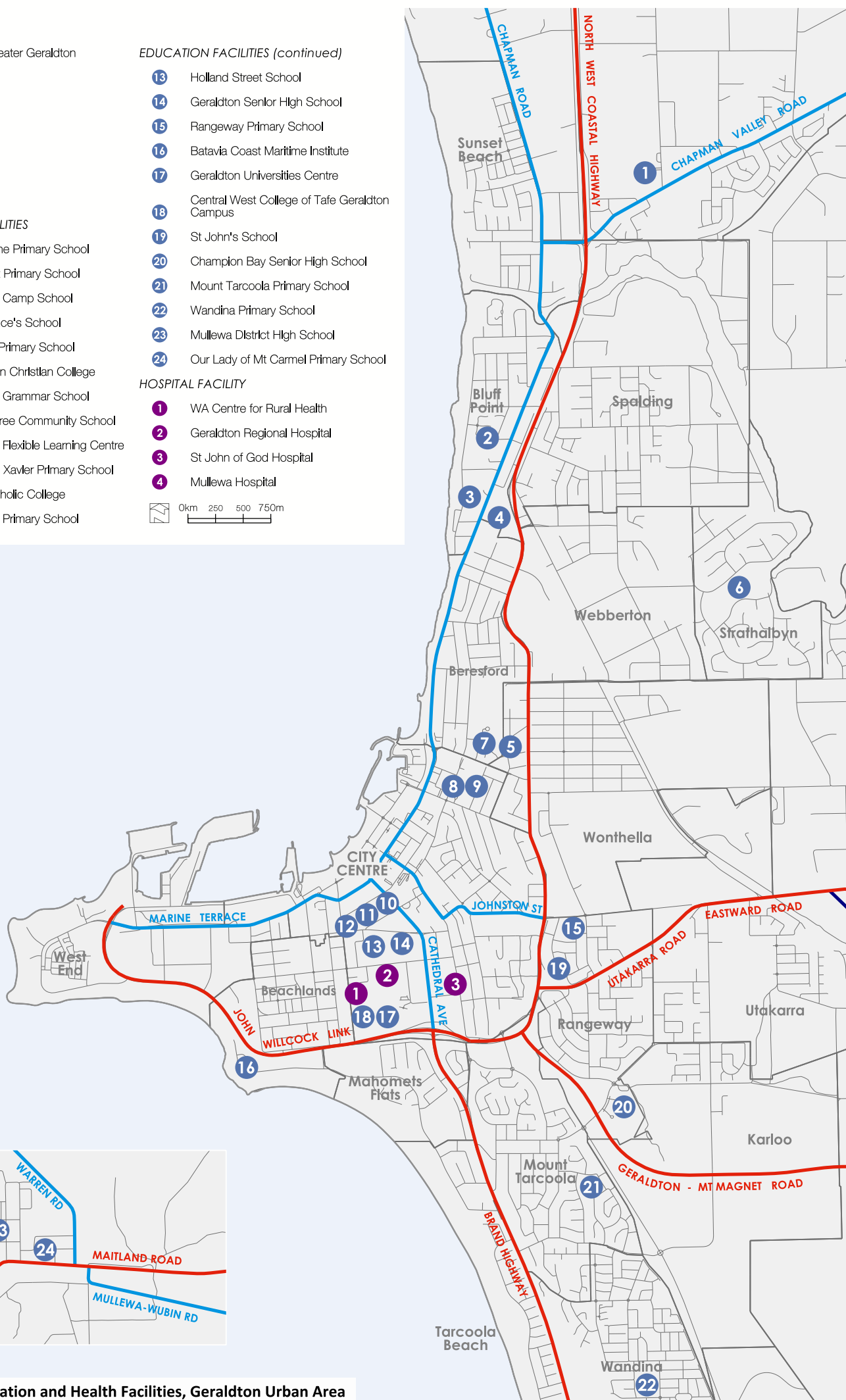


Figure 18 Education and Health Facilities, Geraldton Urban Area

9 URBAN DESIGN, CHARACTER, CULTURE AND HERITAGE

9.1 OVERVIEW

The Mid West Region, and City of Greater Geraldton in particular, is underpinned with a rich culture and heritage. The Indigenous, maritime and pioneer heritage elements are well-known and importantly are still represented in the fabric of the settlements, as evidenced by the following:

- St Francis Xavier Cathedral;
- Pioneer buildings, such as the Greenough historic village, are restored and respected;
- A prominent and active museum in Geraldton combined with some profound contemporary civic monuments such as the HMAS Sydney memorial;
- A rich and respected Indigenous heritage, with the City also embracing its ongoing commitment to the needs of the Aboriginal and Torres Strait Islander communities through its *Reconciliation Action Plan* (CGG, 2016);
- Queens Park theatre, which is a focal point for the arts within the community. Together with the level of public art provided in and around the region, the importance of art in the community is evident; and
- Geraldton Visitor Centre.

The City has a strong commitment to heritage conservation. The City's *Local Planning Strategy* designates a heritage area over the Greenough Flats as a special control area. In Geraldton, the City's *Local Planning Strategy* identifies the Geraldton/Beachlands Heritage Area due to its distinct built form and character.

Together with the demonstration of the importance of heritage and culture in the Mid West are two related contemporary themes which also impact on cultural development:

- The community embraces new technology-based opportunities, such as the Square Kilometre Array project, broadband connectivity, and the tertiary educational opportunities on offer; and
- The community has both an expectation and willingness to consult and be collaborative in taking the City and the region forwards.

The specific heritage and cultural components are described further in the following sections.

9.2 URBAN DESIGN AND CHARACTER

As noted in *Better Places and Spaces* (OGA, 2013), good design “will deliver better value by producing high quality, high performance facilities which will serve well the Western Australian community”. The quality of design employed in the public realm and built form can have an impact on the experiences people have with that environment, and done well, can assist in the creation of people-friendly spaces and places. The quality of a designed place or space can have environmental, community, economic and sustainability outcomes.

For the Geraldton City Centre, urban design quality will be important for reinforcing its role as a multi-functional centre of activity, with the greatest range of higher order services and jobs and the largest commercial component of any centre in the region. The City Centre has a significant level of investment in its public spaces and places, including Batavia Coast Marina, foreshore redevelopment, children's water playground and Geraldton Regional Library (CGG, 2012). There remain some instances of generally poor appearance and maintenance of properties in the City Centre, and the City works with property owners to identify low-cost solutions to address dilapidated, unsightly and poorly-maintained buildings to increase activation and amenity (CGG, 2014).

Central Greenough is regarded for its significant historic buildings within the settlement and the important tourism, natural floodplain regime, and agricultural practises that are observed on the Greenough Flats.

The City implements stormwater management techniques that meet the principles of water sensitive urban design. These WSUD techniques are attributed to an increased focus on total water cycle management and work towards protecting sensitive environments, improving management of stormwater, and increased efficiency in the use of water. This helps to facilitate a sustainable water future for the City, building a liveable green community which values efficient water use and is more resilient to climate change.

9.3 INDIGENOUS HERITAGE

The Yamaji people have a strong presence in the region. Within the Mid West region there are various localised Aboriginal language groups which are collectively known as Yamaji and include the Wilunyu/Amangu people, Naaguja people, Wadjarri people, Nanda people, Badimia people and additionally the region includes the Western Desert people known as the Martu people.

Traditional landowner language groups have strong spiritual, physical and cultural connections to the region and the landscape. It is understood that the Geraldton region, including the Moresby Range, is culturally significant for local Indigenous people. Archaeological and anecdotal evidence indicates that Indigenous people were using the Moresby Range, however in 1997 an assessment concluded there were no registered sites in the Moresby Range itself (Essential Environmental, 2014).

Indigenous heritage sites are protected under the *Aboriginal Heritage Act 1972*. Many heritage sites are related to biodiversity values of particular sites. Under the *Aboriginal Heritage Act 1972* it is an offence to alter, damage, remove, destroy, conceal, deal with, or assume possession of any object on or under a site.

In the Mid West region and the CGG, Indigenous heritage is demonstrated in detail by the number of Aboriginal heritage and cultural sites listed on the Aboriginal Heritage Sites Register. The Register has records for 58 Registered Aboriginal sites across the local government area (DPLH, 2017). The registered Aboriginal sites are recorded on Figure 16 of the *Environmental Profile* (Essential Environmental, 2014).

Native title is a form of land title and the recognition in Australian law that some Indigenous people continue to hold rights to lands and water arising from their traditional laws and customs. Traditional owners have special rights to use unallocated Crown land for traditional purposes. Native title can co-exist with other forms of land title such as pastoral leases but is extinguished by others such as freehold. It is understood that four Native title applications have been registered with the National Native Title Tribunal within the Greater Geraldton district. No claims have yet been determined.

9.4 EUROPEAN HERITAGE

The City of Greater Geraldton and National Trust of Australia prepared a *Heritage Strategy (2017-2022)* which recognises that the region's heritage supports the City's vision:

A prosperous, diverse, vibrant and sustainable community (CGG and National Trust, 2017).

The *Heritage Strategy* provides a historical description of the Geraldton area. The *Heritage Strategy* also outlines the prioritised actions to assist the CGG to achieve heritage-related goals for the overarching framework and strategic direction for heritage planning in the City, encompassing a range of activities in order to support, promote, protect and manage heritage assets and places in the community (CGG and National Trust, 2017).

The following provides a summary of European heritage, with additional detail contained in the City's *Heritage Strategy* and *Municipal Inventory of Heritage Places*:

- World Heritage – there are no World Heritage Listed places within the CGG.
- National Heritage List – the Batavia Shipwreck is a National Heritage place located within the CGG.
- State Register of Heritage Places – 83 registered places are located within the CGG that are included on the Register (Heritage Council, 2017). The State Register has statutory authority and proposed development of registered places requires referral to the Heritage Council of WA for advice.
- Municipal Heritage Inventory – all of the Municipal Heritage Inventory is included within the City's Heritage List under the LPS 1. A Heritage List provides planning controls to manage changes. A total of 694 places are included in the City's Municipal Heritage Inventory (CGG, 2017).
- List of Classified Places – the National Trust's list provides classification for natural, historic and Aboriginal places; however, the Trust has no statutory authority. Many of the buildings within Greenough are contained on the List.
- Natural Heritage – the Department of Biodiversity, Conservation and Attractions has the lead responsibility for protecting natural heritage through the protection and management of the State's national parks, marine parks, conservation and nature reserves, State forests, and marine nature reserves and management areas.

9.5 MARITIME HERITAGE

The Western Australian Museum has responsibility for the administration of the WA's *Maritime Archaeology Act 1973* and the Commonwealth *Historic Shipwrecks Act 1976*. These Acts protect valuable State and Commonwealth maritime heritage sites and artefacts, both above and below water.

The European history of the Abrolhos dates back to 1619 when Frederik de Houtman and his crew of the United Dutch East India Company ship *Dordrecht* first encountered and named the Houtman Abrolhos. The *Batavia* and subsequent shipwrecks, evidence of guano mining and commercial fishing all contribute to the heritage values of the Abrolhos (DoF, 2012). There are several maritime archaeological sites and historic shipwrecks located at the Abrolhos, which are protected under both WA and Commonwealth Acts (DoF, 2012).

9.6 ARTS AND CULTURE

The CGG has a vibrant contemporary arts fabric. Key focal points include:

- The WA Museum Geraldton is a cultural hub for the community, presenting stories inherent to the Mid West region and the host venue of many visiting exhibitions;
- The Queens Park Theatre which stages visiting plays and performances, while providing an important venue for conferences and other community events;
- The Geraldton Regional Art Gallery which promotes numerous exhibitions from across the arts spectrum;

- Public art, which is a notable and contemporary part of the City's artistic fabric; and
- A number of smaller art galleries in the town which exhibit local indigenous art, particularly from the Yamaji Indigenous group.

The City's *Public Art Strategy* (CGG, 2016) outlines the economic opportunities provided by public art to regional artists, fabricators, suppliers and installers. The *Public Art Strategy* (CGG, 2016) outlines how these economic opportunities can benefit the region and community with Greater Geraldton. The key guiding principles are outlined below:

1. The City will work collaboratively with business and industry to acknowledge the creative industries as potential economic drivers in the region.
2. The City and its public art partners will develop high quality public art in key tourism locations.
3. The City and its public art partners will engage in capacity building with our community and our artists.
4. The City and its community partners will encourage the integration of public art, including the use of ephemeral public art, to enrich performances, festivals and events.
5. The City understands that a sustainable, healthy society has a balance in the interaction between the society and the economy.

9.7 KEY CONSIDERATIONS / ISSUES

It is important to the City that its heritage is considered and respected in land use planning and decision-making. The protection of heritage requires consideration of the people and their access to that place. Land use planning needs to be able to maintain all heritage values, not just to preserve a site.

The *Planning and Development Act 2005*, *Heritage of Western Australia Act 1990* and *Aboriginal Heritage Act 1972* provides the statutory framework for heritage and planning in Western Australia. State Planning Policy 3.5 *Historic Heritage Conservation* applies to historic cultural heritage including heritage sites, buildings and structures, historic cemeteries and gardens, man-made landscapes and historic or archaeological sites with or without built features.

All of the Municipal Heritage Inventory is in a Heritage List under the LPS 1. The *Municipal Inventory of Heritage Places* (CGG, 2017) contains a Thematic Framework for Geraldton, Greenough and Mullewa townsites. The Frameworks are working documents that include a Historical Chronology and a Thematic Matrix. The Thematic Matrix provides a summary of information under six broad themes, which in turn are designed to contribute to the conservation of heritage.

The Greater Geraldton area contains a number of Heritage sites which are protected under the *Aboriginal Heritage Act 1972*. It is an offence to disturb Aboriginal heritage, whether it is a registered site or not. It should be recognised that where a previously unsurveyed area is proposed to be developed, consultation is recommended with Aboriginal people with knowledge of the area, together with an archaeological survey, to determine where the proposed development area contains any previously unrecorded archaeological sites.

A substantial portion of Greater Geraldton is subject to Native title claim. Native title rights including claims that are not yet determined, need to be considered. The City promotes inclusive engagement processes with Traditional Owners on land use planning activities in Greater Geraldton.

GOAL: ECONOMY

We value a healthy thriving economy that provides diverse employment opportunities while protecting the environment and enhancing social and cultural outcomes.



10 ECONOMY & EMPLOYMENT

10.1 ECONOMIC ANALYSIS

10.1.1 CURRENT ECONOMIC CONDITIONS

A summary of the City's economy is provided for below in **Table 14**, extracted from REMPLAN.

Table 14 Summary – City of Greater Geraldton Economy (REMPLAN, 2017)

Summary	Output \$M	Employment Jobs	Wages and Salaries \$M	Local Sales \$M	Regional Exports \$M	Local Expenditure \$M	Regional Imports \$M	Value-Added \$M
Agriculture, Forestry & Fishing	\$161.34	478	\$14.81	\$33.35	\$113.85	\$52.93	\$36.84	\$71.57
Mining	\$555.77	446	\$59.23	\$48.79	\$489.09	\$126.98	\$89.39	\$339.40
Manufacturing	\$725.34	736	\$87.40	\$258.03	\$329.50	\$171.94	\$418.71	\$134.69
Electricity, Gas, Water & Waste Services	\$168.38	183	\$24.60	\$75.32	\$42.74	\$64.13	\$22.16	\$82.10
Construction	\$708.33	1,320	\$113.54	\$256.26	\$102.10	\$363.92	\$130.77	\$213.65
Wholesale Trade	\$220.58	500	\$65.50	\$91.56	\$39.19	\$72.70	\$41.70	\$106.18
Retail Trade	\$247.87	1,894	\$97.39	\$33.20	\$31.35	\$62.75	\$33.09	\$152.03
Accommodation & Food Services	\$157.35	898	\$40.80	\$25.08	\$43.69	\$36.54	\$56.18	\$64.63
Transport, Postal & Warehousing	\$371.85	949	\$82.54	\$113.35	\$174.57	\$130.10	\$71.64	\$170.11
Information Media & Telecommunications	\$67.90	120	\$11.64	\$38.53	\$5.31	\$16.84	\$21.55	\$29.51
Financial & Insurance Services	\$206.80	285	\$46.88	\$135.77	\$3.53	\$42.15	\$28.36	\$136.28
Rental, Hiring & Real Estate Services	\$577.42	299	\$30.65	\$118.89	\$49.83	\$127.68	\$63.46	\$386.29
Professional, Scientific & Technical Services	\$195.50	624	\$63.58	\$163.04	\$7.40	\$64.83	\$39.51	\$91.16
Administrative & Support Services	\$98.67	350	\$45.17	\$80.41	\$9.17	\$31.21	\$17.06	\$50.40
Public Administration & Safety	\$246.36	1,098	\$120.85	\$26.42	\$28.77	\$63.80	\$36.42	\$146.14
Education & Training	\$218.39	1,487	\$147.25	\$5.25	\$48.09	\$33.28	\$18.58	\$166.53
Health Care & Social Assistance	\$248.42	1,827	\$152.43	\$3.93	\$13.02	\$41.99	\$26.01	\$180.41
Arts & Recreation Services	\$20.66	97	\$4.56	\$4.48	\$1.38	\$7.59	\$5.37	\$7.71
Other Services	\$123.60	730	\$43.08	\$37.57	\$31.42	\$37.90	\$22.61	\$63.08
Total	\$5,320.53	14,321	\$1,251.90	\$1,549.25	\$1,564.00	\$1,549.25	\$1,179.40	\$2,591.88

Geraldton is home to 70% of the Mid West region's population, however most of the region's major economic drivers occur outside the city (mining, farming etc). This creates an important symbiotic relationship between Geraldton and the Mid West hinterland; with significant co-dependence between Geraldton and the economic and trade activity that occurs inland. The capacity of Geraldton to service and support this economic activity is important.

The total number of businesses in Greater Geraldton in June 2016 was 2,955, which represents a -1.27% decrease from June 2014 where there were 2,993 businesses (REMPLAN, 2017). This is demonstrated below in **Figure 19** which shows relatively consistent range of businesses within individual turnover brackets. This count only includes businesses which actively traded in goods or services.

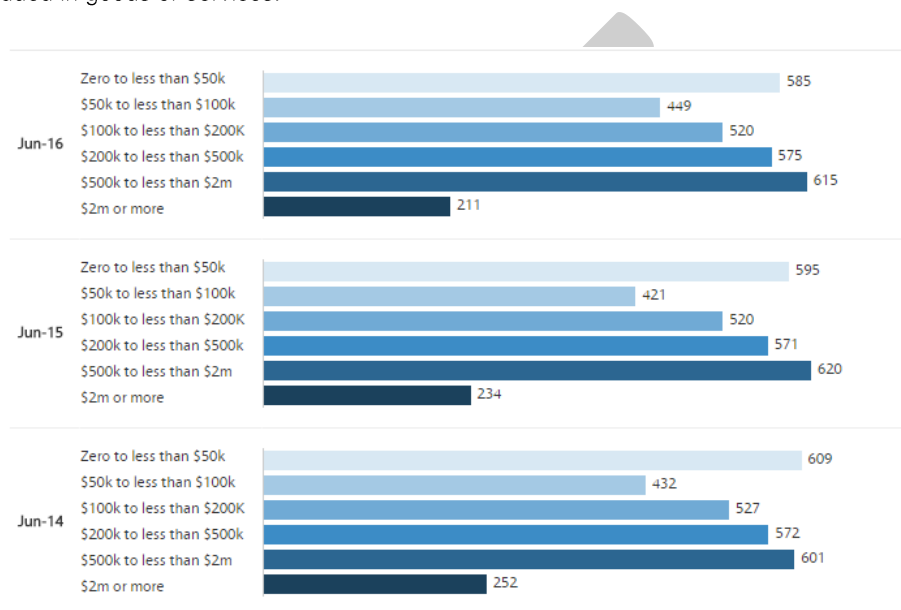


Figure 19 Total number of businesses in Greater Geraldton 2014-2016 (REMPLAN, 2017)

It is regarded that Geraldton has significant capacity for further growth, with high levels of land availability, reasonably affordable housing, and well-established and robust infrastructure (CGG, 2017). At an economic level, there has been an analysis that has found a number of advantages (CGG, 2017):

- Comparative advantages: access to port infrastructure; well-developed road and industrial rail infrastructure; well developed industry activity fishing, water transport, transportation and logistics); local industry activity; and strong social capital.
- Competitive advantages: dominance of resources and agricultural sectors as a regionally significant cluster; strong alignment with Mid West regional competitive advantages and nationally identified growth opportunities (such as food and agribusiness).
- Collaborative advantages: evidence of collaborative models used; stakeholders have the opportunity to work together; businesses have responded to clustering initiatives.

10.1.2 EMPLOYMENT OVERVIEW

The Mid West recorded its highest level of employment at around 32,000 persons in 2012-13, and unemployment was at its record low of 2.7% in 2011-12 (DRD, 2014). Within the City of Greater Geraldton, unemployment was recorded at the census periods as 5.9% in 2006, 5.5% in 2011, and 8.8% in 2016 (ABS, 2017). With relatively high unemployment, there is capacity in the workforce.

The following numbers indicate that between 2011 and 2016, the total number of businesses in the City of Greater Geraldton reduced from 3,463 to 3,233 businesses (ABS, 2018). Notably, 58% of businesses do not employ additional employees; 26% employ 1-4 employees; 12.5% employ 5-10 employees; and 3% employ 20+ employees.

Table 15 Number of Businesses, City of Greater Geraldton (ABS, 2018)

Number of Businesses (as at 30 June)	2011	2012	2013	2014	2015	2016
Number of non-employing businesses (i.e. owner operator)	2,033	2,009	1,947	1,937	1,881	-
Number of employing businesses: 1-4 employees	939	900	813	811	842	-
Number of employing businesses: 5-10 employees	400	402	397	418	407	-
Number of employing businesses: 20+ employees	91	100	116	113	103	-
Total number of businesses	3,463	3,411	3,273	3,279	3,233	-

The 2016 Census recorded 16,701 employed persons within the City of Greater Geraldton, which corresponds to 71.6% of the total employed persons working in the Mid West region (ABS, 2017). The following **Table 16** identifies the types of occupations for employed persons within the City of Greater Geraldton, in comparison to the Mid West region and Western Australia.

Table 16 Occupation of Employed Persons aged 15 years and over (ABS, 2017)

Occupation	City of Greater Geraldton	Percent	Mid West Region	Percent	Western Australia	Percent
Managers	1,838	11%	3,328	14.3%	139,350	12%
Professionals	2,688	16.1%	3,423	14.6%	237,230	20.5%
Technicians and Trades Workers	2,838	17%	3,837	16.5%	187,396	16.2%
Community and Personal Service Workers	1,921	11.5%	2,444	10.5%	122,889	10.6%
Clerical and Administrative Workers	2,066	12.4%	2,680	11.5%	150,408	13%
Sales Workers	1,612	9.7%	1,948	8.4%	102,337	8.8%
Machinery Operators and Drivers	1,492	8.9%	2,348	10%	86,392	7.5%
Labourers	1,933	11.5%	2,864	12.3%	112,599	9.7%
Inadequately Described/Not Stated	311	1.9%	447	1.9%	19,132	1.7%
Total	16,701	100%	23,322	100%	1,157,735	100%

The *Mid West Workforce Development Plan 2015-2018* (DTWD, 2015) aims to build, attract and retain a skilled workforce to meet the economic needs of the Mid West region. It contains a range of priority actions which were identified by local stakeholders, to address local workforce development challenges. Importantly the *Workforce Development Plan* aligns with *Skilling WA* and the *Mid West Regional Blueprint*, which in turn through the Regional Development Council, is supported by the Federal Government's *Regional Education, Skills and Jobs Plan – Mid West Gascoyne* (DEEWR, 2013). The *Regional Education, Skills and Jobs Plan* recognised the job opportunities (relevant to City of Greater Geraldton) regarding Oakajee, iron ore operations, and the 330kV transmission line (DEEWR, 2013).

The *Regional Education, Skills and Jobs Plan* noted that labourers and technical and trades positions were employed in mining and construction activities, as well as the agriculture, forestry and fishing sector. The government sector and other industries were noted to employ many managers, professionals and administrative and clerical workers. A survey of employers' recruitment experiences around 2011 indicated that at least one-quarter of vacancies in the Mid West Gascoyne regions were filled by job seekers requiring training, experience and development (DEEWR, 2013).

10.1.3 INDUSTRY PERFORMANCE OVERVIEW

The total economic output of the City of Greater Geraldton at December 2016 was estimated at \$5.3 billion (REMPAN, 2017). The top three major contributors to output were:

- Manufacturing: \$725.34 million (13.6%)
- Construction: \$708.33 million (13.3%); and
- Rental, Hiring & Real Estate Services: \$577.42 million (10.9%).

Total employment in the City of Greater Geraldton at December 2016 was estimated at 14,321 jobs (REMPAN, 2017) and the top three major contributors to employment were:

- Retail Trade: 1,894 jobs (13.2%);
- Health Care & Social Assistance: 1,827 jobs (12.8%);
- Education & Training: 1,487 jobs (10.4%).

Contributors to employment for the City, the Mid West region, and WA are compared below in **Table 17**.

Table 17 Proportion of Employment by Industry Sector (REMPAN, 2017)

Industry Sector	Work in City of Greater Geraldton	Percent	Work in Mid West Region	Percent	Work in Western Australia	Percent
Agriculture, Forestry & Fishing	478	3.30%	1,934	8.60%	26,245	2.50%
Mining	446	3.10%	2,769	12.30%	70,035	6.50%
Manufacturing	736	5.10%	1,161	5.20%	89,430	8.40%
Electricity, Gas, Water & Waste Services	183	1.30%	207	0.90%	12,567	1.20%
Construction	1,320	9.20%	2,057	9.10%	112,725	10.50%
Wholesale Trade	500	3.50%	607	2.70%	38,591	3.60%
Retail Trade	1,894	13.20%	2,229	9.90%	109,652	10.20%
Accommodation & Food Services	898	6.30%	1,488	6.60%	64,184	6.00%
Transport, Postal & Warehousing	949	6.60%	1,220	5.40%	49,645	4.60%
Information Media & Telecommunications	120	0.80%	128	0.60%	11,643	1.10%
Financial & Insurance Services	285	2.00%	321	1.40%	27,864	2.60%
Rental, Hiring & Real Estate Services	299	2.10%	349	1.50%	19,015	1.80%
Professional, Scientific & Technical Services	624	4.40%	778	3.50%	78,988	7.40%
Administrative & Support Services	350	2.40%	543	2.40%	34,021	3.20%
Public Administration & Safety	1,098	7.70%	1,539	6.80%	68,494	6.40%
Education & Training	1,487	10.40%	2,052	9.10%	87,710	8.20%
Health Care & Social Assistance	1,827	12.80%	2,149	9.50%	112,703	10.50%
Arts & Recreation Services	97	0.70%	137	0.60%	14,638	1.40%
Other Services	730	5.10%	858	3.80%	42,621	4.00%
Total	14,321	100.00%	22,526	100.00%	1,070,771	100.00%

10.1.4 GERALDTON INDUSTRIAL AREAS

The *Greater Geraldton Structure Plan 2011* (WAPC, 2011) identifies an industrial and service commercial land use category, which has been considered within the preparation of the City's *Local Planning Strategy* and Local Planning Scheme No. 1.

There are two key locations for industrial land proximate to the Geraldton urban area: Narngulu Industrial Estate (which is within the CGG) and the proposed Oakajee Industrial Estate (within the Shire of Chapman Valley), refer **Figure 20**. In 2012, LandCorp prepared a structure plan for the Oakajee Industrial Estate on the basis of the impending construction of the Oakajee Port and Rail expansion project. Notwithstanding that Oakajee is within the Shire of Chapman Valley, its development would have a significant impact on the local government area and, indeed, the broader Mid West region. Narngulu Industrial Estate is located within the City of Greater Geraldton and holds more certainty in terms of an industrial future.

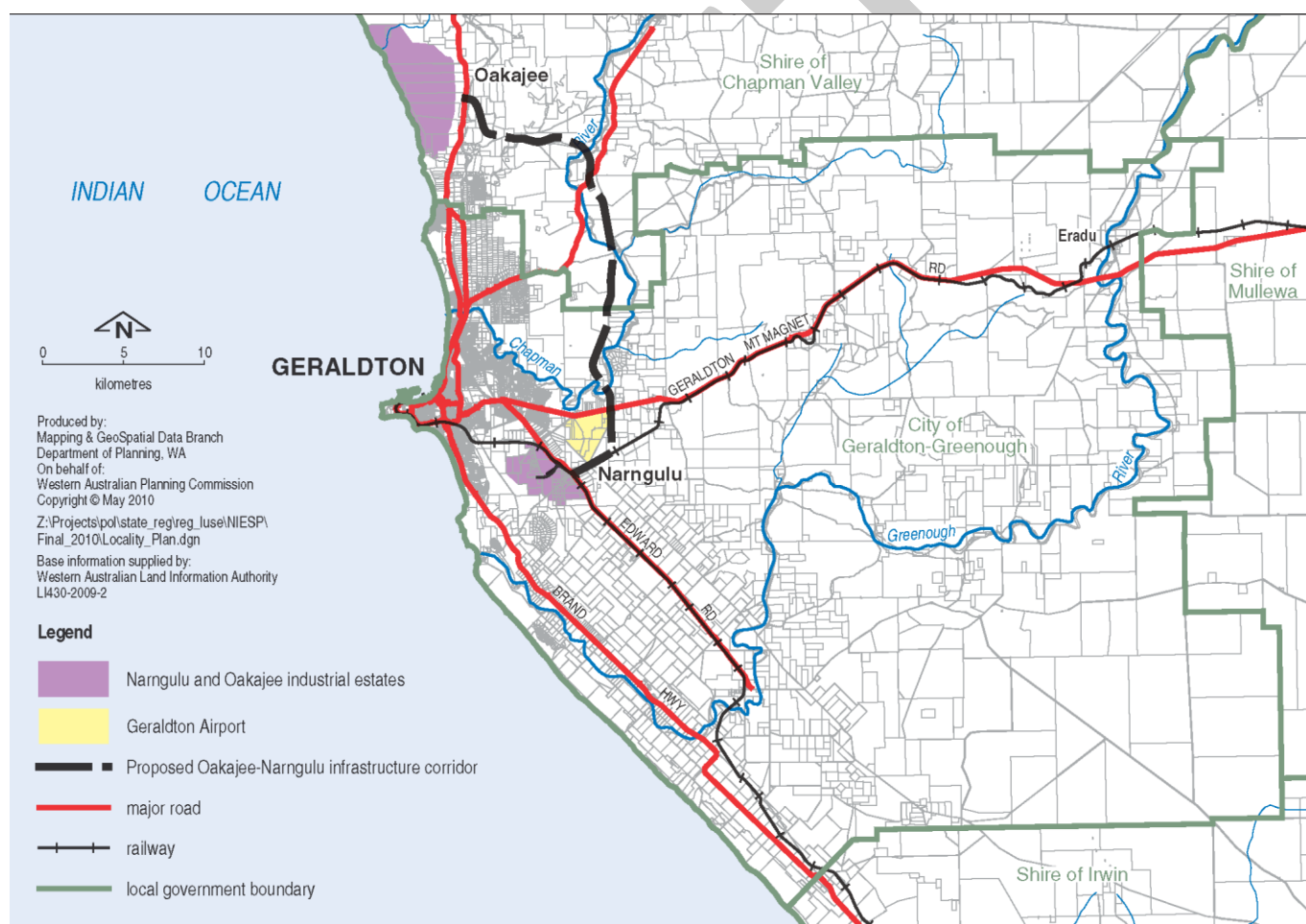


Figure 20 Regional Locations of Narngulu and Oakajee in context of Geraldton (WAPC, 2010)

10.1.4.1 NARNGULU INDUSTRIAL ESTATE

Narngulu Industrial Estate is approximately 5 kilometres south-east of the Geraldton City Centre.

Under the Local Planning Scheme No. 1, approximately 1,130 hectares of the Industrial Estate is zoned 'General Industry' and 129 hectares is zoned 'Light Industry', along with a number of 'Public Purposes' landholdings, and the balance being zoned 'Rural'. The estate is presently occupied by a wide range of industrial uses, including mineral sands processing, tanneries and general support industries.

The *Narngulu Industrial Area Strategic Land Use Directions* (WAPC, 2010) identified constraints on development including the limited supply of land for general and heavy industry; proximity to urban areas and Narngulu residences; and the need to maintain an adequate buffer. The report also recognised a number of precincts (refer **Figure 21**), described as follows.

Precinct A – this precinct comprises areas identified for future light industry / service commercial and mixed business. There is also a notional special design area subject to development and subdivision of this precinct, not recommended until the proposed Geraldton North-South Highway design and land assembly requirements are finalised. Land along this highway corridor and Geraldton-Mt Magnet Road will enjoy high levels of exposure to passing traffic, however, access into these areas from main arterials will need to be minimised and any future development will require careful consideration of traffic access and movement into and out of the Precinct.

Future uses will need to comply with the buffer requirements of Special Control Area 2 – wastewater treatment plant and Special Control Area 4 – Meru waste disposal facility, as shown on the Local Planning Scheme No. 1.

Precinct B – this precinct is subject to the requirements of Special Control Area 3 – Geraldton Airport, as shown on the Local Planning Scheme No. 1. The Strategic Land Use Directions Plan (**Figure 21**) also refers to a Narngulu Industrial Estate buffer and the Prison buffer. This precinct comprises a small portion of future general industry use, but is predominately zoned 'Rural' in Local Planning Scheme No. 1. Once the industrial area is developed, the rural portion could be reviewed.

Precinct C – existing general industry and light industry are the predominant land uses. The extent of land zoned 'General Industry' is updated and shown on the Local Planning Scheme No. 1, with a portion shown on **Figure 21** as general industry now reserved 'Strategic Infrastructure: Airport' under Local Planning Scheme No. 1. The proposed Oakajee Narngulu Infrastructure Corridor (ONIC) runs through the middle of this precinct, and is labelled as a Development Investigation Area 6 – Narngulu in the City's *Local Planning Strategy* (CGG, 2015). The future development of this area should be considered in line with the finalisation of the future of the ONIC and interface of adjacent land uses to this corridor. Given the proximity of Precinct C to the Geraldton Airport, it is recommended that any future development proposals consider the impact on and future development of the airport.

Within Precinct C, the Geraldton Airport Technology Park is established to form a strategic hub providing for a range of aviation and non-aviation services and employment opportunities. The Technology Park is fully serviced including with fibre optic technology.

Precinct D – comprises existing light industry and future light industry areas. A large portion of this precinct is affected by the Special Control Area 4 – Meru waste disposal facility, as shown on the Local Planning Scheme No. 1. The Strategic Land Use Directions Plan (**Figure 21**) also refers to a Narngulu Industrial Estate buffer.

Future development will not be allowed direct access to/from the Southern Transport Corridor. There would be a major intersection at the Geraldton North-South Highway and Geraldton-Mt Magnet Road, and therefore careful transport planning and accessibility considerations will need to be articulated within structure planning exercises for new development.

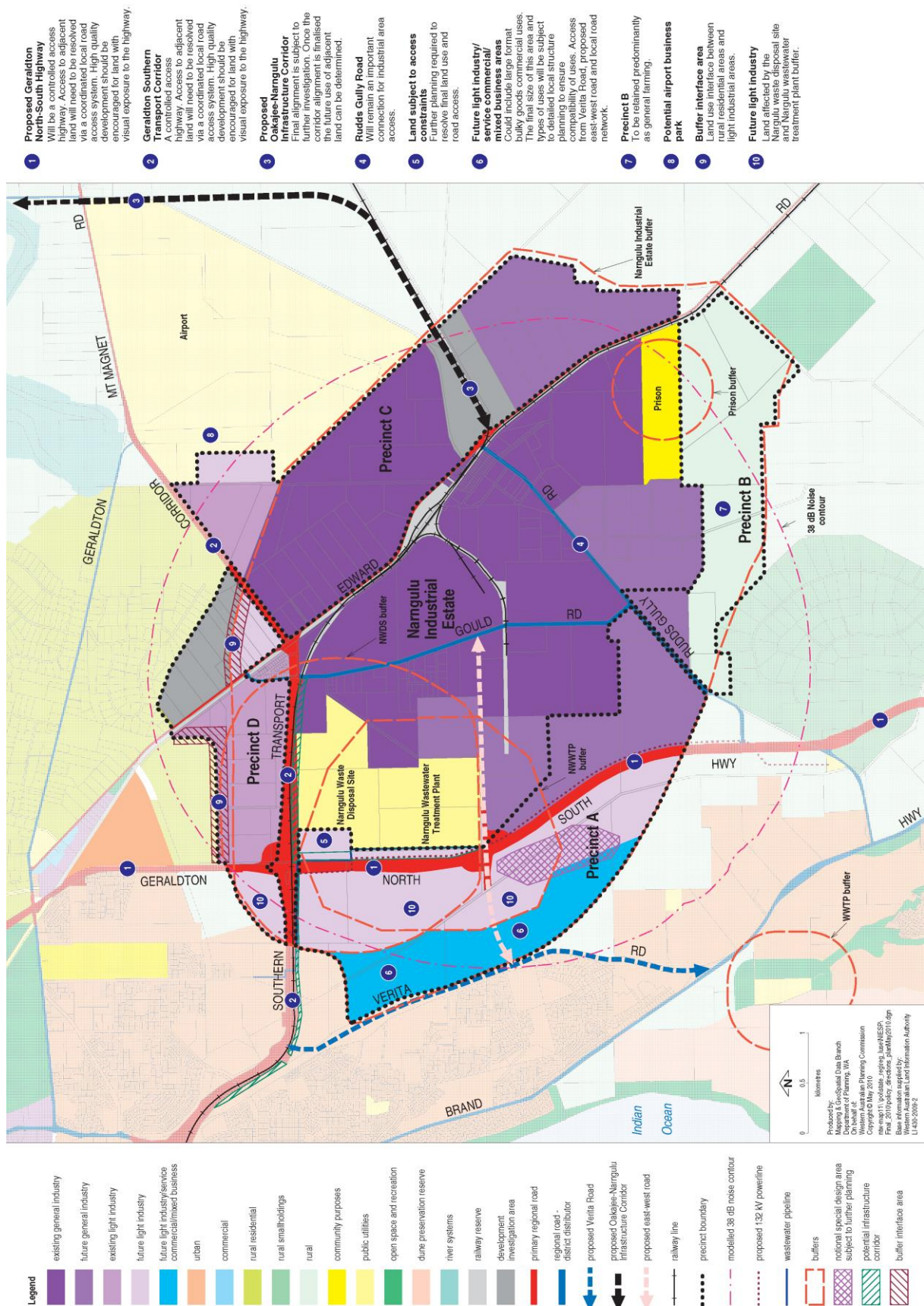


Figure 21 Strategic Land Use Directions Plan (WAPC, 2010)

10.1.4.2 OAKAJEE INDUSTRIAL ESTATE

The Oakajee Industrial Estate is located 20-23 kilometres north of Geraldton in the Shire of Chapman Valley. LandCorp owns the majority (99%) of the Strategic Industrial Estate, which comprises 6,400 hectares in freehold ownership and currently subject to short-term leases for agricultural purposes (LandCorp, 2018). The Oakajee Port (1,000 hectares) would be transferred to the Mid West Ports Authority once it is developed.

The WAPC approved the *Oakajee Industrial Estate Structure Plan Report* on 24 April 2012, which allocates land as follows:

- Strategic Industry Area: 1,134.6 hectares;
- Coastal Area: 1,002.2 hectares;
- General Industry Area(s): 196 hectares;
- Buffer: 4,071.6 hectares.

The port would cater for 'Cape' and 'Panamax' class vessels and enhance links to a number of international destinations. It would be reliant on the construction of the Oakajee Narngulu Infrastructure Corridor (ONIC) and Oakajee Port and Rail (OPR) alignments to provide links to the Narngulu Industrial Estate, Geraldton, and the mining provinces. The Oakajee Port's proximity to Geraldton is beneficial as the city can provide labour force housing/accommodation and major services and amenities for a permanent workforce.

10.1.4.3 OTHER SITES

Webborton Industrial Estate is situated approximately 3 kilometres north-east of the Geraldton City Centre. Under Local Planning Scheme No. 1, approximately 248 hectares are zoned 'Light Industry'. A number of large properties are vacant or underutilised, indicating that there is potential for further intensification of the estate. Some functional limitations of land have resulted in increased activity in Narngulu. These limitations will need to be addressed in order to support intensification of development in the future.

Mullewa has 39 hectares of land zoned 'General Industry' under the Local Planning Scheme No. 1. Lots are substantial in size and are located eastwards of the town, providing sufficient distance from other uses to accommodate general industry or transport/logistics uses that may want to establish in Mullewa.

CBH has a well-established Primary Receival site in Mullewa to facilitate the storage and transfer of grain to Geraldton Port. Sites to the north of the rail line and along the Geraldton-Mt Magnet Road are occupied by CBH. The CBH facility in Mullewa is identified as one of 100 sites that currently receive 90% of the annual crop (CBH Group, 2016). In the future, Mullewa along with Geraldton, Narngulu and Moonyoonooka will be four of 16 sites in the Geraldton zone that CBH will focus capital and maintenance expenditure. Pindar and Sullivan are identified as sites for emergency or surge storage or other special uses as seasons require (CBH Group, 2016).

The Square Kilometre Array (SKA) project, based in the Shire of Murchison, will be a significant contributor to the development of more science and technology focused industries and workforce in the City of Greater Geraldton. The SKA requires a radio quiet zone, as reflected on the City's *Local Planning Strategy*. There is potential for additional industry and commercial opportunities to be considered in the City, as a result of the infrastructure (such as the National Broadband Network, refer **section 15.2**).

10.1.4.4 BUFFERS

Appropriate buffers have been identified in the City's *Local Planning Strategy* to avoid conflict between industry and/or essential infrastructure, and sensitive land uses. Through the preparation of the Local Planning Scheme No. 1, buffers were included for the following:

- Modelled wastewater treatment plant buffers;
- Meru waste disposal facility; and
- Geraldton Airport.

10.1.4.5 LAND SUPPLY

It is noted that further development within the Narngulu Industrial Estate could be undertaken, by rezoning land identified for future industrial, service commercial, mixed business areas as required to provide an ongoing land supply. Strong development pressure exists within the Precinct C, and will need to be carefully planned in the future.

Land within Webberton is also identified for further intensification subject to ensuring constraints to development are addressed.

The development of Oakajee remains uncertain, and until such time as development occurs and links are made to Oakajee, development pressure will likely be placed on Narngulu Industrial Estate given its proximity to and linkages with Geraldton Port. Future planning of the Narngulu Industrial Estate will need to be cognisant of the decisions surrounding the future of the Oakajee Port and Rail (OPR) project.

10.1.5 BASIC RAW MATERIALS

Basic Raw Materials are defined in SPP 2.5 as "*sand (including silica sand), clay, hard rock, limestone (including metallurgical limestone), agricultural lime, gravel, gypsum and other construction and road building materials*" (WAPC, 2016). The materials may be of State, regional or local significance depending on the resource location, size, relative scarcity, value and demand for the product. The ready supply of basic raw materials in reasonable proximity to developing areas is an important element of managing the costs of land development.

The Department of Mines, Industry Regulation and Safety (DMIRS) has completed a geological review of the City of Greater Geraldton and has supplied datasets to the Department of Planning, Lands and Heritage that show the 'Significant Geological Supplies' resource areas and separation areas (refer **Figure 22**). Much of the basic raw materials is within the rural and rangeland areas and is not under any direct conflict with development. This understanding may need to be updated to identify any conflicts with the current extent of development.

Consistent with SPP 2.5, Significant Geological Supplies (SGS) and their buffers are not to be developed for other purposes until the resource is extracted, or unless development is compatible with the future extraction of the resource. Proposals that are located within the areas identified on **Figure 22** will be assessed with regard for the proposal's potential impact upon the existing and potential extraction of the SGS resource.

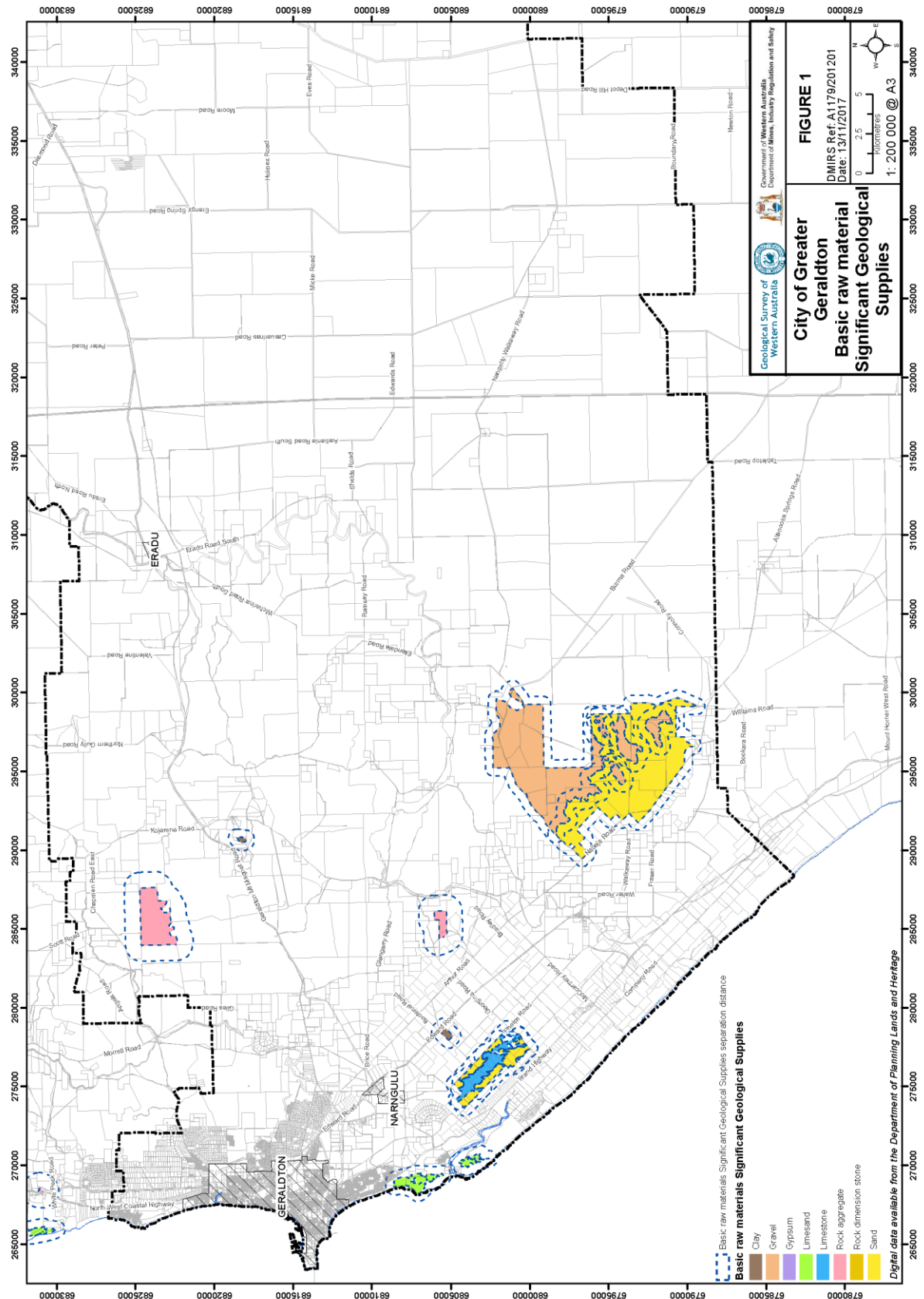


Figure 22 City of Greater Geraldton Basic Raw Material Significant Geological Supplies (DMIRS 2017)

Basic raw materials within the CGG are:

- Fill and Concrete Sand – sand has been excavated from a variety of land units over the years, mostly for fill and concrete sand. Quartz sand is available in the Tamala, Dissected and Sand Plain land units, and there are sand pits operating in a number of locations. This sand requires little or no processing apart from perhaps screening.
- Silica Sand – leached white silica sand has export potential as a source of pure silica, although availability is limited. Fine sand, which is preferred for export, only requires washing.
- Lime Sand – lime sand is excavated from the northern end of the Southgates Dunes. This sand is 80% calcium carbonate which is used for neutralising acidic agricultural soils. With continued growth of legumes such as lupins, and fertiliser application, lime resources will be an ongoing requirement to support the rural industry.
- Gravel – laterite gravel is present on mesa tops and on the plateau remnants. However, these areas also typically have remnant vegetation. Active and completed gravel pits frequently bottom on duricrust, which restricts rehabilitation and future land use.
- Limestone – Tamala limestone is used as road base, road sub-base, armour rock for breakwaters and groynes as well as cement manufacture if the grade is high enough. Generally, the grade of limestone will not be high enough for cement manufacture. Areas need to be set aside along the cleared Narngulu-Walkaway Tamala dune for the future extraction of limestone. Development has already sterilised the taking of limestone from north-western parts of the district. Limestone with high levels of calcium carbonate can be crushed for use as agricultural lime.
- Hardrock – there are two hardrock quarry areas at Beatenally Hill and Button Hill. The quarries extract granitic rock for aggregates, road bases, armour stone and highway seal coats. Currently the land uses around these areas are rural, but long-term protection is required with the use of buffers.
- Clay – clay is extracted from the Greenough Flats at Bootenal with other deposits from scattered sites such as Kojarena where white kaolin clay is mined. Other clay deposits can be expected to occur across the Greenough Flats and the Dissected Area.
- Phosphate – the Jurassic Bringo Shale and Colalura Shale at Bringo are both phosphatic but have no economic potential at this stage.

10.1.6 MINING

10.1.6.1 OVERVIEW

The value of minerals and petroleum for the Mid West Region for 2015-16 are provided in **Table 18**. Mining is the highest dollar value industry in the Mid West, valued at \$2.4 billion in 2015-16 (REMPAN, 2017) (DMIRS, 2016). Mining supplied approximately 2,769 jobs which accounted for 12.3% of the region's jobs (REMPAN, 2017) and 2.7% of people directly employed in the WA mining industry (DMIRS, 2016).

The export of iron ore from Geraldton Port almost trebled from 5.3 million tonnes per annum in 2011-12 to 14.4 million tonnes per annum in 2013-14, attributed to the Karara Mine commencing production and reaching towards its nameplate capacity (MWDC, 2015). The majority of iron ore is exported to China (approximately 95%) with the balance going to South Korea, Taiwan and Japan.

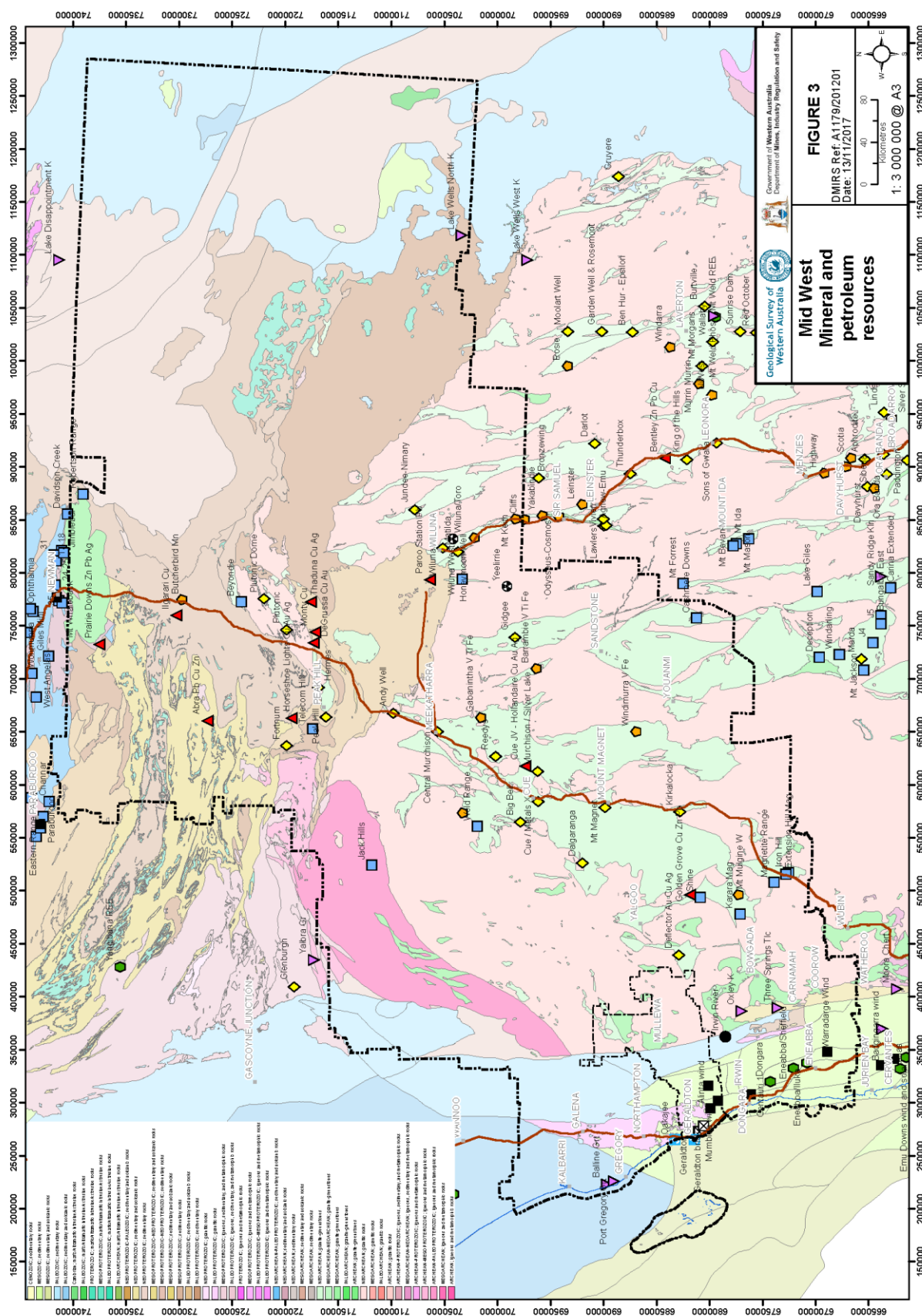
Mining is subject to international demand and supply of commodities and the value of the commodities as a result. Declining prices, particularly for iron ore, has had repercussions through the mining industry. Mining investment in Western Australia dropped 23% in 2015-16. DMIRS notes that exploration, investment and production across a range of commodities has changed since the resources boom, where the project development trend is to suspend or delay to await more favourable market conditions (DMIRS, 2016).

Table 18 Value of Minerals and Petroleum, Mid West Region, 2015-16 (DMIRS, 2016)

Meekatharra and Morawa	\$773,982,732
Yalgoo	\$513,942,601
Wiluna and Three Springs	\$348,419,018
Cue, Coorow and Geraldton	\$585,224,194
Mullewa and Mt Magnet	\$81,978,040
Northampton and Perenjori	\$37,805,795
Irwin	\$48,577,882
Carnamah	\$32,272,289
TOTAL	\$2,422,202,551

A summary of commodity prospects is outlined below and these are depicted in **Figure 23**.

- Coal – there is potential for coal in the Perth Basin, west of the Darling Fault with two main projects, Eradu project and Irwin River project.
- Iron ore – the former Tallering Peak Iron Ore mine is located 60 kilometres north of Mullewa. It ceased operation in 2014. However, there is potential for further iron ore mining in the region. Beyond the City, there are a number of proposed or operating iron ore projects. The closest operating mine is Karara, which is about 65 kilometres south-east of the City.
- Gold and base metals – there is high potential for gold and base metals in greenstone belts in the Archean granites east of the Darling Fault. There are known gold resources in the north-east corner of the City at the Snake Well gold project and east of the City at the Deflector gold project.
- Petroleum – at present, there is one petroleum title in the City. Due to the shallowing of the Perth Basin, it is considered to have comparatively low prospectivity for oil and gas within the City.



Regional mining activity potentially presents significant implications for the communities of the Greater Geraldton local government area, in terms of transport movements and infrastructure demands, and industry servicing and employment opportunities. Trade through Geraldton Port and the development of the Oakajee Port and Rail (OPR) project will be critical to achieving major growth in the region's driver industries.

10.1.6.2 REGIONAL CHALLENGES IN SUPPORTING MINING GROWTH

Challenges affecting future growth in the mining industry in the Mid West include:

- Infrastructure requirements such as a deep water port, rail, power and water may limit future expansion of mining in the region;
- Uncertainty of demand due to slower than predicted international economic growth and political instability;
- Increased competition from rival suppliers in South America and Africa;
- Region's strong concentration of iron ore projects with a lack of diversification to absorb movements in price of a single commodity;
- Oakajee Port and Rail (OPR) project timing of implementation. While there is scope to upgrade Geraldton Port there is a limit to the quantity of resources passing through the town. The success of a number of mining projects within the Mid West is dependent on Oakajee Port and Rail project;
- Timely delivery of the Mid West Energy Project northern section;
- Support and recognition of the importance of fly-in fly-out (FIFO) as an employment choice;
- Delays at Perth airport and complicated arrangements surrounding charter licensing provide inefficiencies for FIFO to the Mid West mining operations. Also, the capacity of the Geraldton Airport to support an upswing in FIFO workers provides a constraint to efficient resourcing;
- The industry values highly the control benefits that come with owning and operating sole project-based infrastructure. While there are examples of joint use of infrastructure in the region, there is a low level of industry collaboration due to the geographic spread of the various mine sites and varying infrastructure needs; and
- Rapid growth in development of unconventional oil and gas production (i.e. shale) within the US has the potential to undermine projects in WA where labour shortages and high costs are a problem.

There are also a number of social challenges relating to further Mid West resources industry development such as:

- A key for the Mid West will be recruitment of qualified professionals and workers with appropriate skills;
- This places a demand and need for housing and social infrastructure to support these additional workers in the region;
- Increased FIFO workers could mean a loss of community through transient employment as well as an unbalanced gender composition. Measures will need to be put in place to counteract this and to encourage workforce to be accommodated within existing settlements where practicable; and
- Government services and community infrastructure will be strained resulting in traffic congestion, shortages of rental properties, and shortages of essential services such as health. Careful planning of social infrastructure to support this industry in strategic locations will be required.

10.1.6.3 REGIONAL OPPORTUNITIES FROM MINING

Companies are looking into technological solutions to reduce costs and maintain the safety of operations. Automation is becoming more common and this has the ability to reduce the amount of human labour required for operating mine sites. Whilst this may be perceived by some as a challenge, it can also be interpreted as an opportunity as recent growth in automation such as automated transportation options and drone technology will undoubtedly expand in response to high labour costs in the mining industry, and community opposition to FIFO workforces may also force the issue.

The roll-out of the National Broadband Network (refer **section 15.2.1**) will assist with industry having remote control of operations, and other forms of automation. A risk for the Mid West is that operations could be centralised in Perth, although it is recognised that mine sites would not be fully automated. This may have a dual effect of reducing labour requirements for mines, but also may improve the viability of mines, which could lead to the opening of new ventures. This will create opportunities in the downstream supply of value-add product in the region's industrial sector.

The Oakajee Industrial Estate has the potential to support substantial employment in downstream and service industries that can support and complement resource sector activities. Development of this land may require the extension of the 330kV electricity transmission line from Three Springs to Oakajee.

The Goldfields Gas Transmission Pipeline and the Mid West Gas Pipeline have stimulated an increase in exploration and mining activity in the east Murchison. Sealing of the Mt Magnet-Leinster Road, coupled with the Southern Transport Corridor and port enhancements would provide companies in the East Murchison and northern Goldfields with more cost-effective transport infrastructure.

Mining projects in the Mid West will improve the local tax base for local governments, via collection of rates, and provide an additional range of jobs for local young people. This would help to retain more young people in the region, to offset migration to metropolitan centres. It also provides improved prospects for the growth of local industries servicing the mining operations.

10.1.7 MARITIME AND FISHING

Due to the length of its coastline and diversity of commercial species, fishing is an integral industry for the Mid West. It represents approximately 39% of the State's total catch value, making the Mid West the highest-value fishing industry in Western Australia totalling \$116 million annually (MWDC, 2015). Geraldton is the regional centre for commercial fishing and shipping. According to the *Mid West Investment Plan 2011-2021*, the fishing sector constituted 4% of the region's Gross Regional Products for 2009-10. Together, 11.3% of the regional workforce is employed in the Agriculture, Forestry & Fishing sector (REMPAN, 2017).

The Abrolhos Islands support a wide array of fish and invertebrate species, making it a priority target area for commercial, recreational and charter fishing in the Mid West region (DoF, 2012). Numerous aquaculture licences have been granted for the production of various pearl oyster species, finfish, western rock oysters, corals and sponges at the Abrolhos. There is increasing interest at the Abrolhos for aquaculture of these and other marine species. The Department of Primary Industries and Regional Development aims to manage all commercial and recreational fishing under an Ecosystem-based Fisheries Management Framework to maintain sustainable fish populations.

In September 2017 the Minister for Fisheries announced a new Aquaculture Development Zone near the Houtman Abrolhos Islands. Aquaculture is an emerging industry and the Aquaculture Development zone opens up 2,200 hectares in addition to the existing 800 hectares already subject to an existing aquaculture licence. The new Aquaculture Development zone has the potential for 48,000 tonnes of marine finfish annually and creation of up to 1,400 jobs (Government of Western Australia, 2017). Environmental processes within the zone have been streamlined to ensure it is 'investment-ready' for setting up large-scale commercial aquaculture operations.

The trend of fish and seafood as a diet staple has grown dramatically. According to the studies by the Australian Department of Agriculture, demand for aquaculture and fishing product are expected to remain constant with growth of over 170% predicted between 2010 and 2031, equivalent to 5-8% per annum. The aquaculture industry for the Mid West now includes freshwater production of finfish, marron and yabbies, and marine production of finfish and pearl oysters.

Recreational boating is an important lifestyle and cultural component within the region, with a steady growth in the number for vessels. The City accounts for half of the vessels in the Mid West region (DPLH, 2017). Within the City of Greater Geraldton, there are boat launching ramps at the Batavia Coast Marina and at Town Beach, and an informal beach launching area at Drummond Cove.

Batavia Coast Marina has 84 floating pens and a double boat launching ramp with one jetty and fishing platform. The Marina is identified to have capacity for an additional 80 pens. It is understood that there is not always pens/moorings available to meet demand, so there is a waitlist. Additional boating facilities would be subject to growth in the number of vessels in the region, and visitor numbers, to justify expanding existing facilities (DPLH, 2017).

The *Mid West Investment Plan 2011-2021* (MWDC, 2011) identified a number of flagship maritime projects that will be of value to the economy of the Batavia Coast area (which partially includes the City of Greater Geraldton):

- Batavia Coast Marina Enhancement: \$20 million taking 3-4 years to develop;
- Eastern Breakwater Development: \$4.3 million taking one year to develop; and
- Coastal management and erosion: \$5 million taking 1-4 years to develop.

The *Mid West Investment Plan 2011-2021* (MWDC, 2011) recommended an annual review to ensure that flagship projects remain current in their need. The City's *Greater Geraldton Economic Development Strategy 2013-2023* (CGG, 2013) indicated aquaculture as a growth sector, as well as marine sciences. The EDS also highlights the need for direct efforts towards developing higher value-added outputs through new and emerging industries, in order for the Mid West economy to remain diverse and robust against external challenges. The *Mid West Investment Plan 2011-2021* (MWDC, 2011) also recommends continued investment in fisheries research and management as well as encouragement of investment in aquaculture and fish farming. Examples of investment areas could include aquaculture farms, down-line processing and packaging facilities, improved methods and productivity for aquaculture management, and research and development in specialised business incubation.

10.1.8 MANUFACTURING AND CONSTRUCTION

Manufacturing and construction are key industries of Geraldton's economy (CGG, 2013). Manufacturing activity includes goods processing and supply to fishing, agricultural and mining industries. This includes boat building, superphosphate production and mineral sands processing. As at 2016, manufacturing and construction had a combined output producing around \$1.43 billion, or 26.9% of City's total economic output (REMPPLAN, 2017). The *Mid West Investment Plan 2011-2021* (MWDC, 2011) identifies key industry segments for future growth into a diverse manufacturing base including:

- Renewable energy;
- Mining;
- Port, road and rail support services; and
- Fisheries, aquaculture, agriculture and horticulture value-adding product.

A further manufacturing consideration may be support products for the Australian Square Kilometre Array Pathfinder project.

The Mid West construction industry has experienced fluctuating growth in response to economic trends in the region. It could be said therefore that the region's construction industry is strategically linked to the economic development of the regional area. Forecasts put building and construction value in 2021 at \$380 million, 2025 at \$403.5 million, and 2031 at \$434.49 million (Aurecon Australia Pty Ltd, 2015).

The Federal Government has recommended within its report *Future Energy Efficiency*, a national increase in energy efficiency by 30% requiring such technologies such as cleaner, more efficient transport, and greener buildings. It is likely that if this trend towards cleaner construction activity continues, there will be further markets for new technologies in this area.

In order to support the manufacturing and construction industry, the *Mid West Region Investibility Model* suggests the following actions:

- Training for people in trades;
- Local companies linking with key technologies and building methodologies for energy efficiency, building efficiency, and supply chain efficiency;
- Establish sound marketing of the industry within the region to support regional employment growth and reduction of temporary FIFO arrangements; and
- Review of planning legislation to include compulsory sustainability measures and affordable housing provision.

10.2 KEY CONSIDERATIONS / ISSUES

Significant infrastructure projects including the Oakajee Narngulu Infrastructure Corridor (ONIC), the Oakajee Port and Rail (OPR) project as well as the value-add industries to the mining sector present strong opportunities for growth in the construction and manufacturing sectors. The uncertainty surrounding the development of the Oakajee Port and Rail (OPD) project will have impacts on the associated industrial land as well as the development of planning infrastructure corridors. The region will need to consider the flow-on implications of not progressing with this project on other regional projects and infrastructure.

Narngulu and Oakajee will remain the two key locations for general industry. Narngulu has access to necessary services and infrastructure. Oakajee is reliant on the OPR project. Webberton is regarded to contain under-utilised land for light industry. There is adequate general industry zoned land near Mullewa to accommodate future needs. Depending on the level of investment required by CBH Group in Mullewa, the zone may need to be reviewed and extended as required.

A number of buffers are reflected in Local Planning Scheme No. 1, and these have implications on development. Particularly around Narngulu, these buffers assist in maintaining separation distances to sensitive land uses.

Opportunities to maximise local benefits of mining operations including local business delivering mining services, and as a local employment base needs to be considered in future planning. Careful planning of port, rail and road infrastructure to support the mining industry is crucial. It is stated in a number of documents that lack of capacity in this transport infrastructure may stifle continued growth in this industry.

Manufacturing and construction are key industries characterising Geraldton's economy. As major projects occur, demands for construction workforce can peak. Depending on the nature of the projects and their phase periods, construction workforce may be more permanently settled within the region, or otherwise would largely be addressed through fly-in fly-out arrangements. The manufacturing sector services agriculture, fishing and mining industries.

The manufacturing sector will be expected to grow and expand according to population growth and industrial/commercial activity. Should projected population increases eventuate in Geraldton, there would be a considerable amount of construction not only in the residential and commercial sectors in line with the City's *Residential Development Strategy* (CGG, 2013) and *Commercial Activity Centres Strategy* (CGG, 2013), but also the construction of major infrastructure projects such as the Oakajee Port and Rail (OPR) project, other major transport corridors, new or expanded mining projects, and the expansion of infrastructure or essential services.

Growth in the economy will invariably require additional works and particular skills for certain industry sectors. Careful identification of skills gaps in supporting future mining industry expansion could have positive spinoffs for local tertiary education institutions if planned appropriately. Ongoing review of the *Mid West Investment Plan 2011-2021* (MWDC, 2011) will be important to ensure flagship projects remain current.

It is important to increase employment outcomes for under-employed and disengaged mature-aged workers, local Aboriginal and Torres Strait Islander people, and other under-represented groups. This is supported at all levels of government.

Identification of social infrastructure and community amenity needs a thorough investigation to provide a guide for prioritising government community service provision infrastructure. The capacity of key utilities such as water and power may constrain the long-term development of industrial and service commercial areas, unless careful planning is undertaken.

Access to basic raw materials is an important consideration for the building and construction industry and can significantly add to industry costs through increased logistics costs if appropriate sources of materials cannot be located close to areas of need.

The mapped areas of Significant Geological Supplies and their buffers need to be considered in relation to protection of the resources for existing or future extraction.

Priority should be made with a land holder to extract gravels from already cleared land. The removal of gravel from roadsides is not generally acceptable because it leads to clearing of native vegetation. There is a current trend to produce road making materials by crushing laterite (ferricrete/caprock/duricrust), which maximises the resource. In future years it should be a requirement that all gravel and duricrust (caprock) from gravel pits be utilised and old pits reworked to remove the duricrust and crush it to manufacture road bases. Careful consideration should also be given to the use of alternatives to gravel from remnant bushland prior to clearing.

Currently the land uses around the two hardrock quarries at Beatenally Hill and Button Hill are rural, but long-term protection is required with the use of buffers.

The Aquaculture Development zone in the vicinity of the Abrolhos Islands could create up to 1,400 jobs and 48,000 tonnes of marine finfish annually. The region may need to consider the following:

- Possible protection of other suitable sites;
- Mechanisms to resolve potential conflict between water users;
- Methodologies to address environmental concerns and streamline environmental approvals; and
- The capacity and ability to advocate for future investment in aquaculture, marine sciences, and other higher-value industries to boost the economic prosperity of the maritime and fishing industry.

11 RETAIL & COMMERCE

Retail is a large employment sector, accounting for 13.2% of the labour force (REMPPLAN, 2017). Many residents in the Shire of Chapman Valley use Geraldton for employment, shopping and schools (MWDC, 2015). The City's *Residential Development Strategy* (CGG, 2013) encourages integration of aged care and student housing with higher intensity activity centres, for access and efficient provision of services and infrastructure. The regional attraction of the City's activity centres together with encouraging density around centres could support the sustainability of retail and commerce within the CBD and activity centres. A hierarchical and staged approach is established to sustain and grow these centres in a sustainable manner.

11.1 GERALDTON

The City's *Commercial Activity Centres Strategy* or 'CACS' (CGG, 2013) is the most relevant and recent document relating to commercial centre planning for Geraldton. The document was prepared concurrently with the City's *Residential Development Strategy* (CGG, 2013).

The CACS sets out:

- A hierarchy of activity centres within the Geraldton urban area;
- Typical office development as one of the types of commercial activity provided within the City, across the different activity centre classifications;
- Recommendations for retail floorspace growth across the City Centre and activity centres; and
- Critical centres of activity such as the Geraldton Airport, Geraldton Port, Hospital and industrial areas likely to expand in the future.

A successful hierarchy development will:

- Support the agglomeration of strategic activities in various centres to provide for local high quality business and employment opportunities;
- Meet community needs by enabling employment and accessibility of goods and services;
- Provide certainty for public and private investment in activity centres; and
- Provide the City with a tool to assess current performance and impacts of proposals.

In support of the CACS recommendations, some of the key actions within the *Greater Geraldton Economic Development Strategy 2013-2023* (CGG, 2013) included:

- Supporting priority retail business development initiatives in partnership with industry;
- Investigating the feasibility of developing a business incubator centre in Geraldton (which has occurred). The business incubator centre that has been established provides a supportive environment for start-up businesses and social entrepreneurship; and
- Adoption and implementation of the strategies contained within the *City Vibrancy Strategy* (CGG, 2012) to enhance retail and commercial vibrancy.

11.2 ACTIVITY CENTRES

The CACS sets out an eight-level hierarchy of activity centres. The hierarchy of activity centres for the City of Greater Geraldton is outlined in **Table 19** (and for context the activity centres are shown on the City's *Commercial Activity Centres Strategy Map*, refer to **Figure 25**).

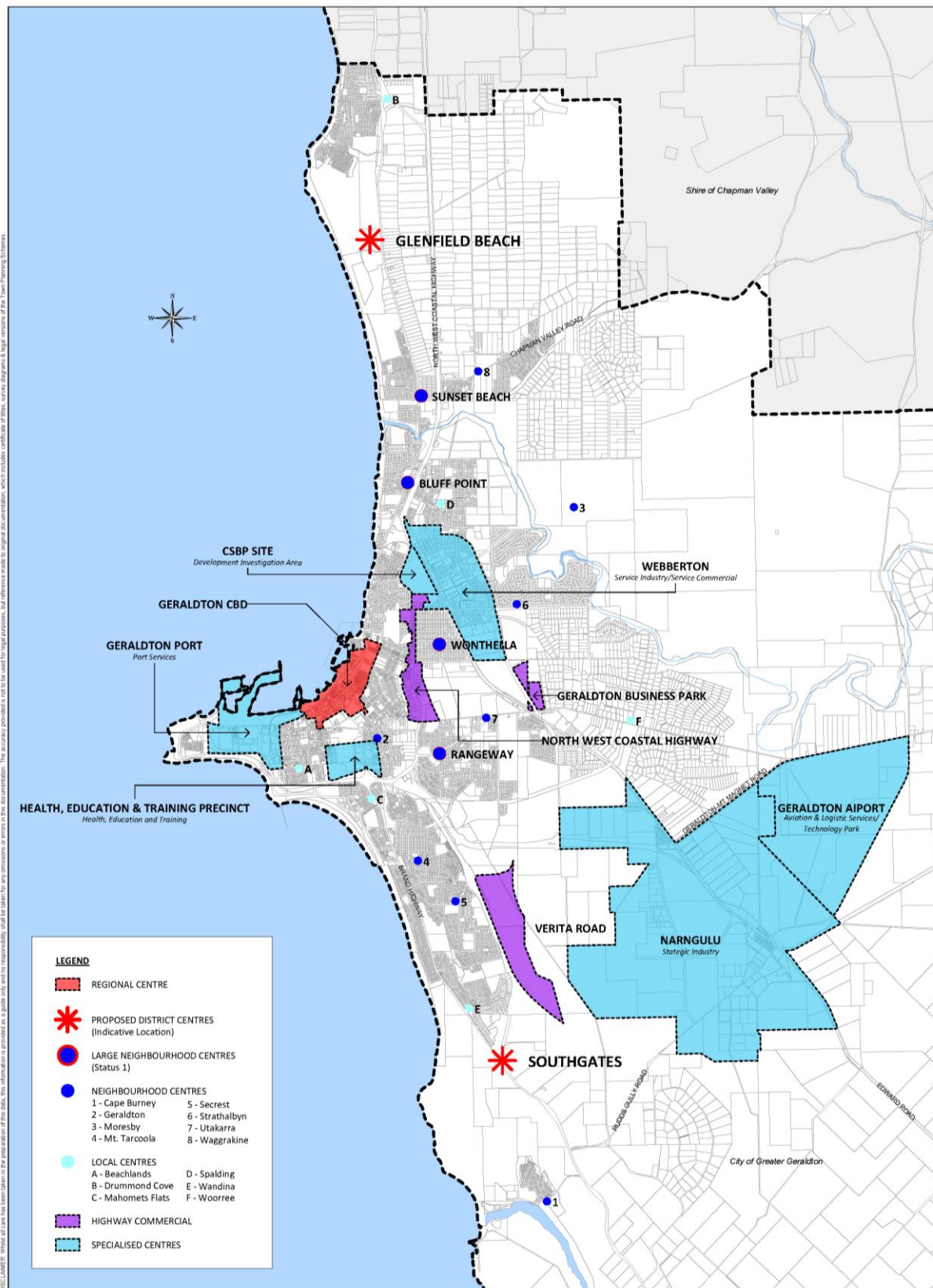


Figure 1: Commercial Activity Centres Strategy Map (Geraldton Urban Area)

Figure 25 Commercial Activity Centres Strategy Map (Geraldton Urban Area) (CGG, 2013)

Operator	RJT
Department	Town Planning
Drawing No.	LP/9/0014
Date	28/10/12
Scale	1:40,000

Table 19 Activity Centres Hierarchy (CGG, 2013)

Activity Centres Hierarchy	Priority Status in the CACS
Regional Centre	
Geraldton CBD	1
District Centres (proposed)	
Glenfield Beach	2
Southgates	2
Large Neighbourhood Centres	
Bluff Point	1
Rangeway	1
Sunset Beach	1
Wonthella	1
Neighbourhood Centres	
Cape Burney (not developed)	3
Geraldton – Durlacher Street	2
Moresby – Wooree New Town (not developed)	3
Mt. Tarcoola	2
Seacrest	2
Strathalbyn (not developed)	3
Utakarra	2
Waggrakine (not developed)	3
Local Centres	
Beachlands	2
Drummond Cove	2
Mahomets Flats – Fortyn Court	2
Spalding (not developed)	3
Wandina	3
Woorree (not developed)	3
Highway Commercial	
Geraldton Business Park	N/A
North West Coastal Highway	N/A
Verita Road	N/A
Specialised Centres – primary function	
CSBP Site – Development Investigation Area 4	N/A
Geraldton Airport – aviation and logistic services / technology park	N/A
Geraldton Port – port services	N/A
Health, Education and Training Precinct – health, education and training	N/A
Narngulu – strategic industry	N/A
Webborton – service industry / service commercial	N/A
Regional Towns	
Central Greenough	N/A
Mullewa	N/A
Walkaway	N/A

The CACS then categorises these activity centre types into priority status from 1-3, with the exception of Highway Commercial, Specialised Centres and Regional Towns. Status 1 are centres where active intervention by the City is required to encourage additional development. Status 2 are centres that maintain their current role with future private sector expansion possible. Status 3 are centres that have the potential to maintain their current role or transition of activity centre into an alternative use.

11.2.1 REGIONAL CENTRE – GERALDTON CBD

It is understood the Geraldton CBD has a total floorspace of 85,100m² comprised of 58,800m² of shop retail, 8,000m² of other retail and 18,300m² of entertainment. Modelling completed as part of the CACS suggests that the current floorspace supply is on the lower end of sustainable levels for shop retail. For other retail, the demand is modelled well below current supply levels and, over time, suggests an oversupply of this type of floorspace, which means that this use may not be the highest and best use in particular locations. The CACS recommends that major office space be developed within the Regional Centre, where appropriate.

For entertainment floorspace, significant growth is projected in this land use as a greater variety of workers, residents and visitors access the CBD. The development of Batavia Coast Marina Stage 2 will provide opportunities for expansion of this floorspace type, to service the City's demand.

There is existing and future demand for a discount department store within the CBD. However, tensions exist between various locations for a discount department store, in terms of its impact on existing retailers.

The CGG endorsed a local planning policy *Geraldton City Centre Revitalisation Plan* (CGG, 2017) which is a supporting document to the *Growing Greater Geraldton: A Growth Plan* (refer **section 2.4.5**). It establishes a vision "For Geraldton city centre to develop as the regional capital of the Mid West, as a collaborative and innovative leader that positively harnesses change. The city centre will be a unique place for local and visitors and an active destination embracing Geraldton's nautical history and assets. The broader community will come together to deliver this vision and strengthen their city centre heart" (CGG, 2017). The *Revitalisation Plan* provides short, medium and long-term aspirations and strategies to align public and private investment.

The *Geraldton City Centre Vibrancy Strategy* (CGG, 2012) identified Chapman Road and the surrounding zone, from Cathedral Avenue through to Bayly Street, as the prominent commercial/retail zone in the longer-term.

11.2.2 DISTRICT CENTRES

Expansion and growth to a population of 80,000-100,000 will require the development of one or more district-level activity centres. District centres serve a smaller sub-regional catchment than a regional centre, but offer a range of essential services, facilities, and employment opportunities. The CACS modelled the staged development of a Northern District Centre around the Glenfield Beach area, and a Southern District Centre around the Southgates area. Stronger demand currently exists for the Northern centre, with the Southern centre assumed to commence thereafter.

11.2.3 NEIGHBOURHOOD AND LOCAL CENTRES

There are four Status 1 Neighbourhood Centres prioritised within the modelling carried out as part of the CACS. If the provision of district centres is planned well, then these should complement Neighbourhood and Local centres, and these centres should require little growth into the future. Neighbourhood and Local centres will remain important in terms of servicing daily household shopping needs and convenience services.

11.2.4 HIGHWAY COMMERCIAL – BULKY GOODS RETAIL

According to research presented within the CACS (CGG, 2013), demand for bulky goods retail is expected to double over the next 20 years. A range of floorspace will be required from 2,000m² in current day terms, through to 5,700m² out to 2031.

It is recommended within the CACS (CGG, 2013) that major office space be located within the Regional, District and Specialised centres where appropriate. Retail and Office developments will be specific to each of the centres.

11.2.5 REGIONAL TOWNS

Mullewa, Walkaway and Central Greenough act as regional service centres. Central Greenough has been recognised as a future activity centre. The regional towns are multi-purpose and provide a diversity of uses as well as a full range of economic and community services necessary for residents and visitors within the catchment.

In Mullewa, areas for business and commercial activities are provided for through a 'Commercial' zone in LPS 1, applied to the properties along Jose Street (south of Molster Street) and along Thomas Street, between Mitchell Street and Burges Street. Some of these zoned lots front the Geraldton-Mt Magnet Road. The area includes a mix of convenience retail, service stations and hotels, farming supply businesses and office space for community and government services. The town's relative proximity to Geraldton and limited population can make it difficult for some local businesses to viably operate from Mullewa.

Jose Street is the main street where a number of buildings exhibit outstanding architectural features and contribute to the character of Mullewa. However, there are incidences where buildings are unoccupied, deteriorating or subject to vandalism. This creates challenges in maintaining the buildings and street's visual appeal, and the overall feeling of the town (despite works in recent years to improve the streetscapes through landscaping and painting of prominent buildings and murals). Much of this work has occurred through local government and community projects.

Many of the businesses and commercial activity along Geraldton-Mt Magnet Road are by their nature a mix of commercial, light industry and service commercial uses. Most of these activities are located in the 'Commercial', 'Service commercial' or 'Mixed use' zones in LPS 1. It is considered that these zones contain sufficient vacant lots to accommodate future needs.

The City would like to create an environment that could attract new trades and services for example, an electrician or painter. A previous proposal was to develop a light industry/service commercial area along Gray Street in the existing railways reserve, and some land fronting Gray Street is zoned 'Service commercial'. However, it is understood that high headworks costs have limited the opportunities for this to proceed.

11.3 CAR PARKING

The *City Centre Transport Planning & Car Parking Strategy* (CGG, 2012) guides the local government in terms of car parking and alternative modes of transport for the CBD. It encompasses a holistic approach to transit planning and car parking, and a key component of the *Strategy* is the *City Centre Car Parking Management Plan* (CGG, 2013). Parking in the City Centre is subject to the provisions of LPS 1 and the City Centre LPP.

The *City Centre Car Parking Management Plan* (CGG, 2013) concluded that more efficient management of car parking would ensure availability of parking for residents, visitors and shoppers. It also noted that further development of at-grade parking would put direct pressure on other land uses and could lead to a decline of productivity of the retail and commercial offering. It recommended efficiency improvements via:

- Introduction of on-street parking fees in high demand areas, and investment in improved payment systems for on and off-street parking. This has already been implemented in some areas.
- Revisiting car parking wayfinding and signage.
- Development of a plan to identify future potential sites for multi-storey car parking, and consolidation of existing sites in poor demand.
- Provide adequate facilities for alternative modes of transport such as cycling facilities, motorcycle/scooter bays, and car share spots.
- Conduct regular parking surveys to understand duration of stay, compliance with restrictions, existing and potential spillover effects onto residential streets.

- Promotion and support of incentive programs to persuade employees to use alternative modes of transport.

The CACS (CGG, 2013) outlined the importance of considering traffic requirements in the siting and planning of centres, in particular:

- Finding a balance between regional and local traffic access needs;
- Sustaining high levels of pedestrian movement;
- Encouraging appropriate and sustainable traffic volumes through the City, to support an external street-based retail environment; and
- Implementation of maximum car parking bay limits for certain uses.

11.4 RETAIL AND COMMERCE TRENDS

A number of trends are discussed within the CACS that may impact on the growth of the retail and commerce sectors within the region:

Retail trading hours: The City has commenced a 12-month trial for extended general retail trading hours which will allow for larger general retailers the opportunity to open on Sundays and most Public Holidays, as well as trade later during the week. Smaller retailers already have deregulated trading hours and can trade when they choose to do so. This could act to reinforce economic activation as well as create multiple value propositions within the CBD.

Large format retail: this is typically characterised by tenancies ranging between 10,000m² and 30,000m². Although these retail formats generate economic activity, there are associated issues such as:

- Accessibility and traffic management;
- Addressing potential low quality urban design outcomes;
- Addressing potential poor integration within the Activity Centres Hierarchy;
- Declining competition and the potential to put strain on smaller business, with a continued proliferation of this retail format on properties along the North West Coastal Highway; and
- Erosion of required industrial land that otherwise could support other economic sector needs such as mining.

Future planning of activity centres containing large format retail should consider addressing each of these issues above to ensure ongoing viability of these centres.

Online retailing: Based on the relative isolation of Geraldton to Perth, the demand for online retailing into the future is expected to grow. The roll out of the NBN will facilitate an increase in e-commerce both locally and globally. This disruptive technology can be advantageous and disadvantageous to retailers in the local area. The future planning for retail and commercial areas within the region should consider flexibility of these spaces in order to respond to the impact that online retailing and online business may have on floorspace and land use requirements into the future.

11.5 KEY CONSIDERATIONS / ISSUES

- It is important to consistently plan for the CBD with agencies, in terms of the servicing and development of the regional centre as the prominent activity centre.
- Economic development initiatives should initially be focussed on core activity zones within centres, with a view to connect and overlap these zones over time, as envisaged through the *City Centre Vibrancy Strategy* (CGG, 2012). Planning for the development of flagship anchor tenants will support activity node establishment. The City should identify freehold and/or Crown land opportunities along Foreshore Drive, promote targeted leasing campaigns for vacant shop fronts, and use rates relief or other incentives to secure good tenants that will improve vibrancy in an area.

- Future planning of activity centres containing large format retail should consider issues that are outlined in **section 11.4**.
- The CACS (CGG, 2013) recommends consolidation of existing under-performing floorspace within the Regional Centre and ensuring a planned contraction of other retail floorspace within the Regional Centre, to ensure productivity levels remain high.
- Development of a discount department store within the Regional Centre or as an anchor in a District Centre could support the growing demand for this retail use. It will need to be carefully planned to ensure that existing retail offer and the retail sustainability of other centres is not jeopardised.
- Future planning provision for District centres at Glenfield Beach and Southgates is essential to support the growing population and diversity of retail offer.
- Mullewa has adequate commercial land to accommodate future needs, with sufficient zoning of land for commercial, service commercial and mixed use around the Jose Street main street and fronting Geraldton-Mt Magnet Road.
- Further work should be undertaken to ensure efficient management of existing and future car parking within the CBD. Planning for a future multi-storey parking location(s) will be an essential consideration to optimise land use and land take for car parking, as Geraldton expands in line with population projections.

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12 TOURISM & VISITORS

Tourism is an important and strategic economic sector. The following information in **Table 20** illustrates the key metrics and tourism statistics relevant to the CGG.

Table 20 Local Government Tourism Profile (TRA, 2017)

Metrics	International	Domestic Overnight	Domestic Day	Total
Visitors ('000)	30	320	196	546
Nights ('000)	250	879	-	1,130
Average Stay (nights)	8	3	-	3
Spend (\$m)	18	170	37	225
Average spend per trip (\$)	590	531	189	411
Average spend per night (\$)	71	193	-	166
Average spend (commercial accommodation) per night (\$)	102	187	-	168
Tourism Statistics	International	Domestic Overnight	Domestic Day	Total
Reason ('000)				
Holiday	24	111	71	206
Visiting friends or relatives	4	85	np	np
Business	np	93	np	np
Other	np	np	65	np
Travel party type (visitors '000)				
Unaccompanied	12	90	-	102
Couple	11	64	-	75
Family group	3	67	-	70
Friends/relatives travelling together	3	67	-	70
Accommodation (nights '000)				
Hotel or similar	21	237	-	258
Home of friend or relative	71	344	-	415
Commercial camping/carvan park	18	100	-	118
Backpacker	7	np	-	np
Other	133	184	-	317

Note: TRA data is based on a four year average from 2014-2017.

"np" means the estimate is unreliable and cannot be published. "-" means the estimate is not available.

12.1 CURRENT TRENDS

The natural environment is a main driver for tourism within the area, including:

- The Abrolhos Islands for fishing and water-based recreation;
- Wildflowers such as around Mullewa;

- Ellendale Pool, Greenough;
- Geraldton-based attractions relating to the Moresby Range etc.; and
- Walking and vehicle trails.

12.2 THE REGION'S TOURISM PRODUCT

The *Mid West Tourism Development Strategy* (Evolve Solutions, 2014) identified tourism opportunities, priorities and gaps for the Mid West region. The recommended strategy to grow Mid West tourism during 2015-2025 focused on five key areas:

- Increasing accommodation capacity from camping through to resorts;
- Opening up day use sites and places, to enhance the Mid West's appeal as a destination;
- Improve the quality and distribution of information for trip planning and wayfinding;
- Attracting more high-yield visitors and the self-drive and RV market; and
- Increasing the range of Aboriginal and eco-based and/or nature-based tourism activities, attractions and experiences.

The following tourism product has been identified within the City.

12.2.1 GERALDTON CBD

- Batavia Coast Marina;
- Museum of Geraldton;
- HMAS Sydney Memorial;
- Bill Sewell complex;
- Geraldton Regional Art Gallery and Visitor Centre exhibits;
- Geraldton Port – lobster factory and working fishing boats;
- Shopping – local produce and markets; and
- Civic facilities – Geraldton Library; Queens Park Theatre; Cinema; Aquarena; St Francis Xavier Cathedral, etc.

12.2.2 OUTDOOR ACTIVITIES

- Adventure and water sports;
- Walking trails and guided tours;
- Recreational facilities;
- Festivals and events – Red Hill Concert, Nukara Music Festival, various sporting events, car shows, Writers Festival.

12.2.3 MULLEWA

In the Mullewa area, tourism is focused on wildflowers during winter and spring. Built heritage and natural attractions include Talling Peak and Gorge, Coalseam National Park and Bindoo glacial bed. A number of heritage trails and sites include the Monsignor Hawes Heritage Trail, the Butterabby Gravesite and the De Grey – Mullewa Stock Route.

The town has two hotels, a caravan park, and a parking area with ablutions. The local government and broader community work on a number of projects that will offer interest for visitors including walk trails and heritage interpretation, and visitor information bays. There is potential to increase the choice of accommodation such as bed and breakfast accommodation, to complement existing facilities and services.

12.2.4 BEYOND THE GERALDTON URBAN AREA

- Historic and cultural visitor spots – historic settlements (Greenough Flats Heritage Area); historic homesteads and public houses; Point Moore Lighthouse; and
- Natural attractions – diving; fishing charters; wildflower tourism; river trails; sandboarding; Moresby Ranges; birdwatching; Greenough Wildlife and Bird Park; scenic flights; the leaning trees; coastal nodes including Cape Burney, Greenough River mouth, Flat rocks and Drummond Cove; Ellendale Pool; surfing; fishing; swimming; walk trails; and
- Low impact rural tourism – bed and breakfast, chalets/cabins, ecotourism and similar low impact tourist development. The City has a *Low Impact Rural Tourism* local planning policy that provides for tourist accommodation in rural areas where this does not erode the rural character and amenity, and ensures that environmental values, landscape values and the visual and rural character and amenity is not compromised.

12.2.5 HOUTMAN ABROLHOS ISLANDS

The Abrolhos features strong tourism appeal for the islands' environment, history and recreational assets and opportunities. With population increasing in the Midwest and North West, recreation and tourism at the Abrolhos is likely to increase into the future. This includes not only existing activities associated with boating, fishing, diving, wildlife and heritage photography and appreciation, but also potential new ones such as kayaking and wave, wind and kite surfing (DoF, 2012). Management of tourism and recreational activities would be undertaken in a manner consistent with the environmental and cultural heritage values of the Abrolhos Islands.

12.3 MEETING MARKET NEEDS

To meet the needs of proposed markets, gaps in the current tourism product need to be addressed.

12.3.1 ACCOMMODATION

Jones Lang LaSalle Hotels (JLLH) completed a study for the Western Australian Tourism Commission (WATC) in 2008 into the demand and supply for tourism and business accommodation in Geraldton-Greenough. The Study (WATC, 2008) found that up to 70% of demand for rooms came from contracted workers and corporate business visitors; 20% of demand came from independent holiday tourists; and 10% of demand came from tours and coaches during the wildflower season.

The Study (WATC, 2008) found that:

- A shortage of caravan park sites and on-site accommodation is likely to occur (partly due to contract worker demand, assuming it is not met by other accommodation developments);
- Supply of hotel, motel and serviced apartment accommodation (in establishments over 10 rooms) was adequate in the short-to-medium term, assuming that new facilities planned for those periods opened;
- 300 additional hotel, motel and/or serviced apartment rooms were likely to be required in the medium term (2016-2020), requiring development of approximately 1.7 to 2.5 hectares of additional land (assuming a density of 120-180 rooms per hectare); and
- A further 286 hotel, motel and/or serviced apartment rooms are likely to be required in the long-term (2021-2028), requiring development of approximately 2.1 to 3.2 hectares of additional land.

The Study (WATC, 2008) recommended that the vacant Public Transport Authority site near the CBD and the Batavia Coast Marina Stage 2 sites be considered for accommodation in the medium and long-term, respectively. These sites are located close to tourism attractions and facilities, and are in locations favoured by visitors (the CBD, on the beach, or with ocean views). Further work should be done to identify other strategic locations for accommodation based on tourism activity and the Study should be updated to reflect current trends and demands for tourism-related accommodation.

As Geraldton diversifies its economic industry provision, adequate accommodation suited to the conferencing market should also be investigated and provided. The potential for a unique five-star eco-style resort in an appropriate location could also be investigated and provided.

12.3.2 AMENITIES

The foreshore redevelopment has considerably improved the amenity of the City Centre, and will need to be activated through entertainment and restaurant activity suited to a range of markets. Development plans in this precinct should be encouraged to provide for this type of activity.

Visitors tend to need a high standard of service if they are to enjoy their experience, come back, or encourage others to visit. If not, visitors would talk negatively or generate reviews that portray a negative reflection of a place. This requires investment and training in areas that create positive experiences such as customer service, quality of food, availability of meals (such as opening hours of restaurants), high standards of accommodation, friendly and safe environments, and sufficient activities for days/nights (including opening hours of attractions).

12.3.3 ATTRACTIONS AND ACTIVITIES

The identification of a suite of significant attractions for the CGG needs to reflect the tourism vision and marketing that is focused on the nature based and heritage assets and stories of the town and of the Abrolhos Islands, and to cover a range of experiences to engage with different market groups.

Suitable facilities and services to support the experiences need to be planned such as day-use infrastructure on the Abrolhos Islands, signage, public conveniences and facilities, wayfinding and signage, and transport options between experiences.

12.3.4 ACCESS

Geraldton Airport is the principal airport for the Mid West region and provides connections for visitors, businesses and residents. It has 23 return flights per week between Perth and Geraldton, with FIFO services for the mining industry and fishing and tourism charters to the Abrolhos Islands, Kalbarri, Monkey Mia and the surrounding coastline.

In August 2017, the State Government announced a \$6.5 million co-contribution funding commitment in the budget for a runway upgrade at the Geraldton Airport (Government of WA, 2017). The funding is sourced through the Regional Airports Development Scheme. Whilst providing improved safety, reliability and maintenance costs, it would have an opportunity to support growth in tourism.

Transport access is an important factor for tourism in Geraldton due to the City's relatively long distance from Perth, and the long travel distances experienced in WA generally. Within Geraldton, access is limited for people without cars. Studies should be undertaken into upgrades for bus services and alternative modes of transport between the CBD and key tourism points, to boost access and tourist activity.

The Indian Ocean Drive provides an alternative route for some of the road distance between Perth and Geraldton, and is suited for tourist experiences.

12.3.5 AWARENESS

Making Geraldton Recreational Vehicle (RV) Friendly (CGG, 2015) identifies the economic value of the caravan and camping industry, with 2012/2013 estimates of:

- Approximately 25,500 visitors staying in a commercial caravan park in Geraldton (compared to 25,800 in Carnarvon and Coral Bay, and 40,300 in localities of Northampton, Kalbarri, Horrocks Beach, Port Gregory, Mullewa and Greenough);
- RV campers made up 12% of the market;
- Approximately \$14 million of direct tourism expenditure by visitors to caravan parks;
- Approximately \$4 million by permanent or long-stay residents in CGG;
- For every \$1 of commercial caravan park turnover, \$1.38 of local economic activity is generated by the park to the local area.

The implementation of the key recommendations of the report would work towards the city being accredited as 'RV Friendly'. The recommendations of the report included actions relating to improved signage/entry statements; provision of a range of parking facilities; improved marketing strategy material for publication; provision of dumping facilities; free public Wi-Fi; and nature based camping facilities (CGG, 2015).

12.4 FUTURE TOURISM OPPORTUNITIES

Through the draft *Guilderton to Kalbarri Sub-regional Planning Strategy* (DPLH, 2017) the WAPC conducted an analysis of land that is potentially zoned for tourism purposes. The analysis identified 128 hectares of undeveloped land, and 58.75 hectares of developed land, that could be suitable for tourism purposes (DPLH, 2017). This land is zoned in the City's Local Planning Scheme No. 1 as Special Uses 2 and 3, Regional Centre, Tourism, Mixed Use, Residential, Rural Residential (Additional Use 1), Rural (Additional Use 15), and Commercial (Additional Use 17). The merits of having tourism purposes within these zoned areas would need to be reviewed over time, to ensure the local planning scheme permits appropriate tourism development in areas of amenity and character that is conducive to tourist appeal.

A number of additional tourism attractions have been considered as part of the *Geraldton – Greenough Tourism Strategy* (MWDC, 2009) for further investigation, such as:

- Marine discovery centre;
- Increased activities and improvements in the Central Greenough historic settlement;
- Greater Geraldton themed interpretative walk trails;
- North Road Stock Route trail;
- Walking tours for the Port, Chapman River, and wildflowers;
- Moresby Range recreation park;
- Indian Ocean Masters games;
- International water sports championships; and
- Artificial reefs at Oakajee and Back Beach.

Over time, future attractions should be reviewed in line with the tourism offering within Geraldton, the district, and the region.

12.5 KEY CONSIDERATIONS / ISSUES

The seasonality of tourism can impact upon the use of tourism facilities and infrastructure. Peak periods are understood to be during September-October (school holidays and spring wildflowers), April (school holidays, Anzac Day, Easter) and July-August (school holidays and wildflowers). This can potentially place pressure on use of holiday homes and caravan parks.

Tourism is primarily promoted through Western Australia's Coral Coast and Golden Outback. There is much to be gained by a unified approach to marketing and promoting the Mid West as a great place to live, work, study and invest. The future development of tourism experiences should have a focus on the nature based and heritage assets experiences. Consideration of the natural environment should be included in planning these destinations in order to promote these nature based activities as well as improve facilities and implement strategies to further develop and promote tourism.

The State government identifies the importance of retaining and/or developing caravan parks for affordable holiday accommodation (DPLH, 2017).

Transportation and accessibility of tourism attractions should be a priority consideration in the planning of the tourism industry. Current air services may need to be expanded based on market growth. Upgrades of bus services and alternative modes of transport can help boost accessibility and tourism activity.

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13 RURAL LAND USE, SUBDIVISION AND DEVELOPMENT

13.1 AGRICULTURE

Agriculture is significant across the Mid West, both in terms of land area, and economic and employment importance. In 2011-2012 the gross value of agriculture activities for the Mid West was \$1,004 million (DRD, 2014). In the 2016 census, it employed 8.60% of the Mid West workforce, and 3.30% of the City of Greater Geraldton workforce (REMPAN, 2017). The City is within the North Midlands region; and split over the Batavia Coast (ex-Geraldton-Greenough LGA) and North Midlands (ex-Mullewa LGA), which is known for its large tracts of relatively inexpensive grazing land close to Perth. It produces fresh fruit and vegetables and offers extensive opportunities for expansion into irrigated horticulture.

Agricultural activity can be categorised as:

- Pastoral** Primarily grazing activity undertaken on uncleared, leasehold rangelands in the north-eastern portions of the district. The commencement of pastoral rangelands typically corresponds to the 300mm rainfall isohyet across the Mid West (DAFWA, 2013).
- Broadacre** Includes wheat, oats, barley, lupins, canola, chickpeas and faber beans, requiring access to good quality land with reliable rain for crops and pasture.
- Irrigated** Occurs on smaller areas of suitable land with access to a water source.

Across the CGG and the Shires of Northampton, Chapman Valley and Irwin, broadacre agriculture was valued at about \$268 million per annum (DAFWA, 2013). Irrigated agriculture has been valued at about \$4 million per annum. While broadacre agriculture is expected to continue as the dominant land use, climate change impacts may result in increased pastoral activity in the long-term.

Broadacre agriculture is dominated by world economic markets that increasingly require farmers to diversify into a range of products to reduce reliance on a single product subject to cyclical fluctuations. In keeping with the issues faced by other broadacre farming communities, the amalgamation of farms to become more viable operations is resulting in a declining rural population. **Table 21** provides a breakdown of broadacre and irrigated agriculture within the CGG.

Table 21 Overview of Broadacre and Irrigated Agriculture in the CGG (DAFWA, 2013)

	Geraldton-Greenough (ex LGA)	Mullewa (ex LGA)
Population (ABS Census 2016)	37,432 (Geraldton urban area)	1,202 (excluding GUA)
Land Area (ABS Census 2016) – CGG	9,909 km ²	
Area within the South-West Agricultural District	178,000 hectares	811,000 hectares
Areas of Agricultural Properties (excludes roads, town and conservation reserves)	146,000 hectares	474,000 hectares
Agricultural properties as a proportion of total area	82%	58%
Total value of agricultural production (2008-09)	\$47,052,000	\$123,196,000
Land used for broadacre agriculture* <i>*Proportion of properties cleared for broadacre agriculture within the agricultural districts, including areas of remnant vegetation on properties.</i>	61%	91%
Land used for grazing	86%	69%
Land use for horticulture	0.2%	0.0%

Broadacre crops grown in the region are of state-wide significance and on a national scale. Wheat production is undertaken in the Geraldton planning region. The “Geraldton planning region” should be read as the area referred to in the *Identification of high quality agricultural land in the Mid West Region Stage 1 – Geraldton planning region* resource management technical report 386 (DAFWA, 2013) and as such the “Geraldton planning region” includes land inside and outside of the CGG local government area. Wheat production in the Geraldton planning region accounted for 8% of WA’s total wheat production for the 2000-2010 decade, and 3% of the national production (DAFWA, 2013).

Horticultural crops contribute a small fraction of the total WA production of fruit and vegetables, mostly planted in the Shire of Irwin and the CGG. The following irrigated agriculture activity was recorded within the CGG in 2006 (DAFWA, 2013):

- Annual crops: 108 hectares
- Stone fruit and nuts: 61 hectares
- Olives: 46 hectares
- Table and wine grapes: 39 hectares
- Aquaculture: 35 hectares
- Cattle feedlot, poultry and egg farms: 26 hectares
- Abattoir: 12 hectares
- Other irrigation: 42 hectares

While the Geraldton region is highly unlikely to become a major horticultural area, in the longer term its importance may increase as the WA population grows (DAFWA, 2013). Continued urbanisation particularly around the Perth metropolitan region may force relocation of horticulture activities. The soils and landforms over much of the Geraldton planning region have good potential for the development of irrigated agriculture.

Intensive horticulture, in the form of covered cropping, has expanded greatly in the past few years in the Geraldton area, boosting the production of tomatoes, cucumbers and capsicums. Significant investment has been made to establish these irrigated agricultural businesses and they are very beneficial for the Geraldton economy, offering an important boost for local employment, transport and construction industries.

13.2 KEY CONSIDERATIONS / ISSUES

Broadacre agriculture is currently a dominant land use in the City’s hinterland. Population in the agricultural hinterland is forecast to decline as a result of farms amalgamating. Climate change may also result in increased pastoral activity in the longer-term, as a result of lower rainfall and possible impacts on broadacre agriculture and/or intensive agriculture.

As mentioned in **section 12**, the City may consider low impact rural tourism development. Such development does not detract from the rural and natural amenity of the locality, does not impact on the use of land for rural purposes, yet may supplement incomes for the landowners.

The planning challenge is to set aside the most productive and versatile areas of agricultural land for food security, to meet the needs of projected global, national and state population growth (DAFWA, 2013). The value of land for agriculture needs to be taken into consideration against other land use proposals, including residential and rural living developments. SPP 2.5 *Rural Planning* supports a presumption against the subdivision of rural land in the interests of protecting important agricultural land, and the inherent value this land represents. As a result, given the Geraldton urban area is regarded to be sufficient to accommodate future population growth and urbanisation, it is reasonable to ensure the rural and rangelands of the City are retained for their agricultural value. Areas of highly productive soils are close to the coast, particularly the front and back flats at Greenough and whilst they are in proximity to Geraldton their value to the agricultural sector should be retained.

These higher versatility agricultural areas are important yet finite assets for the agricultural sector. These are identified in the *Environmental Profile* (Essential Environmental, 2014). The High Quality Agricultural Land in the *Identification of high quality agricultural land in the Mid West region: Stage 1 – Geraldton Planning Region* resource management technical report 386 (DAFWA, 2013) is reflected on the Rural Land Strategy Plan as 'higher versatility agricultural land' under the City's *Local Planning Strategy*.

The Department of Primary Industries and Regional Development (DPIRD) undertakes ongoing analysis of the High Quality Agricultural Land in the North Midlands planning subregion. The DPIRD's Midlands Water for Food Project has revealed new information which could result in some updates to mapping covering the CGG. A comprehensive information package is being compiled and could be made available. The studies could provide detailed information on the agricultural characteristics of land in the study area.

Consideration needs to be given to the protection of areas of existing production and areas with the potential for future agricultural development, and with recognition to the impacts of climate change, water scarcity and sustainable use, increasing population growth and urbanisation.

One possible hindrance to intensive horticulture is the rising price of water, supplied via Water Corporation. This issue has the potential to undermine the ongoing viability of irrigated agriculture in the area. DPIRD supports the growth of irrigated agriculture in the City and encourages water initiatives that promote a viable, long-term, horticulture industry.

14 TRAFFIC & TRANSPORT

Figure 26 depicts the high-level road, rail, infrastructure corridor and port facilities within the City of Greater Geraldton.

14.1 ROAD NETWORK

The Geraldton urban area and the Mid West region is serviced with a network of major sealed roads, connecting Geraldton to Perth, the north-west of Western Australia as well as the hinterland surrounding Geraldton. Main Roads Western Australia is responsible for the main routes to and from Geraldton including Brand Highway, North West Coastal Highway and Geraldton-Mt Magnet Road. They are also responsible for other primary distributor roads within the urban area including John Willcock Link, Geraldton-Walkaway Road and Moonyoonooka-Yuna Road. These roads provide access for tourism to the Batavia Coast, freight to Geraldton Port and daily commute. Primary and district distributors are identified in the City's *Local Planning Strategy* and are outlined in **Table 22** below.

Table 22 Road Network Hierarchy as reflected in the Local Planning Strategy (CGG, 2015)

Road Network Hierarchy	Road Names		Primary Responsibility
Primary Distributor	Brand Highway North West Coastal Highway Geraldton-Mt Magnet Road John Willcock Link Edward Road Moonyoonooka Narra Tarra Road Geraldton North South Highway* Oakajee Narngulu Infrastructure Corridor*		Main Roads WA
District Distributor	Chapman Road Chapman Valley Road Cathedral Avenue Durlacher Street Eastward Road East West Connector Road* Eighth Street Fitzgerald Street	Green Street Johnston Street Lester Avenue Marine Terrace Ackland Road Abraham Street Place Road* Verita Road	City of Greater Geraldton

*Note: * indicates a new/proposed road link*

14.1.1 NETWORK DEMANDS

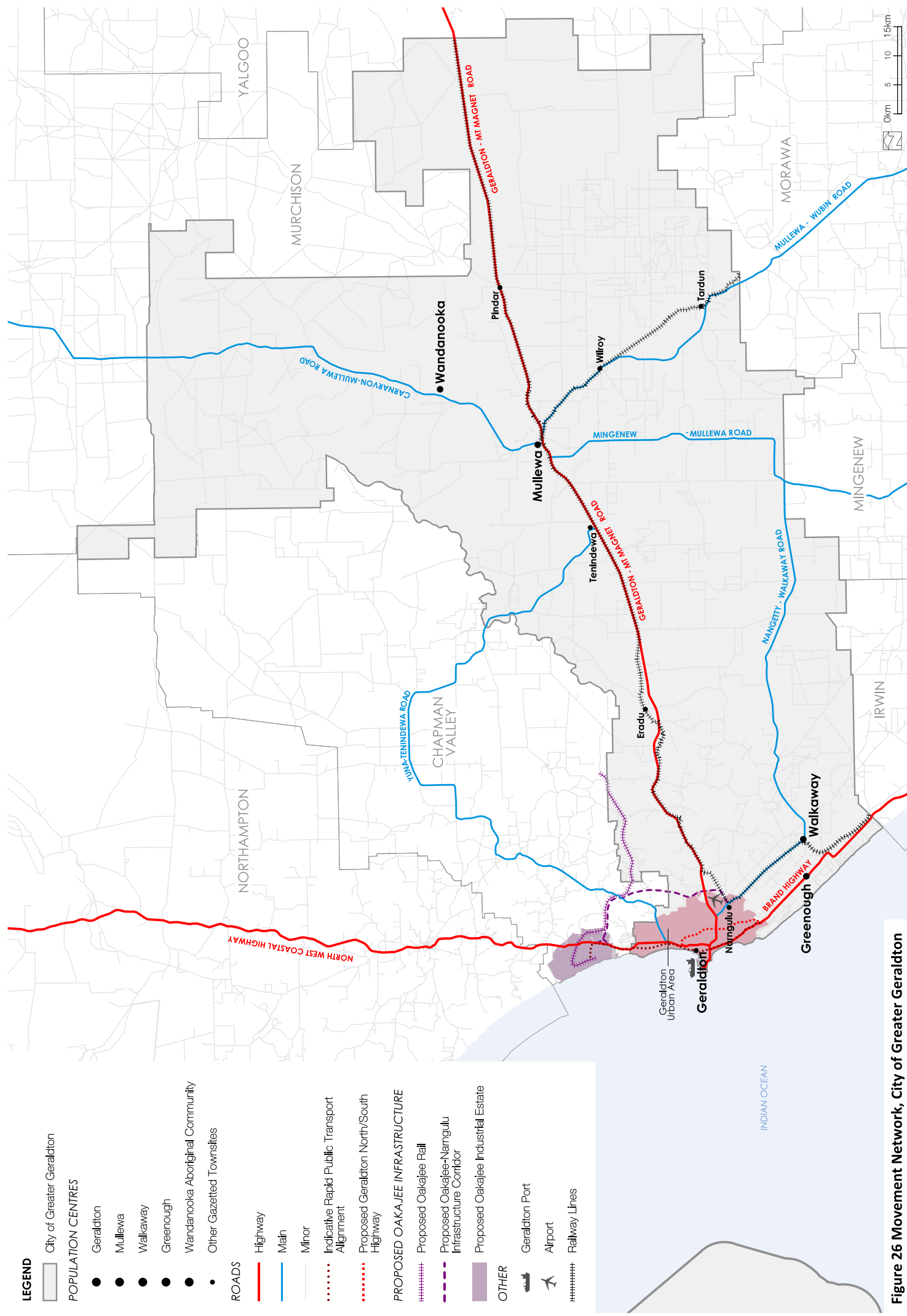
Demands on road infrastructure across the Mid West can be attributed to mining and agricultural product movement; population in coastal centres; and ongoing promotion of regional tourism. It is important that the road network can meet these pressures; whilst working towards efficiency gains and community safety, sustainability and social expectations.

Congestion is also anticipated to increase due to the growing dominance of the resources industry sector within the Mid West, and the reliance upon fly-in fly-out, and the associated drive-in drive-out practices. Other major focus areas include the southern approach to the Geraldton urban area via the Brand Highway. Tourism-based traffic along this route has previously caused issues including accidents caused by a lack of familiarity with the road network, and towed loads slowing local traffic.

The most prevalent regional road network issue is the high number of heavy vehicles – an issue amplified in Geraldton given its role as a freight gateway. The transport of fuel and fertiliser between the Geraldton Port and inland locations places increasing demands on the road network, especially during seasonal pressure periods. Seasonal livestock movements utilising special heavy vehicle permits, cause substantial congestion on North West Coastal Highway and Brand Highway. At a district scale, proposals likely to have a significant impact on the orderly road network are the Geraldton North South Highway, and the North West Coastal Highway dual carriageway.

The existing rail network alleviates some road congestion in the movement of freight through Geraldton but the network currently transports only iron ore and grain. Long term planning is for grain movements to be transferred onto rail, thereby reducing demand on the road network. Mineral sands have shifted off rail and is now mainly road freight. It is recognised that Aglime routes for freight traffic and the resultant level of freight activity on the road network is an important infrastructure consideration.

Through the preparation of the City's *Local Planning Strategy* a number of road upgrades were identified and confirmed through the *Transport Planning Report* (DVC, 2014). In turn, proposed roads are reflected on the City's *Local Planning Strategy* Strategic Plans and reserved in the City's Local Planning Scheme No. 1. New street alignments for local roads are contained in Part 4 of the Scheme Text.



14.1.2 KEY ROAD PROJECTS

The early identification and acquisition of land needed for important infrastructure such as roads is essential to orderly growth and can provide for substantial costs savings in the longer term. In some cases, this may necessitate the identification of funding well in advance of implementation for key alignments. The information below highlights a number of key road projects which will provide important capacity, safety and efficiency improvements for the CGG's road network.

Port Link Inland Freight Corridor

The PortLink Inland Freight Corridor is a State Government initiative and seeks to establish integrated road and rail corridors linking resource-rich areas in the Mid West, Goldfields and Pilbara regions to export ports, such as the Geraldton Port and the proposed Oakajee port. The planning studies are underway (DPIRD, 2017).

Geraldton North-South Transport Corridor

The *Western Australian Regional Freight Transport Network Plan* (DoT, 2012) identifies a number of strategic road priorities throughout the City of Greater Geraldton and the broader Mid West region, which focus on the safe movement of freight and passenger traffic. Within the Geraldton urban area, the Geraldton North-South Highway and the duplication of the North West Coastal Highway from Utakarra Road to Green Street are proposed to alleviate traffic congestion issues, consolidate access points and improve operational efficiency and road safety. Main Roads have, to date, initiated land acquisition as land development progresses and cases of landholder hardship are demonstrated for Stages 1 and 3 of the North West Coastal Highway (NWCH) duplication.

Funding has not yet been prioritised to deliver the stages of the NWCH duplication, however further detail design has been considered to upgrade some intersections in order to be considered for funding. The Hosken Street intersection with the NWCH has recently had funding prioritised to deliver a round-about upgrade including connection with Horan Street providing a link to Spalding.

The City has adopted a position through its *Geraldton North-South Transport Corridor* local planning policy that "*The North-South Highway Inner Bypass (in particular the northern section from Horwood Road to North West Coastal Highway) should be prioritised over all other alternatives*". This would provide a traffic bypass alternative for Geraldton particularly for heavy vehicles, increasing road safety and maximising efficiency of movements.

North West Coastal / Brand Highway realignment

Brand Highway and North West Coastal Highway collectively act as an essential corridor for coordination of town essential services. Where there are increased coordination/access issues due to narrower sections of the corridor there may be pressure or the need to increase the width of the corridor. Through the *Integrated Transport Strategy* (CGG & Cardno, 2015) all transport modes were considered for the road corridor with a sense of place, using landscaping, colour and shade, may significantly contribute towards encouraging walking and cycling as alternate modes of transport.

To some extent, pressure may ease on the need for the realignment if the Geraldton Outer Bypass were to commence and be delivered earlier.

Oakajee Narngulu Infrastructure Corridor (ONIC)

To address the challenges of finding road, rail and infrastructure connections to the proposed Oakajee Port and associated industrial estate, the (then) Department of Planning published the draft *Alignment Definition Report for the Oakajee Narngulu Infrastructure Corridor* (DPLH, 2014). The preferred alignment of the ONIC and the preferred Oakajee Port and Rail Corridor are reflected on the Geraldton Urban Area Strategy Plan in the *Local Planning Strategy* (CGG, 2015).

The ONIC, being planned, will provide a road, rail and utility services corridor linking the proposed Oakajee Port and adjacent strategic industrial estate with the existing Narngulu industrial area and Geraldton Port. The envisioned corridor will be approximately 34 kilometres long and notionally 250 metres wide and facilitate the coordinated delivery of transport and service infrastructure. The ONIC consists of an 80-metre reserve width for road, 60-metre reserve width for rail and 90-metre reserve width for utilities. Western Power has registered interest in utilising the ONIC for its 330kV transmission line to Oakajee. The Department of Planning, Lands and Heritage has investigated the opportunity for increasing the ONIC width towards 300-metres to accommodate a second rail route, consistent with what was proposed by Oakajee Port and Rail. The ONIC will also provide for a section of a new outer freight bypass road around Geraldton, linking Narngulu and the existing port with Oakajee, and part of the proposed future long-term Dongara to Northampton Coastal Route.

Construction of the ONIC is dependent on funding and demand as well as the development of the Oakajee Port and industrial area. Main Roads WA has previously sought funding for project development of the Geraldton Outer Bypass, which includes the ONIC as a component.

Dongara to Northampton Coastal Route

In 2015, Main Roads WA released a *Dongara to Northampton Coastal Route Corridor Alignment Selection Study* (MRWA, 2015). Critical components of the Dongara to Northampton Coastal Route included the:

- Northampton Bypass;
- Geraldton Outer Bypass; and
- Oakajee Narngulu Infrastructure Corridor.

The City of Greater Geraldton and Shires of Chapman Valley, Irwin and Northampton expressed their concerns about the proposed route and outlined an alternative option. The option by the local governments considered a route that would enable road trains to travel between Carnarvon and Muchea, without having to travel through Northampton and Geraldton. The option removed duplication of roads and included the ONIC in order to provide access and use to the Oakajee Industrial Estate.

Main Roads WA sought WAPC endorsement of their selected route, which was not provided. MRWA was required to undertake further consultation to ensure the Study was consistent with all relevant state planning priorities including the WA Regional Freight Network Plan. While independent of the ONIC project, the section of the proposed Dongara to Northampton Coastal Route between Geraldton-Mt Magnet Road and White Peak Road, or North West Coastal Highway (depending on alignment options from White Peak Road to Northampton) is ultimately planned to utilise the alignment of the road element of the ONIC.

The study is ongoing and when it is complete and endorsed, an Alignment Definition Study will be undertaken to define the road reservation requirements for the preferred route. Further community and stakeholder consultation will be undertaken, particularly with affected landowners.

14.2 PUBLIC TRANSPORT

The public transport network is operated by TransGeraldton, through the Public Transport Authority's TransRegional scheme. There are more than sixty bus shelters throughout Geraldton, whilst the Public Transport Authority is responsible for the locations of bus stops. There are eight bus routes that provide coverage for a fair proportion (although not all) localities within the Geraldton urban area. Frequencies are comparatively poor and the operating periods of some of the services are short.

The City intends to increase the use of sustainable transport through the installation of bike racks and end-of-trip facilities. Increased patronage would contribute towards further improvements to public transport services.

There has been consideration of a north-south "indicative rapid public transport alignment" shown in the *Greater Geraldton Structure Plan 2011* (WAPC, 2011). This also is reflected on the Geraldton Urban Area Strategy Plan in the City's *Local Planning Strategy* (CGG, 2015). The proposal is a long-term consideration with no firm implementation programme.

14.3 RAIL INFRASTRUCTURE

Rail infrastructure in the Mid West region is State owned; managed, maintained and operated by private company Arc Infrastructure under a long-term lease until 2049. It is operated as an open access, multi-user network, with a number of different companies operating above rail fleets and a variety of end-customers utilising the network to transport freight and passengers.

The rail network is mixture of narrow, standard, and dual gauge lines carrying a broad range of commodities, agricultural products, and containerised freight. In the Mid West region, there is 608 kilometres of narrow gauge rail lines and associated infrastructure including numerous level crossings, signals and communications equipment. These lines carry iron ore and grain for three customers; Karara Mining Limited, Mount Gibson Iron and CBH Group. In the past the rail network has transported mineral sands, but this freight task is now moved by road.

The map shown in **Figure 27** illustrates the rail infrastructure throughout the Mid West region. The freight rail network connects in at the Narngulu industrial area, which acts as the main junction. The CGG's approach is from two directions – one line running in from the east through Mullewa; and from the south through Dongara connecting Geraldton to the remainder of the network. From the depot at Narngulu the network then connects into Geraldton Port, passing to the south of the city centre.

Driven by growth in the iron ore sector, Arc Infrastructure completed a \$550 million investment project in 2012 to support Mid West mining and agricultural customers to fulfil their immediate and very substantial export goals.



Figure 27 Rail Infrastructure, Mid West Region (Public Transport Authority, pers.comms. 2017)

Originally designed for grain haulage, 184 kilometres of rail network and related infrastructure was replaced running from Morawa north through Mulewa and west through to Narngulu and ultimately connecting into Geraldton Port.

Replacing a large proportion of the main line of the rail network, the new rail structure comprises concrete dual gauge sleepers, up to 60 kilograms per metre rail, with a minimum of 21 tonne axle load at narrow gauge. Six new passing loops were constructed, two existing passing loops were extended, two bridges were replaced, a number of new culverts were installed, and new signalling and radio communications infrastructure was installed.

The installation of dual gauge concrete sleepers provides the opportunity to connect the Mid West region to the rail network through the Yilgarn region and ultimately into the national interstate freight rail network.

This private investment in public infrastructure lifted the rail classification to heavy haul, allowing the rail network in the Mid West to immediately transport 25 million tonnes per annum, with the capability to increase to 75 million tonnes per annum.

The existing rail network alleviates some road congestion in the movement of freight through Geraldton but the network currently transports only iron ore and grain. As the ongoing development of the network continues it is important that future rail corridors are secured and planned for, with appropriate policies and strategies.

The *Western Australian Regional Freight Transport Network Plan* (DoT, 2012) indicates that freight growth is expected to increase exponentially to 2030, with the focus on investment and capacity increase concentrated on the Morawa-Mullewa-Narngulu-Geraldton arc. As this growth is realised, demand on the capacity of the both the existing rail network and port facilities in Geraldton is expected to increase. Evidence of the growth is already being seen with substantial upgrades to the network in the last two years as well as the expansion and extension of the Karara line, linking into the existing freight rail network.

There is no passenger rail service within the CGG. A future consideration by the State Government may be a passenger rail service between Perth and Geraldton (DPLH, 2017). At this time there is no land set aside for a passenger rail service nor a defined route.

14.4 GERALDTON AIRPORT

Geraldton Airport is located 9.5 kilometres east-south-east of the Geraldton city centre, with primary access via Geraldton-Mt Magnet Road and accessed from Gordon Garratt Drive. To the west and south are the suburbs of Deepdale and Meru respectively. Meru forms part of the Narngulu Industrial Estate, whilst Deepdale is a primarily rural residential area, that has steadily expanded eastwards towards the airport. East of the airport is almost exclusively rural land, whilst the Geraldton-Mt Magnet Road and Chapman River are located to the north.

Geraldton has a main runway 03/21 (asphalt) and two shorter runways 14/32 (asphalt) and 08/26 (gravel). The airport includes the Greenough passenger terminal, a hangars precinct, general aviation facilities, terminal and aprons and taxiways. The airport is supported with short-term and long-term car parks and vehicle hire operations (CGG, 2016). Mobil Oil has storage for Jet A1 fuel and Avgas fuel.

Since 2000, the City has progressively acquired additional land to increase the Airport land area to approximately 530 hectares. In the last couple of years, a number of developments have been completed. Taxiways and aprons have been upgraded, with new short-term and long-term car parks and relocated car hire operations (CGG, 2016). An extension of the Greenough passenger terminal provided expansion of the public lounge and security screening facilities.

Regular Public Transport services are provided by Virgin Australia Regional Airlines and Qantas through QantasLink or Network Aviation. Shine Aviation is a fixed base charter operator servicing resource industry charters and general charters. Geraldton Air Charter is a fixed base operator servicing the Abrolhos Islands fishing industry and general charters. Prestige Helicopters operates a small fleet of resident helicopters. Kelmec Aviation and Shine Aviation provide pilot training and certification services (CGG, 2016). The Airport also is visited on an occasional basis by RAAF aircraft and the Royal Flying Doctor Service.

Patronage at Geraldton Airport has steadily grown as demonstrated in **Figure 28** and aircraft movements are demonstrated in **Figure 29**. Geraldton Airport currently has return flights between Perth and Geraldton, along with fly-in fly-out services for the mining industry, and fishing and tourism charters to the Abrolhos Islands, Kalbarri, Monkey Mia and the surrounding coastline. Geraldton Airport helps generate nearly \$100 million in annual economic value, and 187 jobs (Government of WA, 2017). The airport is recognised by several international airlines as the Alternate Landing Port to Perth in the case of bad weather and emergency landings for aircraft up to and including A320 and B737. This alternate landing port role is shared with Kalgoorlie Airport.

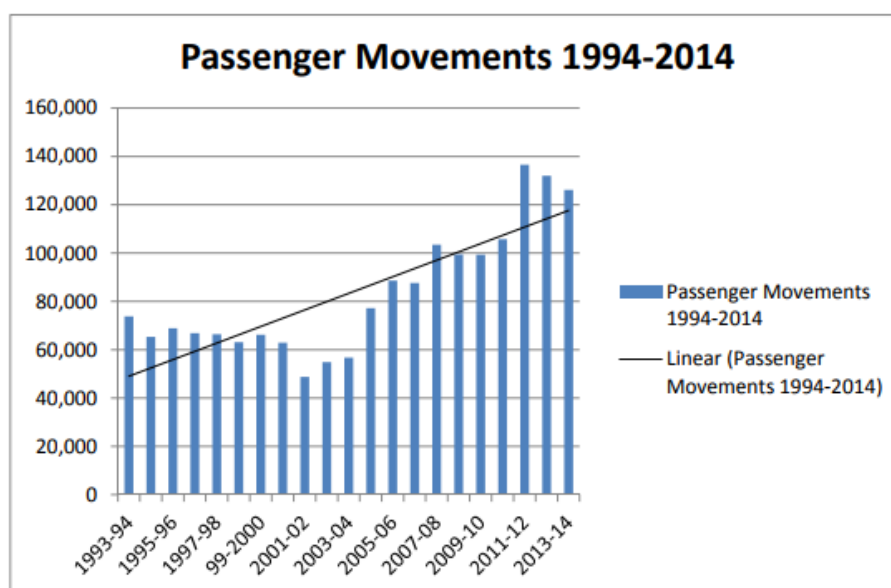


Figure 28 Passenger Movements 1994-2014 (CGG, 2016)

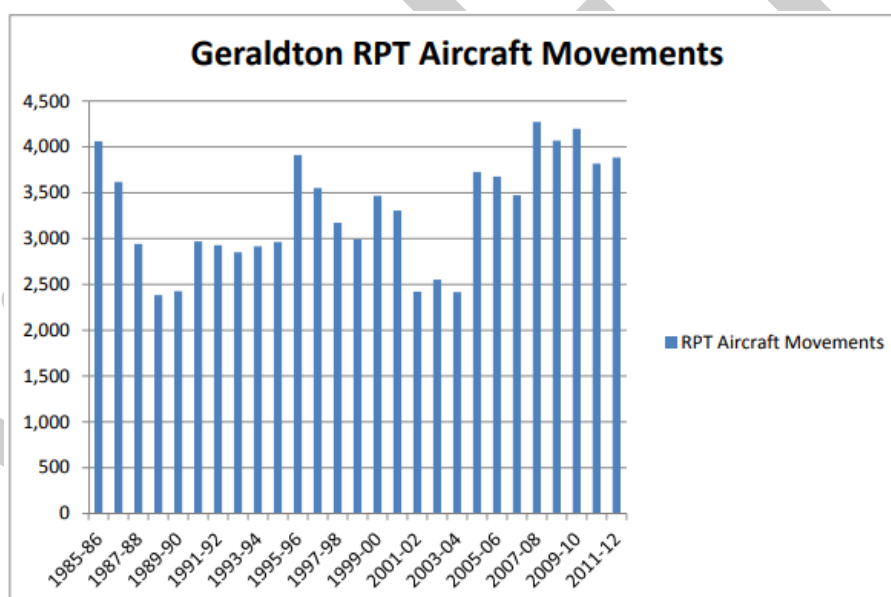


Figure 29 Aircraft Movements 1985-2012, Geraldton Airport (CGG, 2016)

The growth and diversity of the region's economy, particularly in commodities, will lead to population growth and continued demand for air transport services. The role and importance of Geraldton Airport is expected to increase in prominence in the future, based on expected growth of the resources industry and reliance on fly-in fly-out workforce, coupled with projected resident population growth and tourist visitation in Geraldton and surrounding areas.

It is regarded that the Airport currently has capacity. On the most conservative forecasts, passenger movements are reasonably expected to exceed 150,000 by 2020 and 200,000 by 2028 (CGG, 2016). Larger jet aircraft operations may warrant infrastructure upgrades after passenger numbers consistently exceed 150,000 with one carrier, or until after passenger movements exceed 200,000 passengers in the case of two carriers (CGG, 2016). Timing of infrastructure upgrades would also be influenced by through-services such as Perth to/from Pilbara via Geraldton.

In 2017 the State Government announced \$6.5 million towards a runway upgrade for repaving, through the Regional Airports Development Scheme (Government of WA, 2017). The main runway 03/21 was paved some 16 years prior and so this funding was necessary, with sequential enhancement of the runway factored in to the *Geraldton Airport Master Plan 2012-2030* (CGG, 2016). The main runway 03/21 can be extended from 1,980 to 2,400 metres, whilst a future development of a 2,700-metre runway is considered in the long-term to be parallel to the current runway 03/21. The timing of the 2,700-metre runway is contemplated beyond the year 2030 (CGG, 2016).

The *Local Planning Strategy* Part 1 recognises the Obstacle Limitation Surfaces, Australian Noise Exposure Forecast and 70 Decibel Noise Event contours which align to the 'ultimate future development' as well as planned runway upgrades. These are integrated as SCA 3 in Local Planning Scheme 1 in order for the local government to have regard and consider development in proximity to the Geraldton Airport, to the *Geraldton Airport Master Plan*, the requirements of the Obstacle Height Limitation Surface Area, and the National Airports Safeguarding Framework.

14.5 PORT FACILITIES

14.5.1 GERALDTON PORT

The Geraldton Port is located on the north shore of the West End, extending north towards the Geraldton CBD foreshore. Geraldton Port is operated under the *Port Authorities Act 1999* by the Mid West Ports Authority, governed by the Board of Directors appointed by the Minister for Transport. Geraldton Port caters for exporting grains, minerals and livestock, and importing fertiliser, mineral sands, general cargo and fuel. The Port also receives cruise ships, oil rig tenders and exhibition craft. The Port provides berthing facilities, maintenance, waste disposal and security services to the Fishing Boat Harbour.

After a record harvest was produced in 2016 from the Geraldton Port zone, CBH reported that receivals sites were under pressure to handle the quantity delivered for transport and storage space in preparation for shipping. DPIRD supports initiatives which sustain the storage capacity at the Geraldton Port for harvest receivals. The Mid West Ports Authority and CBH indicated that 500 kilotonnes were stored in emergency up-country facilities, and 200 kilotonnes at Moonyoonooka during the 2016 season. CBH has the capacity to increase port storage by 300 kilotonnes, and to develop a 750 kilotonne site at Narngulu when conditions warrant the expenditure. Poor seasonal conditions for grain will result in lower grain exports in 2017/18.

The Geraldton Port handles exports including grain, iron ore, mineral sands, garnet, talc, copper and zinc concentrate (MWPA, 2017). During the 2016/17 financial year the Port handled 16.86 million tonnes, which is up from 16.17 million tonnes in 2015/2017. The Karara mine achieved its name-plate production volume, which contributed towards growth in exports through Geraldton Port. This is close to its physical import/export capacity of around 20 million tonnes per annum. The Port has the capacity to handle up to 30 million tonnes per annum across the seven land-backed berths. Some upgrade capacity is available; however, it is limited by the surrounding transport network capacity for managing freight movements. Geraldton Port is reasonably well connected to heavy truck routes that avoid built up areas to the east; but less well to the south and even less so to the north.

Cruise ships typically have anchored in Southern Champion Bay, approximately 1 kilometre offshore. Passengers are then tendered into Batavia Coast Marina. In 2017, Mid West Ports Authority acquired four ShoreTension Units that are primarily used on cruise vessels and can also be used for other commercial vessels (cattle, bulk cargo or break bulk cargo). These units are a mooring solution designed to minimise vessel movement at berth, improving berth utilisation and lowering costs to vessels.

The Mid West Ports Authority is preparing a 30-year development master plan for the Geraldton Port. The project is expected to be completed late 2018/first half of 2019. The project objective is to articulate the future layout of the Geraldton Port, to understand infrastructure requirements, to consider port-community interface issues and to account for future operational requirements to meet the future needs of the Port and the key stakeholders. Critically, the project will also:

- Inform and assist regional and local planning authorities and transport network providers in preparing and revising their strategic planning; and
- Inform port users, employees and the local communities as to how they can expect to see the Port develop over the coming years.

The project will include consideration of drivers for any potential expansion of parts of the Geraldton Port or Fishing Boat Harbour, beyond the existing footprint (if appropriate). The master planning process will include broad consultation with the community and stakeholder groups regarding the future of Geraldton Port. All trade sectors will be considered, including the following:

- Container Trade
- Livestock
- Aquaculture
- Grain
- Cruise ships
- Naval and Border Force vessels
- Marine service
- Fuel exports and imports
- Iron ore (haematite and magnetite, etc)
- Existing and emerging non-iron minerals
- WA offshore oil & gas industry
- Fishing industry
- Boat building
- General Breakbulk
- Explosives for mining
- Mining equipment imports
- Fertiliser

A general desire for trade growth and larger shipments, cruise ships, and naval/defence vessel berths and servicing, will be part of the assessment. Potential for transshipping and hinterland linkages (including road, rail and slurry pipelines) will be considered. Further, the project will address Oakajee and Geraldton port inter-relationships.

14.5.2 OAKAJEE PORT

The proposed Oakajee Port is located 25 kilometres north of Geraldton, in the Shire of Chapman Valley. It is the coastal end-point to the proposed 550-kilometre heavy haulage rail route and is intended to be a part of the proposed Oakajee Industrial Estate. Oakajee has been contemplated to specifically handle iron ore exports; to accommodate vessels up to Cape Class; and to ease the pressure currently facing the Geraldton Port and supporting regional infrastructure.

With a start-up capacity of 45 million tonnes per annum and an upgrade potential to 80-100 million tonnes per annum, the project is viewed as critical to realising the mining and resource potential of the Mid West (MWDC, 2015). Many existing and proposed iron ore mining projects in the Mid West are not able to develop to desired levels until a rail link and deep water port is developed. The location of Oakajee to Geraldton is depicted in **Figure 30**.

Despite the recent suspension of the Oakajee Port and Rail project, the long-term planning implications of this infrastructure for both the Mid West and the CGG are substantial. The capacity to service the planned future resources projects does not exist within the existing Geraldton Port, which places pressure on the port and rail project to progress. It is understood that the Oakajee project still forms part of the Federal Government's \$75 billion "record infrastructure spend" out to 2020-21. The Mid West Ports Authority will ultimately be responsible for the proposed port of Oakajee.

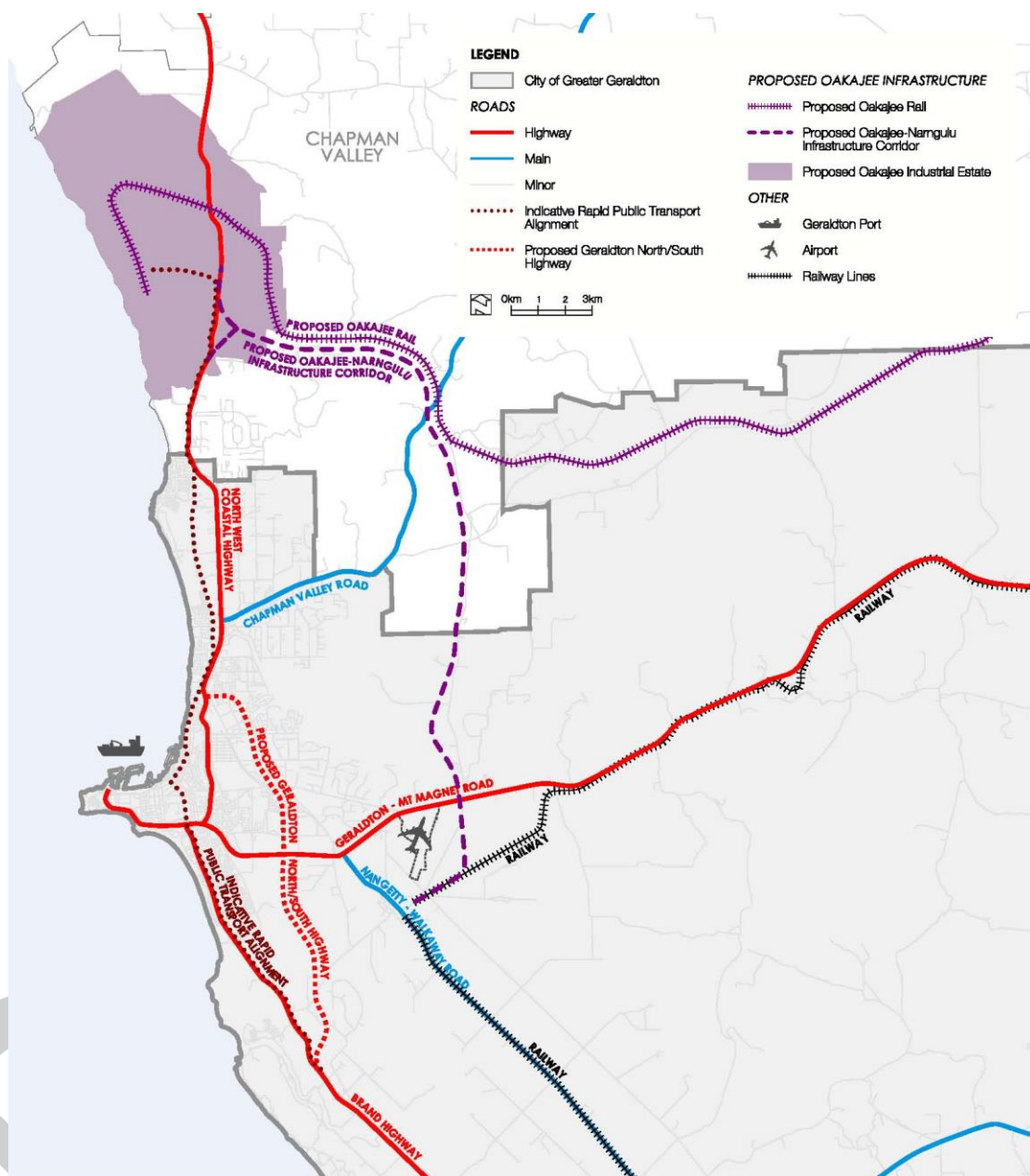


Figure 30 Location of Oakajee

14.6 KEY CONSIDERATIONS / ISSUES

The volume of regional-based freight movement through the State's port authorities will more than double by 2031. The regional freight road task will also be around double that was recorded in 2010. In addition, the rail freight task is also expected to double. The challenge of developing infrastructure in a coordinated manner to sustain high productivity will underpin the efficiency of logistics and freight.

DPIRD supports road infrastructure initiatives which meet the grain and stock freight traffic requirements. More recently, the introduction of Aglime Routes has been an infrastructure consideration. DPIRD supports the upgrading and maintenance of these routes for continued Aglime freight traffic activity.

The Mid West Development Commission is working on a Regional Transport Strategy to work with its *Mid West Regional Blueprint*. Initial understanding of the work indicates there is a general desire for operators to achieve bigger payloads between farm gates and grain receival points. There is a need for a road train assembly area and the need for a public weighbridge in Geraldton.

The CGG maintains its policy position on the importance of delivering the North-South Transport Corridor between Horwood Road to North West Coastal Highway, and is supportive of the ONIC. There is a clearly identified need for the North-South Highway Inner Bypass, with the most urgently required section being the northern portion, north of Geraldton-Mt Magnet Road, followed by the southern section to the south of Geraldton-Mt Magnet Road.

Both the North-South Highway Inner Bypass and ONIC are reflected in the City's endorsed *Local Planning Strategy*. In this regard, the CGG considers these roads to be critical components to development of the regional transport network, and will collaborate with stakeholders for further clarification of commitments towards timeframes for these road projects.

DRAFT

15 INFRASTRUCTURE SERVICES

Infrastructure and services relevant to the City of Greater Geraldton area shown at **Figure 31**, including the locations of waste water treatment plants, substations, power transmission lines, gas pipelines, and power generators.

15.1 ELECTRICITY

15.1.1 CURRENT NETWORK DETAILS AND CAPACITY

Western Power's South West Interconnected System (SWIS) extends into the Mid West region, and is referred to as the North Country network which spans 400 kilometres. The SWIS connects Geraldton and surrounds to Perth. Geraldton is connected to Three Springs by 132kV transmission lines; whilst Mullewa is connected to Geraldton via High Voltage Three Phase transmission lines. There is a gas power station at Utaarra (21MW) in Geraldton, and a Peaking Generator at Geraldton Airport owned and operated by Tesla Corporation. The Western Power Network Capacity Mapping Tool indicates that four Western Power substations are located at Chapman, Geraldton, Durlacher Street, and Walkaway.

In 2015, Western Power completed the Mid West Energy Project Southern Section transmission line to increase capacity to Three Springs, provide support to Geraldton and reduce the reliance on generation at Mungarra. The Western Australian Government funded an upgrade through a 75-kilometre 330kV double circuit high voltage transmission line, from Three Springs to Eneabba, where it connected with Western Power's SWIS. Stage 1 of the transmission line was undertaken at a cost of \$175 million, from August 2012 to February 2014 (Cordell Connect, 2017). The project included a new 330kV terminal at Three Springs and a 330kV double circuit transmission line from Pinjar to Three Springs terminal.

Stage 2 of the project is dependent on new entrant generation and large loads connecting. The Stage 2 would improve the transmission network through to Geraldton (WAPC, 2015). New double circuit 132 kV transmission lines are also proposed to be staged, from Chapman to Oakajee, and from Chapman to Northampton. Stage 2 would uplift the 132kV section north of the Three Springs terminal.

Mungarra gas turbine units 1, 2 & 3 (113 MW) are scheduled for retirement by Synergy, notionally for September 2018. Mungarra is one of four identified assets for retirement in response to the State Government's 2016 direction to reduce generation to 2,275 MW (exclusive of renewable generation facilities).

15.1.2 GERALDTON CBD POWER REQUIREMENTS

Due to current load pressures on the network, the undergrounding of power in the CBD has been on the agenda for many years with the community and Council. The State's Underground Power in the City of Greater Geraldton CBD Project began early November 2017, and involves the laying of underground cables to the CBD buildings located on Chapman Road between Cathedral Avenue and Forrest Street, and buildings located on Durlacher Street between Sanford Street and Marine Terrace.

15.1.3 MULLEWA

Mullewa is connected via High Voltage overhead transmission lines that extend out of Geraldton from the 33kV substation located within the city centre. Mullewa has experienced outages that have been categorised as environmental factors rather than equipment failure. The town's hospital is backed up by emergency generators that have the capacity to maintain essential lighting, equipment and computers. The City is an advocate for Western Power to address power outage issues as they have a detrimental impact on the ability to deliver health and community services to residents, as well as inconvenience to residents and businesses.

15.1.4 RENEWABLE ENERGY SOURCES

The Mid West region is recognised as being a prospective major contributor for renewable electricity generation, and Western Power has been working to upgrade the SWIN with a recognition of the growing number of projects that would generate electricity to feed into the system. The region has abundant renewable resources including solar, wind, wave, geothermal and biomass. A number of renewable energy projects are found in the City, with many others in the region:

- Alinta Wind Farm at Walkaway (90 MW) – completed 2006;
- Greenough River Solar Farm east of Walkaway (10 MW) – completed 2012;
- Mumbida Wind Farm at Burma Road (55 MW) – completed 2013;
- Burma Road, Burma (45 MW) – proposed (approved by JDAP, July 2016).

The electricity generated by the Mumbida Wind Farm and Greenough River Solar Farm is purchased by the Water Corporation to offset the energy requirements for the Southern Seawater Desalination Plant at Binningup.

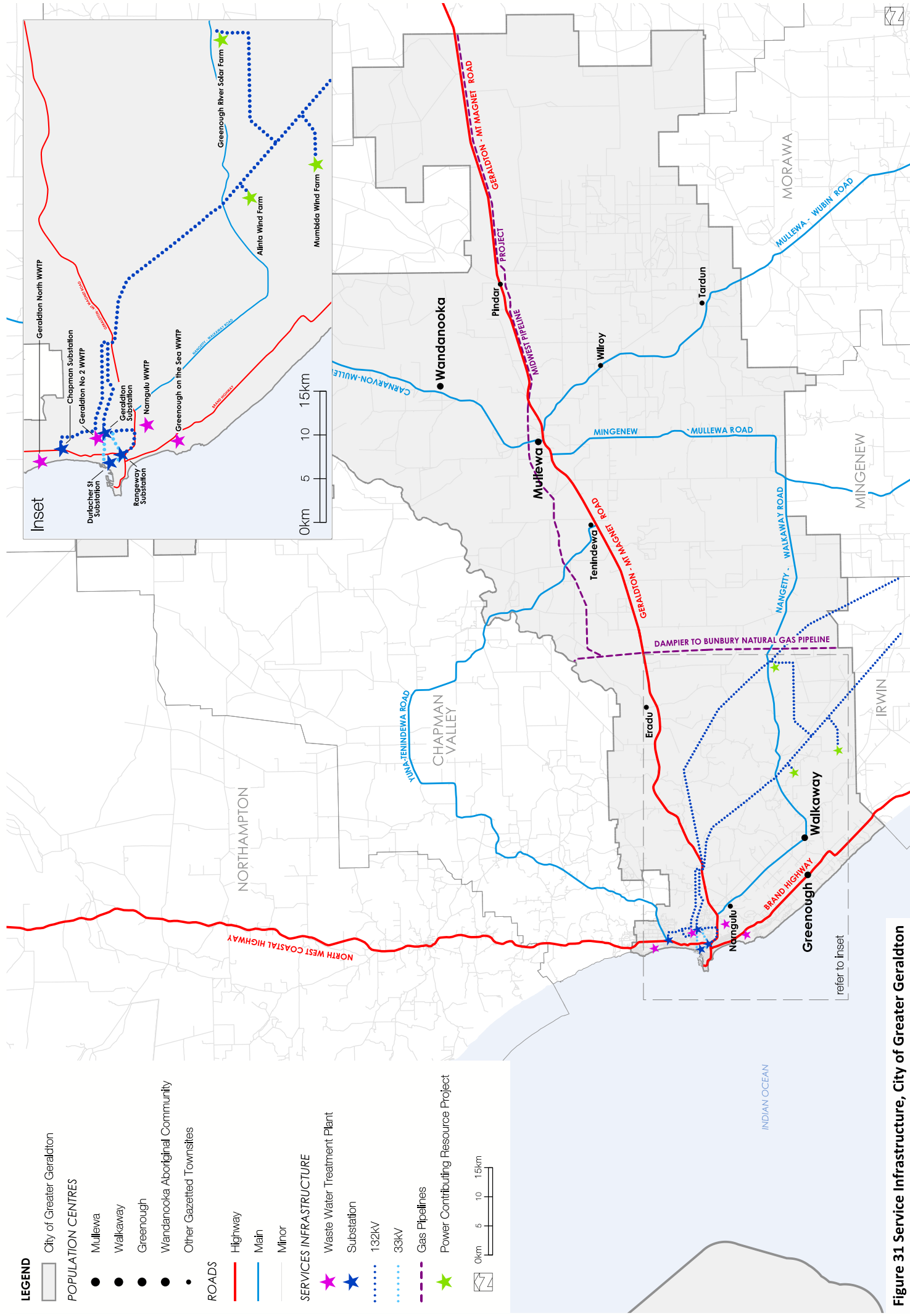


Figure 31 Service Infrastructure, City of Greater Geraldton

15.2 COMMUNICATIONS

15.2.1 NATIONAL BROADBAND NETWORK

NBN Co was established in 2009 to design, build and operate the National Broadband Network (NBN). The Perth to Geraldton fibre backbone link was completed in March 2011. Within Geraldton, NBN Co commenced installation of fibre optic cable in 2012 and activated fibre services in July 2013. As at activation, 600 Geraldton properties had been connected and a further 6,000 were targeted for connection (ABC News, 2013).

A satellite ground station is also located in Geraldton to deliver services over the NBN to outback communities. The satellite ground station supports the NBN's Long Term Satellite Services, which began operating in 2015. Ground stations feature two 13.5 metre satellite dishes and on-ground solar farms (NBN Co, 2014).

Over time, it is considered that the NBN will greatly assist people in accessing e-health, distance education and entertainment on demand, whilst businesses could potentially increase productivity, reduce costs and access new markets. The digital accessibility of the City would enable new business sectors to grow and develop, and for existing businesses to operate more effectively. There are also substantial opportunities for the resources industry, by making possible more remote operations and reducing the reliance on local labour or fly-in fly-out workforce.

The CSIRO's Murchison Radio-astronomy Observatory (MRO) Support Facility is located within the Geraldton Universities Centre complex. The Support Facility provides administrative and project management support for the Murchison Radio-astronomy Observatory, which is 370 kilometres north-east of Geraldton. The MRO Support Facility also provides remote operations services for CSIRO's Australian Square Kilometre Array Pathfinder telescope and the Square Kilometre Array international project. It also features space for researchers to use time on supercomputers at iVEC's Pawsey Centre in Perth. All data flow from the north/north-east of WA will travel via Geraldton, making the city one of the most connected in Australia and placing it in a strong position to provide a range of digital services, such as those on offer by the Geraldton Data Centre, to communities in the region.

15.2.2 TELECOMMUNICATIONS

The Australian Government has committed \$220 million to the Mobile Black Spot Programme to improve mobile coverage along major regional transport routes, in small communities and in locations prone to natural disasters (Department of Communications and the Arts, 2017). The parameters for the program were set and used in determining which base stations were selected for funding by the Federal Government. Two rounds of expansions were announced for 2015 and 2016. A number of round one works have been completed within the CGG, whilst a number of round two works are yet to be completed within 2018 such as Pindar Base Station, Wongoody Tardun Road Base Station, and Tenindewa Yuna Road Base Station (Australian Government, 2017), (Telstra, 2017).

15.2.3 RADIO COMMUNICATIONS

The Murchison Radio-astronomy Observatory is the host site for the Australian Square Kilometre Array Pathfinder and the Square Kilometre Array international project.

A significant issue for the SKA project's operational success is maintaining radio quiet protection to the highly sensitive instruments. The success of the Square Kilometre Array international project (SKA) is based upon the Australian Radio Quiet Zone Western Australia (ARQZWA) that is centred on the Murchison Radio-astronomy Observatory (MRO) at Boolardy pastoral station, under the control of the CSIRO. This radio quiet zone ensures that interference is minimised from transmitters and that consultation occurs.

The Australian Communications and Media Authority (ACMA) issued a Radiocommunications Assignment and Licensing Instruction (RALI) MS32, which came into effect on 19 December 2014 (ACMA, 2014). The RALI specifies consultation requirements prior to installing radiocommunications transmitters within 260 kilometres of the MRO.

This frequency dependent zone extends 150km to 260km from the centre point of the ARQZWA and impacts on land within the City of Greater Geraldton, with both Mullewa and Pindar within the Zone. The ARQZWA influences the assignment of apparatus-licensed transmitters that may impact on the SKA or the MRO. The ARQZWA frequency dependent zone bands are identified on the Rural Land Strategy Plan contained in the City's *Local Planning Strategy* (CGG, 2015).

The Australian Defence Satellite Communications Ground Station (Kojarena) is a major Australian signals interception facility. It is part of the Echelon worldwide system of satellite communications keyboard monitoring (CGG, 2017).

15.3 POTABLE WATER SUPPLY AND USE

Groundwater is the major, almost sole water source for domestic, agricultural, industrial and commercial developments. Water is taken from the Arrowsmith groundwater management area, proclaimed under the *Rights in Water and Irrigation Act 1914*. The *Towards a Water Sensitive City: the Greater Geraldton Water Planning and Management Strategy* (CGG, 2014) establishes clear objectives for water planning and a framework for the management and use of water resources around Geraldton. This report performs the functions of a District Water Management Strategy, and identified the following main items as forming the water balance for the Geraldton urban area in 2011/12:

- The Water Corporation supplied approximately 6.7 GL of scheme water into Geraldton of which approximately 5 GL was for residential use. This figure excludes certain outer areas of Geraldton such as Narngulu, Walkaway and Cape Burney.
- This water was sourced from a 14 GL per annum licence from the Allanooka borefield in the Arrowsmith groundwater area, outside of the local government boundary to the south. The maximum available allocation is 18.5 GL and perhaps ultimately 20 GL. The Water Corporation estimated that 27 GL will be required within the next 30 years.
- The total capacity of the Water Corporation's four waste water treatment plants is currently 3 GL per annum.
- The City of Greater Geraldton's groundwater use for public open space for 2013 was just under 0.8 GL.
- The City also uses scheme water on some areas of public open space where the groundwater is unavailable, too saline for irrigation or for shandyng with high salinity groundwater. Just over 0.2GL of potable scheme water was used for irrigation in 2013.
- Just under 0.2 GL of treated wastewater from WWTP No 2 was used by the City of Greater Geraldton for watering some public open space areas and turf clubs in 2008/09.

The above data demonstrates that there is a potentially significant shortfall in water supply if business-as-usual approaches are maintained, rainfall decline continues and population expands at the predicted rates within the City.

The Geraldton Regional Water Supply (GWRS) Scheme, operated by the Water Corporation, covers approximately 1,000 square kilometres between Dongara-Port Denison and Northampton, and east to Mullewa. The GWRS Scheme is the largest supply scheme in the Mid West region. The historical average rate of service increase from 2005 has been 2%. Service increase is expected to continue at this rate for the foreseeable future (WAPC, 2015). Most of the Geraldton Regional Water Scheme Supply is drawn from the Allanooka borefield within the Arrowsmith groundwater area in the Shire of Irwin.

The development of the Oakajee deep-water port and industrial estate will determine the projected water needs for industrial uses in the region.

It is anticipated that water use in the Mid West region could double over the next 30 years. One of the main drivers anticipated for the increase water consumption is the growth of Geraldton and other rural towns. The *Mid West Regional Water Supply Strategy* (DoW, 2015) states the expansion of the Allanooka and Mt Hill borefields, combined with water management, will secure water supplies for the next 30 years. The City of Greater Geraldton is also implementing pilot projects which examine the potential to harvest and redirect stormwater from urban catchments.

15.3.1 MULLEWA

The town of Mullewa exists in a small basin. The townsite covers a third of the catchment area (105 hectares), with the remainder covered by native vegetation and a 24 hectare surface water catchment. The town was settled around a permanent spring however over use of the source resulted in partial dewatering of the aquifer, and local bores were no longer able to supply the town's water. Groundwater salinity around the town has been reported at between 500 and 5,500ppm (Global Groundwater, 2006).

Potable water has been imported to Mullewa since about 1965. Less use of local bores and importation of scheme water has increased groundwater recharge. Groundwater levels through the town have been rising and reportedly causing damage to facilities and infrastructure. The rate of groundwater rise, change in groundwater salinity and expansion of areas with shallow groundwater is not known, although may be of concern in relation to rising damp within buildings, street surface and culvert degradation and overflowing septic systems.

Global Groundwater (2006) identified options for managing groundwater to reduce recharge and/or increase discharge around the town, including enhancing surface water runoff; planting high water use perennials; ensuring water infrastructure does not leak; wastewater designed to remove water from the town (i.e. deep sewerage); water reuse activities (i.e. capturing stormwater and recycling wastewater) to reduce the amount of imported (scheme) water; and groundwater pumping through bores.

The Mullewa town drainage system follows natural flows in a north-eastern direction into the Wooderarrung River, part of the Greenough River catchment. The town has been subject to flooding in the past, with a number of buildings and infrastructure in the town centre affected. Remediation works have occurred with additional drainage capacity along the Geraldton-Mt Magnet Road. New development should be required to ensure finished floor levels are above the 1/100-year flood level.

15.4 WASTE WATER

In 2013, the Water Corporation advised that:

- 10,945 customers were connected to the Geraldton sewer area; and
- 344 customers were connected to the Cape Burney sewer area.

The balance of premises, approximately 6,000, will be on septic tanks (CGG, 2014).

The Greater Geraldton wastewater system comprises of five sewer districts: Waggrakine, Spalding, Geraldton, South Geraldton and Greenough. There is a total of 27 operational pump stations (including temporaries) in the greater Geraldton wastewater system. There are currently four operational wastewater treatment plants (WWTP):

- Geraldton North WWTP (605 kL/day) (Glenfield Beach), services most of Waggrakine;
- Geraldton No. 2 WWTP (1,944 kL/day) (Wonthella), which services the remaining sewered areas;
- Narngulu WWTP (2,000 kL/day) is located within the Narngulu Industrial estate. The land adjoining the WWTP is used for rural and industrial purposes; and
- Greenough on Sea WWTP (60 kL/day) services development in the Cape Burney area (CGG, 2014).

The estimated growth in population and change in land use has the potential to impact on the environment and water resources. Inappropriate stormwater and wastewater management in the catchment may increase the potential for flooding and also lead to changes in groundwater levels due to changes in infiltration and an increased demand. It is important to note that the amount of wastewater generated in Geraldton is far more than the current irrigation requirements of the City of Greater Geraldton, and therefore there are substantial opportunities for additional water reuse arising across the four treatment plants.

15.5 SOLID WASTE

The Meru Waste Disposal Facility is a Class III landfill site located in Narngulu, approximately 10 kilometres south-east of the city centre. The facility comprises four waste cells, liquid waste treatment facility, evaporation ponds, a transfer station, hazardous goods store, recycling centre and green-waste mulching centre. The facility is anticipated to have a lifespan of 50 years, based on current disposal rates. The City encourages the separation of landfill waste from reusable or recyclable materials. The City aims to target organics waste for composting and reuse, and to maximise the air space available in the facility to increase its lifespan.

Within LPS 1, SCA 4 applies to the buffer area for the Meru Waste Disposal Facility, in order to prevent sensitive land uses avoid being placed within the vicinity of the facility. The SCA aims to avoid conflict and to minimise environmental and health impacts.

It is recognised that waste management in remote communities is difficult due to low levels of opportunity for community awareness and participation in recycling, distance from landfill facilities and recycling markets, as well as inappropriate waste management practices that have the potential to impact on drinking water resources.

15.6 KEY CONSIDERATIONS / ISSUES

The provision of water supply for residential, agricultural, mining and industrial uses, and water quality management, will be a key challenge. Key pressure areas in the City would include the Narngulu Industrial area and the Geraldton urban area.

The cost of maintaining landfills needs to be factored in and efforts to reduce waste, encouraging reusing material, and recycling programmes need to be continually reviewed. Waste management can aim to improve the effectiveness of these facilities and efficiency of waste collection and management processes.

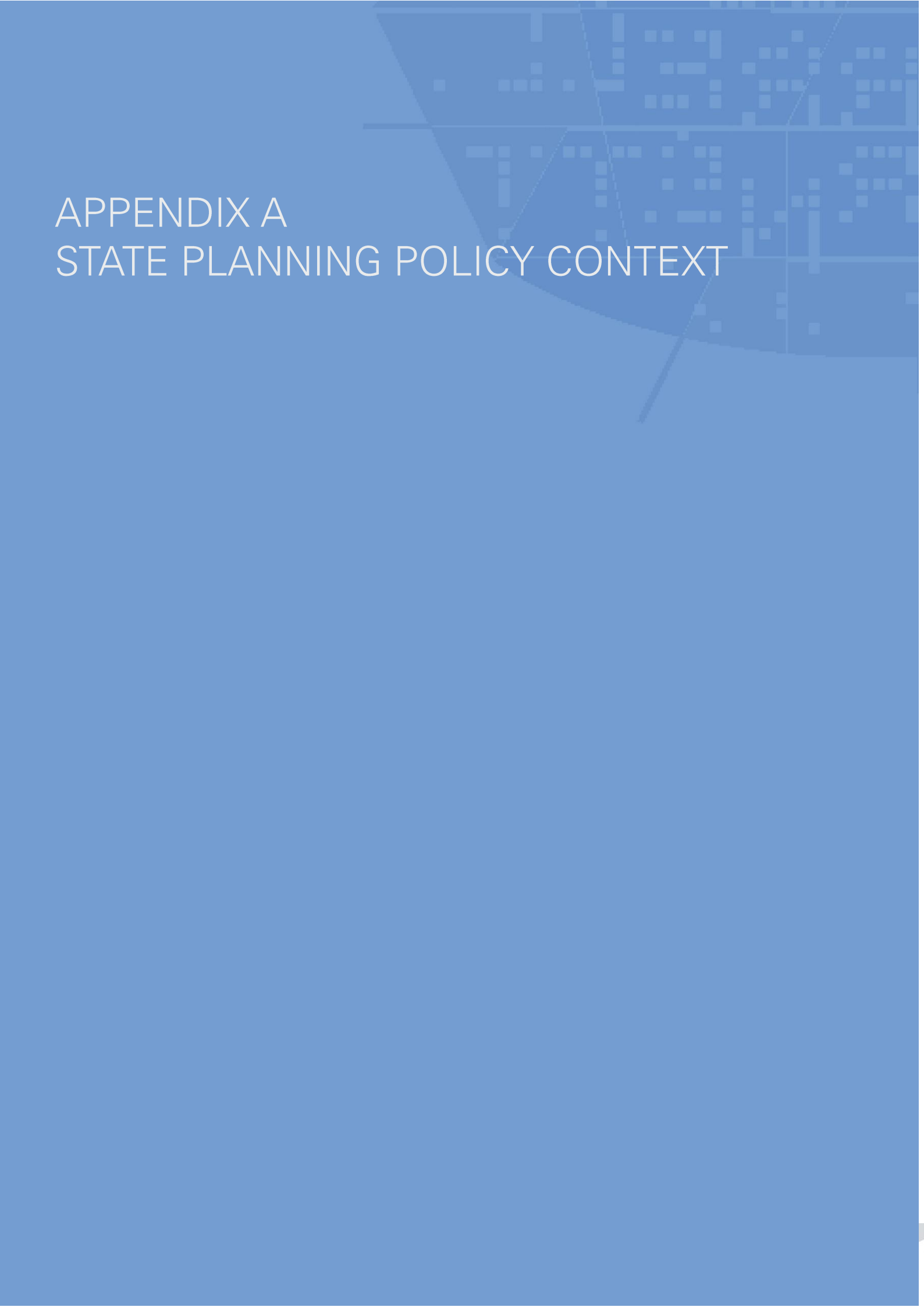
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APPENDIX A STATE PLANNING POLICY CONTEXT

State Planning Context Documents

Strategy / Policy	Overview	Implications
State Planning Strategy 2050 (WAPC, 2014)	The <i>State Planning Strategy 2050</i> is the overarching strategic document that informs planning and regional development. The Strategy presents a vision for Western Australia to 2050 and beyond, based on a framework of planning principles, strategic goals and State strategic goals. The six-interrelated principles of the Strategy include the following: • Community: enable diverse, affordable, accessible and safe communities; • Economy: facilitate trade, investment, innovation, employment and community betterment; • Environment: converse the State's natural assets through sustainable development; • Infrastructure: ensure infrastructure supports development; • Regional development: built the competitive and collaborative advantages of the regions; and • Governance: build community confidence in development processes and practices.	The City of Greater Geraldton is within the 'Central' sector. The Central sector is recognised for its diverse economy in mining, agriculture, fisheries and tourism. Geraldton is regarded to offer lifestyle alternatives to Perth and has substantial growth potential with appropriate infrastructure. The Oakajee port and industry precinct is recognised for its potential to deliver significant industrial and resource downstream processing. The <i>State Planning Strategy 2050</i> supports the investment strategic priorities in the Mid West Investment Plan. Delivery of Oakajee and strengthening key industry sectors will contribute towards Geraldton being a desirable lifestyle alternative, for population growth.
State Planning Policy 1 – State Planning Framework (Variation 3 – November 2017)	The State Planning Policy 1 <i>State Planning Framework</i> (SPP 1) is an overarching policy which sets the context for decision-making on land use and development in Western Australia. This SPP ratifies and expands upon the key principles of the <i>State Planning Strategy 2050</i> in planning for sustainable land use and development. SPP 1 gives statutory effect to regional strategies, regional and sub-regional structure plans, as well as strategic and operational policies. SPP 1 states that planning should respond to the unique characteristics of, and enable the building of, vibrant regional communities and regions with strong economies. This is to be facilitated by diversifying and expanding of regional economies, allowing regional centres to capture investment to create sustained growth and enable remote settlements to maintain economic and community development through improved connectivity, services and cultural processes.	The broad policy statements of SPP 1 are supported by state and local government planning strategies and documents. Sub-regional planning strategies would include the <i>draft Guilderton to Kalbarri Sub-regional Planning Strategy</i>, and a future Batavia Coast sub-regional planning strategy proposed in the <i>draft Guilderton to Kalbarri Sub-regional Planning Strategy</i>. Other operational policies are discussed further.
State Planning Policy 2.5: Rural Planning (December 2016)	The State Planning Policy 2.5 <i>Rural Planning</i> (SPP 2.5) guides decision-making on rural land and for rural living purposes throughout Western Australia. This SPP provides guidance for managing areas where land uses are transitioning from rural to urban land uses	SPP 2.5 promotes flexibility for rural zones and a wide range of land uses that may support primary production, small-scale tourism, regional facilities, environmental protection and cultural pursuits. DAFWA has identified higher versatility agricultural land that should be given due consideration for agriculture and related uses, to ensure this finite resource is suitably retained for crops, food production, etc. LPS 1 includes renewable energy as a form of land use that has a logical connection to rural

Strategy / Policy	Overview	Implications
		areas, given extensive cleared land is available. Suitable locations should ensure basic raw materials, significant geological supplies, conservation land, and higher versatility agricultural land are avoided wherever possible, to protect these for future requirements.
State Planning Policy 2.6: State Coastal Planning Policy (July 2013)	The State Planning Policy 2.6 (SPP 2.6) <i>State Coastal Planning Policy</i> is intended to control development along the coast, guiding coastal setbacks, land use and development height. The Policy requires coastal and hazard risk management and adaption to be appropriately planned for, encouraging innovative approaches to managing coastal hazard risk.	The City has adopted a Coastal Hazard Risk Management and Adaption Plan (CHRMAP) that addresses the risk of coastal erosion and inundation along the City's coastline. The City will prepare a local coastal planning policy for implementing the CHRMAP. The City commissioned MP Rogers and Associates Pty Ltd to prepare the following studies along its coast: • Point Moore Inundation & Coastal Processes Study; • Town Beach to Drummond Cove Inundation & Coastal Processes Study; and • Cape Burney to Greys Beach Inundation & Coastal Processes Study.
State Planning Policy 2.7: Public Drinking Water Source (June 2003)	State Planning Policy 2.7 (SPP 2.7) applies to proclaimed Public Water Source Areas (PDWSA) throughout Western Australia. SPP 2.7 guides the use, development and management of land contained in PDWSAs, to ensure that land development within PDWSAs is compatible with the protection and long-term management of water sources and water supply.	Only one PDWSA is located within the City of Greater Geraldton, proclaimed over the Wicherina Catchment Area. This has not been assigned a priority category and therefore has not been included in a special control area.
State Planning Policy 2.9: Water Resources (December 2006)	State Planning Policy 2.9 (SPP 2.9) applies throughout Western Australia and aims to conserve water resources, while ensuring the availability of suitable water resources and sustainable use of water resources.	The City of Greater Geraldton has a Water Planning and Management Strategy that addresses SPP 2.9.
State Planning Policy 3.1: Residential Design Codes (R-Codes) (March 2018)	State Planning Policy 3.1 (SPP 3.1) sets out residential development requirements to provide for a range of housing types and densities; local neighbourhood character; amenity; conservation of heritage values; and environmentally sensitive design. They must be given regard when assessing and determining development applications. Local variations can be approved subject to clear justification. Draft State Planning Policy 7 <i>Design of the Built Environment</i> was released in October 2016. A part of this suite of documents includes <i>Apartment Design</i> . The <i>Apartment Design</i> Policy is intended to replace Part 6 of the current R-Codes. The next stage of Design WA will include <i>House Design</i> , to provide guidance for single and grouped dwellings. It is intended that these two volumes, when finalised, will entirely replace the current version of the R-Codes.	The City of Greater Geraldton has adopted the following Local Planning Policies that alter certain development standards of the R-Codes: • Ancillary Dwellings LPP (2015); • Outbuildings LPP (2015); • Retaining Walls LPP (2015); • Setback Variations (2015); and • Vehicular Access LPP (2015).
State Planning Policy 3.2: Aboriginal Settlements (May 2011)	State Planning Policy 3.2 (SPP 3.2) aims to recognise Aboriginal settlements through local planning schemes and strategies and to collaboratively plan for coordinated	The Wandanooka Aboriginal Community has a Community Layout Plan (Draft v2 2013) and is classified under the 'Settlement' zone in LPS 1.

Strategy / Policy	Overview	Implications
	development of Aboriginal settlements in order to ensure planning needs of large Aboriginal communities are accommodated for.	
State Planning Policy 3.4: Natural Hazards and Disasters (April 2006)	State Planning Policy 3.4 (SPP 3.4) addresses planning for natural disasters and minimising the adverse impacts of natural disasters on communities, the economy and the environment. A number of natural hazards addressed in this policy include flood risk, bush fire (detailed further in SPP 3.7), landslides, cyclonic activity, severe storms and storm surges.	The City has had due regard for SPP 3.4 in preparing the <i>Local Planning Strategy</i> . Areas within the City of Greater Geraldton experience adverse weather events, including cyclones and flooding. Development along the coast and around Greenough and Chapman Rivers are subject to flood and storm events. The City is also subject to climate change which, for example, may increase the frequency of storm surge events.
State Planning Policy 3.5: Historic Heritage Conservation (May 2007)	This policy sets out the principles of sound and responsible planning for the conservation and protection of Western Australia's historic heritage.	The City has prepared a <i>Heritage Strategy</i> and its <i>Municipal Inventory of Heritage Places</i> , with 694 places identified as having heritage significance. There are 83 State Registered Places. The National Trust lists many of the buildings in Central Greenough.
State Planning Policy 3.6: Development Contributions for Infrastructure (draft January 2017)	SPP 3.6 is currently under review. The revised Policy aims to provide consistency in the application of development contribution plans and to ensure that development contributions are necessary and relevant to the development. Draft Guidelines aim to provide additional guidance and explanatory information to ensure that the policy is interpreted and implemented consistently across local governments. Additionally, the draft Scheme Text Provisions to provide consistency in the application of developer contribution plans through local planning schemes.	LPS 1 has incorporated the Model Provisions of the <i>Planning and Development (Local Planning Schemes) Regulations 2015</i> . Clause 4.3 of LPS 1 confirms that SPP 3.6 is to be read as part of the Scheme. Clause 4.4 of LPS 1 indicates that there are no modifications made in the Scheme to SPP 3.6. LPS 1 does not contain any Development Contribution Areas.
State Planning Policy 3.7: Planning in Bushfire Prone Areas (December 2015)	State Planning Policy 3.7 (SPP 3.7) directs how land should address bushfire risk management and seeks to guide the implementation of effective risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure. The policy is accompanied by <i>Guidelines for Planning in Bushfire Prone Areas</i> which provides advice on how bushfire risk is to be addressed when planning, designing or assessing a planning proposal within a designated bushfire prone area.	There are limited areas within the City of Greater Geraldton that are identified on the <i>Map of Bushfire Prone Areas</i> . Predominately, these areas are not within identified locations for future development.
State Planning Policy 4.1: Industrial Interface (draft November 2017)	Draft SPP 4.1, in which is currently being advertised, applies to all planning decisions relating to industrial zones, industrial land uses, infrastructure facilities and land that may be impacted by existing and proposed industrial land uses and/or infrastructure facilities, by avoiding encroachment from sensitive land uses and potential land use conflicts. The revised policy now applies more broadly to planning for industrial zones and infrastructure reserves and includes a new implementation section which outlines recommended planning	Buffers and separation distances for industry and strategic infrastructure have been considered in the preparation of the <i>Local Planning Strategy</i> and LPS 1. The City of Greater Geraldton has adopted the following Local Planning Policies that address industrial land uses: • Extractive Industry Local Planning Policy (2015) • Industrial Development Local Planning Policy (2015)

Strategy / Policy	Overview	Implications
	approaches at each stage of the planning framework.	
State Planning Policy 5.2: Telecommunications infrastructure (September 2015)	State Planning Policy 5.2 (SPP 5.2) establishes a framework for preparation, assessment and determination of applications for telecommunications facilities to facilitate an effective state-wide telecommunications network.	The LPS 1 incorporates 'Telecommunications Infrastructure' as a land-use within the Scheme, and it has a mix of permissibility depending on the zoning. The City's Local Planning Policy on Telecommunications Infrastructure also addresses SPP 5.2.
State Planning Policy 5.4: Road and Rail Noise (draft September 2017)	The Draft State Planning Policy 5.4 (SPP 5.4) addresses transport noise from within major transport corridors, including primary freight routes and its impact on nearby noise-sensitive land uses. It also considered the need to strategically locate freight handling facilities. SPP 5.4 and relevant guidelines, apply to proposals for new noise-sensitive developments. New railways or major roads, major redevelopments of existing railways or major roads, and new freight handling facilities.	The SPP 5.4 identifies several roads and railways that are subject to this policy. For example, North West Coastal Highway, Brand Highway, Utakarra Road/Eastward Road and Geraldton-Mt Magnet Road are considered major State road corridors. Additionally, the railway from Geraldton to Mullewa is considered as a major State railway corridor.
State Planning Policy 7 Design of the Built Environment (draft October 2016)	State Planning Policy 7 (SPP 7) sets out the principles, processes and considerations which apply to the design of the built environment across Western Australia. It provides an overarching framework for the State Planning Policies that deal with design related issues. SPP 7 is intended to guide and compliment other state planning policies, and apply to the design, review and assessment of activity centre plans, structure plans, local development plans, subdivisions. Residential development, institutional development and public works.	Revision of existing local planning policies that vary the R-Codes may be required to be reviewed by the City.
WAPC Development Control Policies (numerous)	The WAPC has adopted a range of operational Development Control (DC) Policies to guide its decision making on subdivision and development applications.	The following DC policies apply: • DC1.1 Subdivision of Land - General Principles (draft 2018) • DC1.2 Development Control - General Principles (draft 2018) • DC1.3 Strata Titles (2009) • DC1.5 Bicycle Planning (1998) • DC1.7 General Road Planning (draft 2018) • DC2.2 Residential Subdivision (2017) • DC2.3 Public Open Space in Residential Areas (2002) • DC2.4 School Sites (1998) • DC2.5 Special Residential zones (draft 2018) • DC2.6 Residential Road Planning (1998) • DC3.4 Subdivision of Rural Land (2016) • DC4.1 Industrial Subdivision (1988) • DC4.2 Planning for Hazards and Safety (1991) • DC4.3 Planning for High-Pressure Gas Pipelines (draft 2016) • DC5.1 Regional Roads (Vehicular Access) (draft 2018)
Acid Sulfate Soils Planning Guidelines (WAPC 2009)	The <i>Guidelines</i> outline the range of matters which need to be addressed at various stages of the planning process.	There are areas within the City of Greater Geraldton that are of high and moderate risk of acid sulfate soils within 3 metres of the ground surface, typically associated with river and

Strategy / Policy	Overview	Implications
	This is to ensure that the subdivision and development of land containing acid sulfate soils is planned and managed to avoid potential adverse impacts on the natural and built environment.	estuary beds. Due regard to these areas will be given in accordance with the <i>Acid Sulfate Soils Planning Guidelines</i> .
Better Urban Water Management (WAPC 2008)	Better Urban Water Management has been designed to facilitate better management of our urban water resources by ensuring an appropriate level of consideration is given to the total water cycle at each stage of the planning system. It also provides guidance on the implementation of SPP 2.9 <i>Water Resources</i> .	The <i>Local Planning Strategy</i> identifies strategies and actions with regard to better management and use of water, safeguarding public drinking water resources, and recognising existing floodplain mapping of significant waterways. The City of Greater Geraldton also has adopted a Water Planning and Management Strategy.
Liveable Neighbourhoods (draft) (DPLH, 2015)	<i>Liveable Neighbourhoods</i> is an operational policy that guides the structure planning and subdivision for greenfield and large brownfield (urban infill) sites. <i>Liveable Neighbourhoods</i> promotes an urban structure of walkable neighbourhoods. Community facilities and services are accessed by walking, cycling and public transport through an efficient, interconnected movement network. Employment opportunities and economic sustainability are facilitated through a coherent hierarchy of activity centres.	The principles of <i>Liveable Neighbourhoods</i> are reflected in the <i>Residential Development Strategy</i> for increased residential densities around activity centres, to provide a more sustainable urban form. This is supported through the <i>Local Planning Strategy</i> and incorporated into the density codes shown on LPS 1. Urban structuring and siting of community facilities, schools, public open space and other elements of <i>Liveable Neighbourhoods</i> are incorporated into endorsed Structure Plans.
Local Planning Manual (WAPC, 2010)	The <i>Local Planning Manual</i> is a guide to the preparation and application of local planning strategies and local planning schemes in Western Australia.	The <i>Local Planning Strategy</i> , <i>Local Profile and Context Report</i> , and LPS 1 have been prepared in accordance with the <i>Local Planning Manual</i> .

Regional Context Documents

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Bulletin No 10 Geraldton Regional Flora and Vegetation Survey (WAPC, 2010)	The <i>Geraldton Regional Flora and Vegetation Survey</i> (GRFVS) aims to provide a regional context for land use planning and the environmental impact assessment of proposals affecting native vegetation in the Geraldton region. The GRFVS involved desktop analysis of existing information on vegetation and soils, field survey of 81 floristic quadrats, statistical analysis of quadrat data that identified floristic groups, and further interpretation of floristic groups that determined recognisable plant communities.	The <i>Local Planning Strategy</i> aims to ensure that development of land maximises the protection of environmental features and to support the conservation, protection and management of natural resources and native vegetation. An action outlined in the <i>Local Planning Strategy</i> is to ensure land use planning and development has due regard of the <i>Geraldton Regional Flora and Vegetation Survey</i> .
Capacity of Water Resources in the Mid West to meet mining and industrial growth (DoW, 2011)	Provides information on the availability of water resources in the Mid West in the context of expected mining and industrial growth, and recognising that water quality and quantity demands vary depending on the type of mining activity.	The report outlines that large quantities of water may also be required for a range of industrial uses associated with Oakajee and the Strategic Industrial Estate. With limited quantities of water available at the project location, water resources may need to be sourced further afield.
Climate Change Risk Assessment Adaptation Action Plan (Batavia Regional Organisation of Councils, 2010)	The <i>Climate Change Risk Assessment Adaptation Action Plan</i> focuses on identifying risks and opportunities and developing adaptation actions for the City, and the Shires of Irwin, Northampton and Chapman Valley.	Increased temperatures, prediction reductions in rainfall, and projected sea level rise are all potential risks for the Mid West and are likely to have impacts on the main employment generating industries of farming, fishing and tourism. Sea level rise presents significant issues for coastal communities and major port infrastructure. Risks and opportunities are identified based on climate change projections for 2030 and 2070; and adaptation actions are suggested. Risks relate to increased maintenance, running, repair, relocation and resourcing costs, loss of amenity and natural assets, human health and safety hazards, and reduced economic viability. Local governments have a clear program of action to respond to risk, however climate change risks and responses will need to be reviewed on a regular basis, as scientific, technological and institutional factors continue to evolve.
Discussion Paper: A Regionalisation Strategy for Western Australia (Western Australian Regional Capitals Alliance, 2013)	The WA Regional Capitals Alliance represents the local governments of seven major regional centre. The discussion paper includes a number of policies which seek to respond to the Alliance's stated purpose of developing the key regional centres as desirable and viable alternatives to the Perth metropolitan area.	The key focus areas of the discussion paper are: • Regional Living Pathways – a series of strong vibrant young and growing regional centres. • Regional Devolution Strategy – a series of strong regional city (capitals) centres with capacity and decision makers living, working and supporting the regions in the regions. • Strengthening Regional Business – a strong, vibrant and diverse regional business community driving economic and social growth. • Planning Regional Capital Cities – well planned regional centres with the capacity, infrastructure and services to attract and

Policy / Strategy	Overview	Implications
		sustain substantial economic and population growth. Building Regional Industry – strong industrial precincts creating jobs and economic growth throughout regional Western Australia.
Draft Country Sewerage Policy (November 2016)	The draft <i>Government Sewerage Policy 2016</i> promotes reticulated sewerage as the best disposal method for sewage. It requires all new subdivision and development to be connected to reticulated sewerage where available or considered necessary on health, environment or planning grounds.	Advice from Water Corporation in 2013 indicated that potentially 6,000 premises were not connected to sewer. The Greater Geraldton wastewater system comprises of five sewer districts, with 27 operational pump stations and four operational wastewater treatment plants at Glenfield Beach, Wonthella, Narngulu and Cape Burney. Mapping of the draft <i>Government Sewerage Policy</i> is available on the WAPC website. The river mouth of the Chapman River, and the Greenough River estuary are both identified, as are a number of Habitats of threatened and priority ecological communities and specially protected water-dependent fauna generally within Wandina, Rudds Gully, Cape Burney, and Greenough (west of Brand Highway).
Greater Geraldton Structure Plan (WAPC, 2011)	The <i>Greater Geraldton Structure Plan 2011</i> focuses on urban areas and areas likely to experience pressure for development within the City and the Shire of Chapman Valley.	The City's <i>Local Planning Strategy</i> has had due regard to the <i>Greater Geraldton Structure Plan 2011</i> .
Draft Guilderton to Kalbarri Sub-regional Planning Strategy	The draft <i>Guilderton to Kalbarri Sub-regional Planning Strategy</i> promotes a whole-of-government approach towards integrating land use planning to provide for population growth and economic development in a sustainable manner. It sets policy statements relevant to the sub-region and identifies future actions for the WAPC to undertake.	Geraldton is recognised as a regional city to have a potential population of 96,000, which corresponds with the City's aspiration for a 100,000 population. As the WAPC's future actions are progressed, there will be a need to consider implications for future reviews or amendments to the City's <i>Local Planning Strategy</i>.
Identification of High Quality Agricultural Land in the Mid West Region: Stage 1 - Geraldton Planning Region Resource management technical Report 386 (DAFWA, 2013)	This report develops and applies a methodology for the identification of high quality agricultural land for the Geraldton planning region (within the South West Agricultural District). The report provides high level detail through maps and tables which depict and characterise agricultural land, and defines areas of greatest versatility for broad acre and irrigated agriculture.	The <i>Local Planning Strategy</i> has incorporated the DAFWA 2013 data in the preparation of the Strategy Plans. It is noted that DPIRD continually refine project outputs through updating relevant data inputs. The following are important considerations surrounding agricultural land uses within the City of Greater Geraldton: - Continued urbanisation particularly around the Perth metropolitan region may force relocation of horticulture activities. The soils and landforms over much of the Geraldton planning region have good potential for the development of irrigated agriculture. - Population in the agricultural hinterland is forecast to decline as a result of farms amalgamating. Climate change may also result in increased pastoral activity in the longer-term, as a result of lower rainfall and possible impacts on broadacre agriculture and/or intensive agriculture. - The planning challenge is to set aside the most productive and versatile areas of agricultural land for food security, to meet

Policy / Strategy	Overview	Implications
		the needs of projected global, national and state population growth. Geraldton urban area is regarded to be sufficient to accommodate future population growth and urbanisation – significant to ensure the rural and rangelands of the City are retained for their agricultural value.
Mid West Economic Perspective (DLGRD & MWDC 2006)	The <i>Mid West Economic Perspective</i> provides insight into the Mid West through provision of the latest available information on population, labour force and employment, taxable income, tourism, fishing and aquaculture, agriculture, mining, construction, manufacturing, commerce, project investment, indigenous economic development and infrastructure. Each section contains a brief analysis, supported by graphs to illustrate trends over time. The <i>Mid West Economic Perspective</i> recognises the economy is predominantly based on the mining, agriculture, fishing and tourism with a Gross Regional Product was \$2.9 billion in 2004/05.	The Mid West Economic Perspective is out-of-date due to its age, and the significant shift of the global, national, state and regional economies since 2006. More information would be available through the <i>Geraldton Growth Plan</i> and other reports prepared by MWDC.
Mid West Infrastructure Analysis (WAPC 2008)	The <i>Mid West Infrastructure Analysis</i> detailed existing social and physical infrastructure, servicing and settlement capacity in locations across the Mid West region, and has been a useful and extensive audit of the settlements. The report also examined employment, population, social needs, and critical infrastructure deficiencies, with consideration to anticipated regional growth driven by the resource sector. Recommendations and priority issues across key infrastructure sectors were provided.	Key recommendations carried timeframes from 2008-2010, although a number of recommendations were marked as 'ongoing'. The infrastructure analysis would have been updated through the preparation of the <i>Mid West Investment Plan</i> (2011), <i>Greater Geraldton Structure Plan 2011</i>, and <i>Mid West Regional Blueprint</i> (2015), and <i>Mid West Regional Planning and Infrastructure Framework 2015</i>.
Mid West Investment Plan 2011 – 2021	The <i>Mid West Investment Plan</i> outlines community priorities in the Mid West as a set of projects that will enhance economic and social development. The MWIP recognises more than \$19 billion worth of projects are being planned or proposed for the Mid West over the period from 2011-2021. An agreed list of projects were assessed and prioritised based on their level of economic and/or social benefit to the local community and regional benefits. Projects include investment in economic infrastructure (railways, roads, ports, communication, electricity and utilities) and social and community infrastructure (health, education, town revitalisation and recreation facilities). Information in the report may be able to leverage funding and support applications through Federal and State Government programs.	Projects funded through the <i>Mid West Investment Plan</i>, relevant to Greater Geraldton include: - Place Road/Flores Road Intersection Reconfiguration; - Batavia Coast Marina stage 2; - Geraldton Universities Centre; - Wubin Mullewa Road; - Geraldton Airport Landside Development; - Building Better Regional Cities – Urban Expansion Package; - Original Railway Building Restoration; - Geraldton Residential College; - Strategic Alignment Study – Dongara-Geraldton-Northampton; - Foodbank WA; - Wonthella Oval Lighting; - Monsignor Hawes Interpretive Centre; - Lot 601 Marine Terrace; - Central Regional TAFE Student Services Interactive Hub; - Geraldton Cemetery Board; and - Beresford Foreshore protection works and amenity.

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Mid West Region Investability Model Final Report (2010-2031) (City of Geraldton-Greenough, 2011)	The <i>Mid West Investability Model</i> objective was to improve competitiveness of the Mid West by making local economic conditions more attractive and increase the probability of investment, rather than pursue a particular specialisation. The model aimed to: ensure economic development or employment creation results from decisions; identify opportunities for specific localities; identify and address issue with the local business environment. Projects are outlined in the report that aim to stimulate investment.	The model forecasted a regional population of between 86,473 and 99,681 by 2031. This remains consistent with the City's aspirational population target.
Mid West Regional Planning and Infrastructure Framework (WAPC, 2015) Part A: Regional Strategic Planning Part B: Regional Infrastructure Planning	The <i>Mid West Regional Planning and Infrastructure Framework</i> (WAPC, 2015) provides an overall strategic regional context for land use planning within the Mid West region; and to identify a number of priority initiatives required to facilitate comprehensive regional planning in order to guide sub-regional and local planning.	The <i>Framework</i> anticipates that the majority of transport pressure in the Mid West would be concentrated around the Geraldton urban area. The City, MWDC and MRWA are undertaking transport modelling to assist future planning regarding this issue. Infrastructure upgrades to power have occurred via Western Power's completion of the Mid West Energy Project Southern Section in 2015. A 330kV transmission line was completed in 2014 between Three Springs and Eneabba. The <i>Framework</i> identified adequate power infrastructure as an issue for the efficient operation of the Geraldton and Oakajee ports. New 132kV transmission lines are proposed to be stages from Chapman to Oakajee, and from Chapman to Northampton.
Northern Agricultural Regional Vision (NARvis) https://www.narvis.com.au/	NARvis is a regional plan created with the input and support of state and local government agencies, community groups and land managers. It has been designed as a tool for these stakeholders to identify and prioritise natural resource management investment in the Northern Agricultural Region (NAR) and promote collaboration across all levels. NARvis is an update to the <i>Regional Natural Resource Management Strategy</i> (NACC 2005). Rather than a traditional document, NARvis has been presented as a website with interactive maps and content.	Current project relevant to the City of Greater Geraldton are: • Traditional Ecological Knowledge (NACC) • Seabird Tracking (CCWA, Fisheries, NACO, University of Amsterdam) • Landscaping & Community Garden (Bundiyarra) • Community Photo-monitoring (NACC, LGA's, Community Groups) • African Boxthorn Control (City of Greater Geraldton, Shire of Irwin and Northampton, NACC) • CHRMAP (Coastal LGA's, NACC) • Noxious Invasive Species Control (Tilapia) (Central Regional TAFE) • Capacity Building for Indigenous Prison Inmates (DCS, Central Regional TAFE, NACC).
Regional Road Network Plan, Midwest Region: The Next Ten Years (MRWA, 2012)	The <i>Plan</i> describes the freight network, current and future freight drivers and freight demand and the implications for regional freight network to 2031. The <i>Plan</i> articulates the vision and objectives for the regional freight network, and the Government's role and directions to manage future freight growth and addressing the impacts on the network to 2031.	The <i>Plan</i> outlines that the Morawa-Mullewa-Narngulu-Geraldton railway lines will experience significant growth to 2030, driven largely by developments in the southern Mid West resources sector. Additionally, with regard to building and maintaining the road network, the <i>Plan</i> identifies the Geraldton Outer Bypass Stage 1 and Geraldton Inner Bypass Stage 1 as priorities.

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		A project investment priority for the Regional Freight Transport Network outlined in the <i>Plan</i> is the expansion of the Mid West and Gascoyne regions' freight network to link the emerging Mid west resources industry to existing and future Mid West and Gascoyne ports, manage the Greater Geraldton area's increasing freight task and improve the area's northern and southern freight accesses to support future regional development. The <i>Plan</i> aimed to undertake berth expansion and optimisation to service short-term Mid West resource demands, with a longer-term transition to the proposed Oakajee port.
Situational Analysis for Midwest Gascoyne (Regional Development Australia, 2013)	The report examined social, technical, economic, environmental and political and legal issues and trends affecting the mining and energy industries.	Key findings of the report included: • Criticality of infrastructure; • The reliance on development of the resource industry to achieve the rapid population growth envisaged by the CGG; and • The need to promote more even socio-economic development across the region.

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Local Documents

Policy / Strategy	Overview	Implications
Accommodation Study Geraldton, WA (WATC, 2008)	The study reports on the future accommodation needs for Geraldton to assist with identification, planning and prioritisation of tourism development sites. The study provides market information on visitation and accommodation patterns, and makes recommendations about the location and quantity of future accommodation needs.	The <i>Local Planning Strategy</i> identified a number of sites suitable for development or redevelopment within the City either exclusively for tourism or with a strong tourism component (e.g. African Reef Resort). The <i>Local Planning Strategy</i> outlines that provisions need to ensure that these sites are primarily developed for tourism purposes, yet recognise that the delivery of such tourism facilities in the current economic climate will rely on other compatible land uses.
Background Report for Residential Development Strategy and Commercial Activity Centres Strategy (CGG, 2011)	The Background Report contains considerable detail on the local physical, economic and social environment within the local government area.	The Background Report is a local profile and context document that was prepared to support the development of the residential and commercial activity centre strategies (which have now been endorsed).
City of Geraldton-Greenough Coastal Communities Study (Beckwith Environmental Planning, 2010)	The <i>City of Greenough-Geraldton Coastal Communities Study</i> documents the views of stakeholders and the wider community with regards to the value and importance of the coast, and provides insight into key issues for coastal planning and development, coastal management and behavioural change issues. It includes a recommendation that NACC periodically repeat the survey to measure changes in the community's views on coastal management over time	Coastal Processes are also addressed from a technical perspective in the Inundation and Coastal Processes Studies for: • Town Beach to Drummond Cove (MPRA, 2016); • Point Moore (MPRA, 2015); and • Cape Burney to Greys Beach (MPRA, 2017).
City of Greater Geraldton Commercial Activity Centres Strategy (CGG, 2013)	The CACS provides information on the intent for activity centres in CGG, overarching principles to guide development as well as measures specific to achieving a minimum standard of development in each identified area of focus. The CACS responds to an aspirational population target of 100,000 residents, with growth in commercial activity to respond to eight performance based criteria.	The CACS recommends the following implementation strategies to be implemented by the City: • Strategy to guide future strategic planning requirements. • Greater emphasis on performance based decision making. • A single local planning scheme (LPS was gazetted 11 December 2015). • Simplify statutory planning system. • Determine need for additional infrastructure. • Encourage activity centre planning from a 'strong core'. • Actively encourage the consolidation and prioritisation of growth within the Geraldton CBD. • Actively encourage the development of a diverse range of activities within Status 1 centres.
City of Greater Geraldton Community Strategic Plan 2017-2027	The <i>Community Strategic Plan</i> identifies objectives and priorities, taking into account current and projected changes in community demographics, social issues and local, national and global influences. The <i>Community Strategic Plan</i> also outlines ways in which key objectives can be achieved and how to measure their progress.	The major objectives of the <i>Community Strategic Plan</i> are embedded within the Local Profile and Context Report, and further provide justification to the strategic planning direction contained in the <i>Local Planning Strategy</i> .

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City of Greater Geraldton Integrated Transport Strategy (CGG, 2015)	The City's <i>Integrated Transport Strategy</i> gives direction on how to expand the transport system to service a population of 100,000. The purpose of the <i>Strategy</i> is to provide a 'blueprint' for capital and operational prioritised investment into transport infrastructure in the greater Geraldton region.	The <i>Integrated Transport Strategy</i> was given due regard during the preparation of the <i>Local Planning Strategy</i> .
City of Greater Geraldton Local Planning Scheme No. 1 (CGG, 2015)	The LPS 1 objectives seek to: • provide for vibrant arts, culture and education; • promote a sustainable built form and natural environment facilitate a strong healthy community which is equitable, connected and cohesive; • foster a dynamic diverse and sustainable economy; • support inclusive civic and community engagement and leadership. The Scheme includes: <u>Reserves</u> for: Civic and Community, District Distributor Road, Environmental Conservation, Foreshore, Primary Distributor Road, Public Open Space, Public Purposes, Railways, Special Purpose - Infrastructure Corridor, Strategic Infrastructure Corridor, Strategic Infrastructure - Airport, Strategic Infrastructure - Port. <u>Zones</u> for: Regional Centre, Commercial, Mixed Use, Service Commercial, Tourism, Residential, General Industry, Light Industry, Rural Industry, Rural, Settlement, Urban Development and Special Use.	The preparation of the LPS 1 was undertaken in parallel to the <i>Local Planning Strategy</i> . The <i>Local Planning Strategy</i> in turn is supported by this Local Profile and Context Report.
City of Greater Geraldton Public Open Space Strategy (CGG, 2015)	The <i>POS Strategy</i> provides a 'snapshot' of the current provision of public open space, at that time, in each locality to understand the under or over supply of POS, its distribution, role and servicing. The provision of POS within the Geraldton urban area and townsites represented 9.82% of the total net area. The <i>POS Strategy</i> also provided guidance with regard to design, construction and maintenance of public open spaces, as well as locality specific strategies. The overall objectives of the <i>POS Strategy</i> include: • Establish a quality open space network. • Establish a framework for public open space provision with regard to hierarchy, service design, and construction and maintenance. • Upgrade existing and develop new public open space.	Implementation of the strategies and actions contained in this <i>POS Strategy</i> will guide the CGG in managing its extensive public open space network in an efficient and equitable manner so that all residents may enjoy its many benefits.
City of Greater Geraldton Residential Development Strategy (CGG, 2013)	The <i>Residential Development Strategy</i> directs the allocation and use of land for residential purposes, in responding to an aspirational population target of 100,000 residents. The <i>Residential Development Strategy</i> was adopted by the WAPC as a local planning strategy.	Priority areas for future residential development are: • Activity centres – Geraldton CBD, Bluff Point, Rangeway, Sunset Beach and Wonthella. • Future Residential Areas – Glenfield Beach, Woorree New town and Karloo. • Regional Towns – Mullewa.

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City of Greater Geraldton Sporting Futures Report (CGG, 2013)	The report aims to address a number of immediate and future challenges concerning the future provision, maintenance and renewal of sporting and recreation facilities.	Major issues include the growing requirement for multipurpose facilities with collocation of sporting groups and clubs. Funding is also a concern.
Designing our City Enquiry by Design Implementation Strategy (CGG, 2011)	This Strategy considered mechanisms to implement the preferred scenario for how the Geraldton urban area should grow. The report proposed a "Greater Geraldton Growth Plan" to ensure community aspirations for the future are integrated into statutory strategic planning processes.	The <i>Growing Greater Geraldton – A Growth Plan</i> aims to bring more wealth into Geraldton through a traded economy. It envisions Greater Geraldton as being a globally recognised, growing and resilient economy and aims to drive and align regional effort and resources.
Geraldton Aboriginal Housing Action Plan (Midwest Aboriginal Organisations Alliance and Combined Universities Centre for Rural Health, 2012)	The <i>Geraldton Aboriginal Housing Action Plan</i> represents the findings of a collaborative research partnership to address priority issues of concern to Aboriginal people, the first of which is housing supply and access for Aboriginal people in Geraldton. The research seeks to understand why there doesn't seem to be enough affordable housing for Aboriginal people in Geraldton, and options for addressing the situation. The plan is a result of ideas generated during focus groups and workshop involving housing service providers and Aboriginal community members. The report considers local, national and international housing research findings and planning exercises and has presented a range of recommendations which need to be integrated into housing planning and delivery models.	The MAOA and WACRH may provide updated information in 2018 in relation to housing issues and priorities for Aboriginal people.
Geraldton Airport Master Plan 2012-2030 (CGG, 2016)	The Geraldton Airport Master Plan provides the vision and layout of facilities and infrastructure for Geraldton airport. It identifies the main runways, long-term runway extensions, new car parking and operations. The Master Plan acknowledges the increased role of the airport within the State's aviation infrastructure network, and identifies expected growth from the resources industry (FIFO workforce), together with projected population growth and tourist visitation.	Geraldton airport is an essential regional transport infrastructure asset and an integral part of the State aviation infrastructure network. The Airport currently has capacity; however, larger jet aircraft operations may warrant infrastructure upgrades. The <i>Local Planning Strategy</i> recognises the Obstacle Limitation Surfaces, Australian Noise Exposure Forecast and 70 Decibel Noise Event contours, which are integrated as SCA 3 in LPS 1.
Geraldton City Centre Car Parking Management Plan (CGG, 2012)	Considers parking as an essential element of the overall transport system. Current parking issues are not about supply but management.	Particular issues in the city centre addressed by the management plan include: public parking availability during peak times; maximising efficiencies of available parking rather than adding to supply; and use of parking pricing as a travel demand measure.
Geraldton City Centre Revitalisation Plan (Department of Regional Development, 2017)	Prepared to guide the future development and revitalisation of the Geraldton city centre. The Plan outlines short, medium and long-term aspirations and strategies to provide an ongoing mechanism for implementation. The Revitalisation plan outlines key objectives, core priorities, revitalisation strategies and associated actions and measures. The Revitalisation Plan has been prepared to align with <i>Growing Greater Geraldton – A Growth Plan</i> .	Council resolved on 22 August 2017 to adopt the Geraldton City Centre Revitalisation Plan as a Local Planning Policy.

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Geraldton Regional Land Supply Assessment (DPLH, 2017)	Prepared as a component of WAPC's Urban Development Program (UDP) which tracks and models land supply. The <i>Land Supply Assessment</i> assesses land for future residential, industrial and commercial uses, providing context for land use planning and infrastructure provision required to meet demand.	The <i>Land Supply Assessment</i> suggests that there is sufficient stock for urban land to accommodate substantial population growth well into the future. Majority of this growth is expected to occur in the eastern and northern parts of the Geraldton urban area. Additionally, there is opportunity for future development of a range of light and general industry at the Narngulu industrial area. The Oakajee port and industrial estate has the potential to generate substantial investment. Majority of commercial land in the Geraldton CBD is considered to be developed, however there is capacity for intensification of development to support future growth.
Growing Greater Geraldton – A Growth Plan (CGG, 2017)	<i>Growing Greater Geraldton – A Growth Plan</i> envisions Greater Geraldton as globally recognised with a growing and resilient economy – a strong regional centre in a strong region. It aims to encourage more wealth into Geraldton by growing traded economy. The three focus areas are: • Growth engine - To identify and grow Greater Geraldton's niche specialisations, where deep local competencies align with global demand. • Strong Heart - To revitalise the Greater Geraldton city centre as a distinctive and magnetic place for residents, businesses and visitors – an active destination embracing Geraldton's nautical history and assets. • Healthy circulation - To retain wealth within Greater Geraldton and minimise economic leakage through innovative and thriving small businesses seizing opportunities to serve the local population.	<i>Growing Greater Geraldton – A Growth Plan</i> aims to address the following key challenges: • Export growth; • City centre performance; and • Leakage from the local government. <i>Growing Greater Geraldton – A Growth Plan</i> outlines projects and initiatives that will be pursued in the short, medium and long term. The Plan's Growth Case Target for 2036 is a population of 65,246 people and 25,384 jobs.
Local Planning Policies	Planning policies are adopted to provide the local government's position on various planning matters which either expand on the requirements in the local planning scheme or provide direction on those matters where the scheme enables the local government to exercise discretion. Local planning policies do not form part of the local planning scheme, however the local government must have due regard in applicable policies during its consideration of applications for development approval.	The City of Greater Geraldton has adopted 49 local planning policies which address a variety of matters.
Western Australia Tomorrow, Population Report No. 10, Medium-term Forecasts for Western Australia 2014-2026 and Sub-regions 2016-2026	<i>WA Tomorrow</i> is a set of forecasts representing the best estimate of Western Australia's future population size based on current fertility, mortality and migration trends.	The Geraldton urban area is considered to continue to be home to a growing proportion of the City's population, and over time, will be the location for a greater proportion of the Mid West's population. 'Band C' of <i>WA Tomorrow</i> represents the median population growth forecast, and is widely regarded to reflect a stable pattern of growth. 'Band C' predicted a population of 36,880 (2011), up towards 47,110 by 2026.