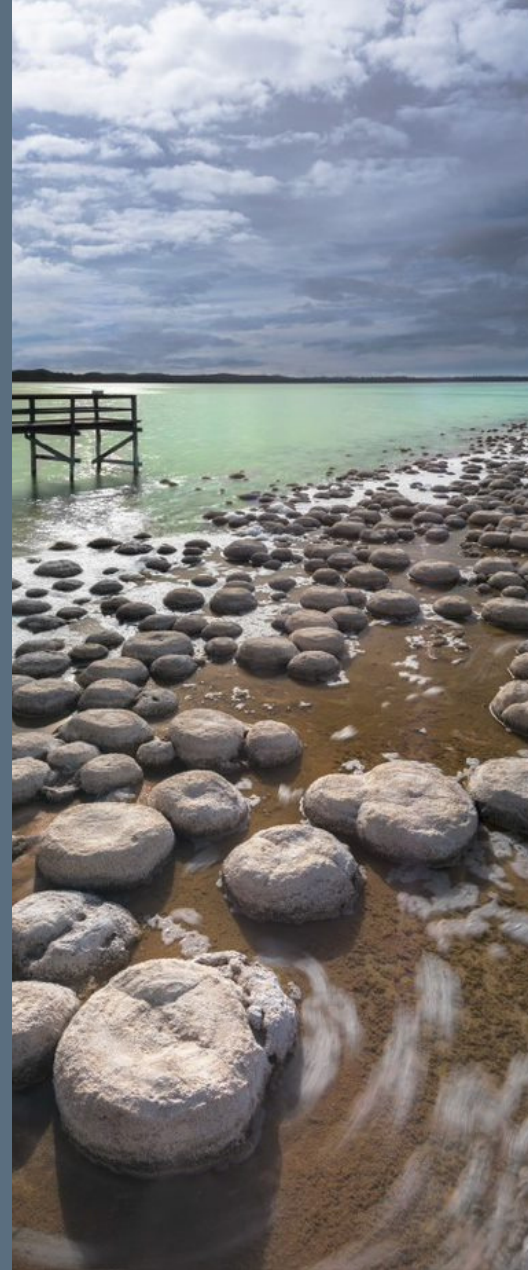




CITY OF MANDURAH SUB-REGIONAL ECONOMIC OPPORTUNITY ANALYSIS



The Peel Development Commission acknowledges Australia's Aboriginal and Torres Strait Islander community as Australia's first peoples, and the Bindjareb people as the traditional custodians of the lands on which we operate.

We acknowledge their continuing connection to land, sea and community and pay our respect to their cultures and to Elders both past and present.

DISCLAIMER: This document has been prepared using a range of evidence to provide stakeholders with a clear understanding of the Peel Development Commission's approach to delivering a progressive, prosperous and dynamic region with a culture of care by 2050. All information is provided to the best of our ability and within the limits of our knowledge and resources. All proposals resulting from this document will be further detailed and agreed to by relevant parties.

Executive Summary

The Peel Regional Investment Framework (the Peel Framework) outlines the vision, objectives, and strategies for the ongoing economic, social and environmental development of the Peel, setting goals to 2050. The need for sub-regional economic analysis is identified within the Peel Framework to aid the local government areas (LGAs) comprising the Peel to engage in actions that stimulate economic diversification and innovation, as well as meet the needs of the regions rapidly growing population.

Prepared through analysis of demographic, economic and labour force data, the investigation of state, regional and local policies and meetings with local government representatives, this report provides sub-regional data and preliminary economic opportunity analysis for the City of Mandurah.

*Economic development is measured in terms
of income and employment as well as
improvements in education, health, culture,
community wellbeing and the environment.*

(SGS Economics and Planning Pty Ltd 2021)

The purpose of this report is to aid in the identification of development and growth opportunities within the LGA, as well as opportunities for collaboration across the region. The report includes recommendations of actions, projects and initiatives to promote and share the benefits of growth throughout Mandurah and across the region and accommodate a population of approximately 121,300 persons by 2031.

The City faces both high unemployment and plateaued labour force participation rate when compared to the State and Peel averages for both metrics. Youth unemployment is consistently high at approximately 20% in 2016. The City has seen rising educational attainment levels, particularly at the Certificate III and IV level, however it lags behind the State averages for residents with university degrees, influenced by the existing employment profile of the Peel region which is primarily comprised of jobs requiring only vocational-level qualifications. Over half of Mandurah's workers (56%) live in the City, with employment in Retail, Health Care and Social Assistance, and Hospitality observing relatively high levels of self-containment, indicating there is an insufficient number of workers within the City for these sectors.

Mandurah's economy is dominated by its construction industry, which contributed approximately \$1.58 billion to the local economy in 2016, comprising approximately fifth of the City's output. This sector is predominantly driven by residential expansion across the City in combination with a prioritisation of educational pathways in vocational professions linked to local TAFE and apprenticeships. Opportunities to diversify the local construction economy lie in exploring sustainable urban design in combination with affordable, adaptable, intergeneration and eco-sustainable housing models. Together these approaches have the potential to address housing disparities in access and quality as well as provide options for transition (aging in place, downsizing, right-sizing) across all age and household structure cohorts.

Health and Social Assistance, Retail, Manufacturing and Education, each contributed between 8.6% and 5.8% of the City's output reinforcing that the City's economy is overwhelmingly population services sector. Whilst common to regional centres, this reliance makes Mandurah particularly exposed to economic cycles and external influences which has been highlighted during the Covid 19 Pandemic. For Mandurah, an established Health and Social Services Sector along with Murdoch

Universities' Health Science focus, provides a competitive advantage that can be used to lead industry specialisation (such as telehealth, medical research, cancer treatment, specialised surgery, rehabilitation, addiction treatment, psychiatric medicine etc).

Whilst Mining does not take place within the City, a significant proportion of the population is employed in this industry as part of a 'drive-in-drive-out' or 'fly-in-fly-out' workforce. Mandurah benefits from the income derived from the industry which in-turn supports the local economy. Major structural changes taking place within the resource and energy sectors to decarbonise will impact this relationship, particularly as new and high-level skills are required to support renewable energy. The future decommissioning of mines located within proximity of the Peel alongside recent announcement of a Federal and State funded Hydrogen Production and Export Hub in Kwinana as well as the Perth and Peel Hydrogen Cluster are likely to present new opportunities. Exploration of the role that Mandurah can play in not only supporting the workforce to engage in these major projects but also demonstrating leadership in early adoption of emerging technologies (hydrogen, EV) especially in hard to abate sectors like transport are likely to become increasingly critical essential to stabilise employment.

There is an opportunity for the City to continue to demonstrate leadership and provide tangible opportunities for the emerging energy sector transition. This includes supporting businesses to meet their decarbonisation commitments to ensure Mandurah's industries and outputs remain both locally and globally competitive. Early collaborations and exploration of e-vehicles and hydrogen fleet conversion, Heavy Vehicle Transport Hub, potential Hydrogen Innovation Precinct and ongoing lead role in the Perth and Peel Hydrogen Cluster remain relevant priorities. Whilst further exploration is required around these themes in a manner specific to Mandurah, this Sub-Regional Economic Analysis identifies the key contingencies and actions pursued that are applicable to the City's social, economic and environmental goals.

In order to serve a growing population, strengthening access to tertiary education providers, healthcare and aged care facilities requires additional consideration. Enhancing non-car transport linkages for residents to access Metronet's Lakelands Station to access Perth and employment centres beyond the region will be key to improving opportunity within the City, with a view to develop additional profession employment within Mandurah in the medium-term. The City contains ample land for residential development and improvement in diversity, quality and density of development, predominantly centred around the Mandurah Town Centre, older coastal suburbs and greenfield development to the north. The City also retains landholdings suitable for exploration of affordable housing models centred on sustainable design principles.

Mandurah's unique geological landscape, waterways and environmental assets underpin all economic sectors and sets Mandurah apart from other regional centres. Significant investment and infrastructure have been directed to Mandurah's foreshore development and tourism activities supporting social and economic development in the context of regional environmental initiatives¹. Additional focus can be provided to sites and landscapes of international significance ensuring these environments are managed in connection with all other aspects of the area's natural and cultural heritage (for example the geological uniqueness of the thrombolites and South East Asian fly-away). Projects such as the proposed *Australian Waterways Centre of Excellence* (AWCE) can enhance awareness and understanding of key issues facing society such as climate change and natural disasters (mitigating the impacts of fire, biodiversity loss, sedimentation, nutrification) (Geological Society of Australia, 2022). Such projects provide the opportunity to secure the long-term health of this system managed via a 'holistic concept of protection, education and sustainable development' (Geological

¹ Peel Blueprint Scorecard 2020-21 (Peel Development Commission, 2020)

Society of Australia, 2022). Blending scientifically led environmental monitoring and management with education, employment pathways and eco-tourism (proposed participation in the UNESCO Global Geopark Program and Yalgorup National Park upgrades) will act to reinforce and build on Mandurah's reputation and brand.

Several key projects and initiatives have been identified for both Local and State Governments and will help to implement the City's vision to stimulate the Shire's economic diversification and specialisation, with each of these addressing one of the five key themes of the Peel Framework, as well as delivering regional infrastructure to both unlock and drive competitive growth long-term. These involve leveraging expertise from economies that have undertaken similar economic consolidation and diversification actions to those intended for Mandurah will allow the City to understand the critical applications of projects and policies proposed under economic diversification initiatives.

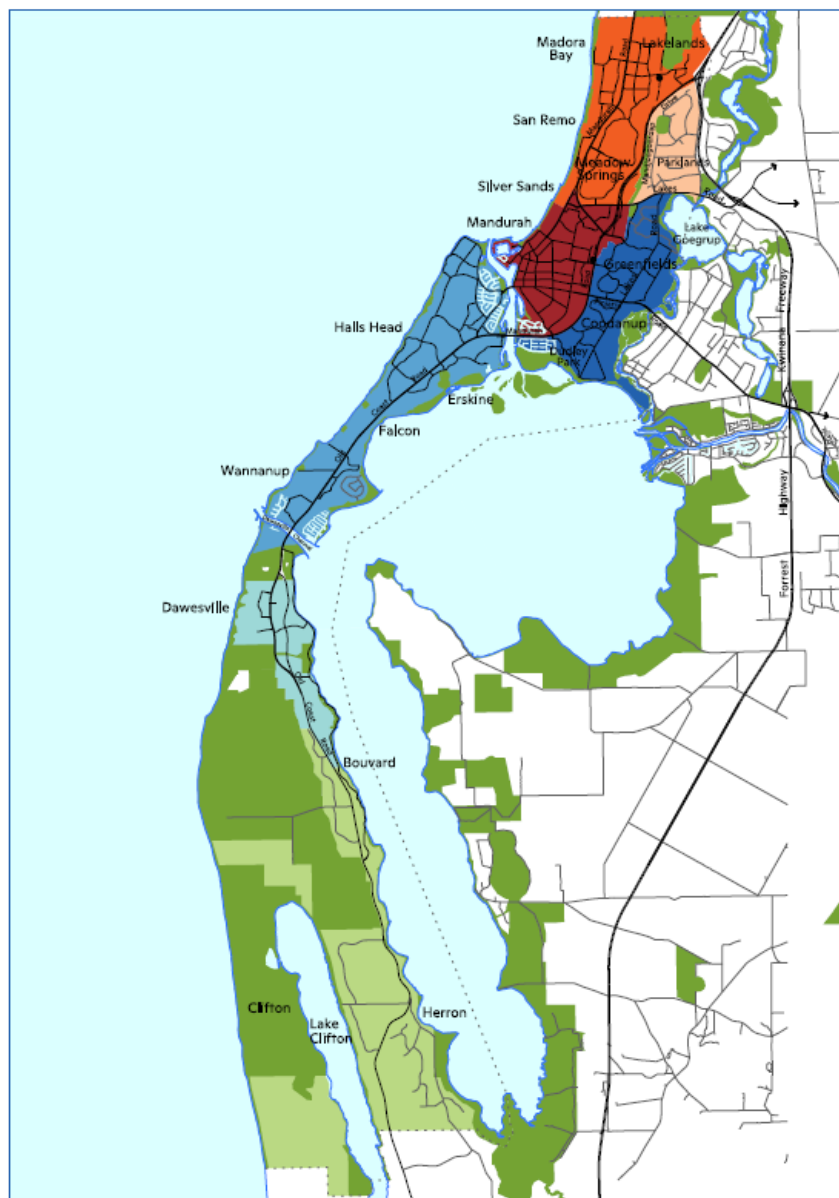
This Sub-Regional Economic Analysis identifies several pathways for regional stakeholders to balance approaches to consolidating and building on existing industries and whilst also diversify Mandurah's economy and facilitating key supporting infrastructure. Alongside this analysis the City of Mandurah and Peel Development Commission are undertaking a joint Transform Mandurah initiative to investigate the socio-economic case for a large-scale intervention to change the socio-economic trajectory of Mandurah. The initiative involves independent research into the challenges and opportunities and investigation of intervention options. The pathways identified in the tables provided at Appendix 1 of this report are therefore to be considered by stakeholders in conjunction with the findings of the Transform Mandurah investigation initiative. Key opportunities identified by this Sub-Regional Economic Analysis include:

- Specialised health sector development where Mandurah has specialised knowledge and a competitive advantage to extend on that knowledge (e.g. telehealth, medical research, cancer treatment, specialised surgery, rehabilitation, addiction treatment, psychiatric medicine).
- The attraction of industry with associated professional services (i.e. call centres) or government office to utilise new office space and develop Mandurah as a key southern metropolitan hub.
- The expansion of infrastructure and new tourism opportunities to enhance the capacity of the City of Mandurah to deliver tourism excellence.
- Coordination with the Perth and Peel Hydrogen Cluster investigation, via feasibility and business case, the opportunity to develop a Hydrogen Innovation Precinct including assessment of potential sites within proximity to Mandurah.
- Consensus on the direction for the North Mandurah Waste Water Reuse Scheme.
- Development of a local scale Transport Plan in acknowledgement of the Lakelands Train Station completion 2023, and potential parking pressures prompting integrated cycle, pedestrian, public transport and scope alternative parking / park and ride sites in vicinity.
- Consideration of partnership approaches with construction industry/local developers to deliver sustainable, affordable, intergenerational and/or universal design housing as demonstration projects/display homes.
- City led design charette to test development models for underutilised land in local government and Community Sector ownership for social and affordable housing. This can inform asset planning to ensure sites are unconstrained and development ready in preparation for State funding opportunities.
- Facilitate Tertiary Education Regional Learning Hub in collaboration with private sector and Universities to service remote education and online studies.

- Development of the water innovation precinct (Australian Waterways Centre of Excellence/AWCE), including educational opportunities and attracting water science experts alongside eco-tourism opportunities.
- Collaboration with Indigenous population to develop a cultural tourism program - potential to incorporate an indigenous cultural centre into existing infrastructure such as Mandurah Performing Arts Centre or new infrastructure such as Yalgorup trails or AWCE.

Understanding the key issues and opportunities that drive these actions through the lens of state, regional and local strategies is key to the development of an economic diversification and community development pathway in alignment with the overarching goals of the Peel Framework.

The report outlines key actions and goals proposed by State, Regional and Local bodies, as well as potential future actions to deliver economic diversification in these sectors according to the five key themes of the Peel Framework. Investment and the development of mutually beneficial links between stakeholders, businesses and government should be prioritised to ensure the long-term goals of both the City and the wider Peel region are met.



Source: Local Planning Strategy, City of Mandurah

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1 Population & Demographics

Overview

Current Demographic Trends:

The City of Mandurah was home to 58,811 persons in 2006 and has an estimated population of 88,080 in 2020, making it Western Australia's largest regional local government area (Australian Bureau of Statistics, 2021a). The total population has increased by 49.77% from 2006 to 2020, representing an annual average growth rate (AAGR) of 3.55%. Between 2006 and 2020, the City of Mandurah's 3.55% AAGR represented a greater growth rate than Western Australia's 2.14% AAGR, whilst slightly lower than the Peel Region overall at 4.51% AAGR. Population growth in the City of Mandurah has remained consistent, fuelled predominantly by net internal migration and overseas migration, and to a lesser extent natural increase in population growth.

The City's population growth is predominantly fuelled by lifestyle and affordability drivers. The median age of the City of Mandurah was 43 years for both 2006 and 2016 census periods, compared to 36 years for Greater Perth (including the Local Governments of Mandurah, Murray and Serpentine-Jarrahdale) (Australian Bureau of Statistics, 2021b, 2021c, 2021d, 2021e). This is reflective of City of Mandurah's established position as a coastal retirement location, enhanced by accessibility to the Perth metropolitan region. Despite limited variability in the median age demonstrates that whilst the population contains a higher proportion of predominantly older persons, there is also significant expansion in the youth/young adult cohort. Essential to reducing the median age is targeting issues pertaining to the outmigration of young adults in search of labour and tertiary education opportunities outside of the City of Mandurah, and the attraction of young adults and working age population to the region.

Young Adults & Working Age Population:

Growth in the youth population and young adults can be attributed to natural population growth and the attractiveness of the City of Mandurah as a lifestyle destination along with its comparatively affordable housing price point and commutable distance to the Perth Metropolitan Area for employment. An increasing young family and youth population requires focused attention on supporting education and family wellbeing in early childhood (0-3 years) to ensure that standard early developmental milestones and longer-term educational outcomes are achieved (5-15 years +). Furthermore, the provision of tertiary education and training opportunities locally will enable the retention of young adult population, coinciding with increasing the employment opportunities within the City of Mandurah and the Peel Region.

Planned suburban land releases accommodating young families together with an aging population, will continue to reinforce a top- and bottom-heavy demographic profile. Between 2016 and 2031, the population for the City of Mandurah is forecast to increase by 40,484 persons (50.09% increase from 2016 (Department of Planning, Lands & Heritage, 2018)), at an average annual change of 3.58%. By 2031, the City of Mandurah is forecast to reach approximately 121,300 persons.

Aged Persons:

To support the City of Mandurah in its ability to enable the population to age in place, there is the need to expand the level and capability of services, jobs and infrastructure available, particularly in the sectors of aged care, healthcare, housing and transportation. Expansion and industry

specialisation within these sectors will not only help support residents over the age of 65 but will also provide stability and opportunities for high-skill professional occupations within the employment base where the City of Mandurah already has a sector competitive advantage. Medical research and medical-tourism have the potential to seed investment and develop industry specialisation within health care such as oncology, drug addiction, fertility treatment, cosmetic surgery and dental care. Private Australian facilities can offer interstate and international patients and their companion's high quality all-inclusive medical travel package (including airport collection, medical treatment, medical hotel accommodation, and aftercare recovery facilities) as well as the opportunity to holiday in the destination country. Similarly, the City's seaside location and immediate proximity to outdoor activities may offer an important growth opportunity for general health or wellness tourism.

Developing age friendly communities and community infrastructure that are strategically linked through investment in these sectors will leverage Mandurah's attractiveness as a "sea change" retirement destination into a long-term growth opportunity for new businesses and employment within the City of Mandurah, developing a sustainable employment base and helping to stem the outflow of younger residents to more attractive employment opportunities in Perth.

Culturally & Linguistically Diverse:

Whilst the City of Mandurah experiences population growth predominantly through net internal migration, overseas migration experienced an upswing in growth during the 2018-2020 period. This highlights the opportunity to embrace and leverage the skills and experience of an increasingly culturally diverse and linguistically diverse community (CALD). This population calls attention to the need for targeted services and employment opportunities available for CALD communities, with a particular focus on job readiness, recognition of previously attained skills and qualifications and industries with flexible working hours to encourage and facilitate the participation of women in the workforce.

Housing:

The City of Mandurah's housing stock is reflective of early low density settlement patterns having been strategically intensified (redeveloped) or expanded over time in the form of new suburbs. The result is a relatively diverse housing profile in terms of density, urban form, quality and price points. However, outside of strategically planned and redeveloped higher density pockets in generally centralised but less affordable locations, urban form represents a low-density suburban character with 80.1% (Australian Bureau of Statistics, 2017e) of the City of Mandurah's housing stock comprised of single detached homes. Therefore, new and existing residents have limited choice of living arrangements beyond location.

Accordingly, housing stock lacks the density and affordability diversity required to service the needs of a range of residents, particularly those of seniors, young adults and single persons as household size, composition and individual needs change over time. With respect to all households, there is the identified need to facilitate the development of affordable and accessible quality housing that is the 'right size/fit' for its occupants. That is, adequate housing supply that is suited to the household's specific wants and needs at that point in time.

In 2016, 22.67% of Mandurah's population was above the age of 65 (Australian Bureau of Statistics, 2016a). With respect to seniors, there is also the identified need to facilitate a diversity of housing stock (both size and type) through supporting universal design, intergenerational housing, cooperative-housing, aged/dementia friendly communities, alternative service and care package delivery models to enable supported transition to 'right-sized' housing within existing communities allowing for aging in place. This approach is recognised in the City's Mandurah's Active Ageing Plan²,

² City of Mandurah. 2013a. City of Mandurah Active Ageing Plan 2013-2017

Local Planning Strategy 2019³ and Mandurah Planning Strategy (Urban Form and Housing)⁴. Importantly, the right type of affordable housing needs to be delivered in the right environment and in a way that does not compromise the feasibility of the development or broader planning objectives of the City of Mandurah. Partnering with the Community, Not-For-Profit and Government Sector to deliver tangible demonstration projects can build the knowledge and capability of the City’s construction industry and the broader acceptance of new housing models within the community.

1.1 Population Growth

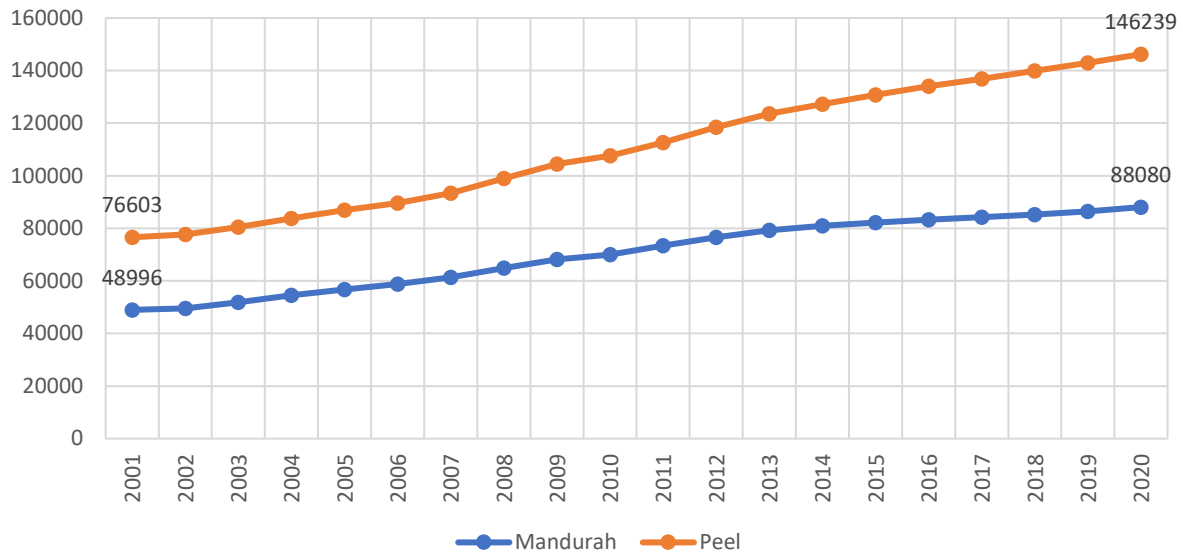


Figure 1: Mandurah & Peel Estimated Resident Population 2006-2020 (ABS, 2021a)

Mandurah is Peel’s largest urban centre, containing more than half of the region’s population. Peel has grown by 56,619 persons from 2006 and 2020 (63.18%), while Mandurah has grown by 29,269 persons over the same period (49.77%). The Peel population increase is driven primarily by the Shire of Serpentine-Jarrahdale, which experienced an increase of 20,674 persons from 2006-2020 (156.1%)

Table 1: Estimated Resident Population - Average Annual Growth Rates 2006-2020: Mandurah, Peel & WA (ABS, 2021a)

Estimated Resident Population Annual Average Growth Rates 2006-2020		
Mandurah 3.55%	Peel 4.51%	WA 2.14%

³ City of Mandurah. 2019. Mandurah Draft Local Planning Strategy (WAPC Adoption For Advertising).

⁴ City of Mandurah. 2013b. City of Mandurah Urban Form & Housing Strategy Draft 2013

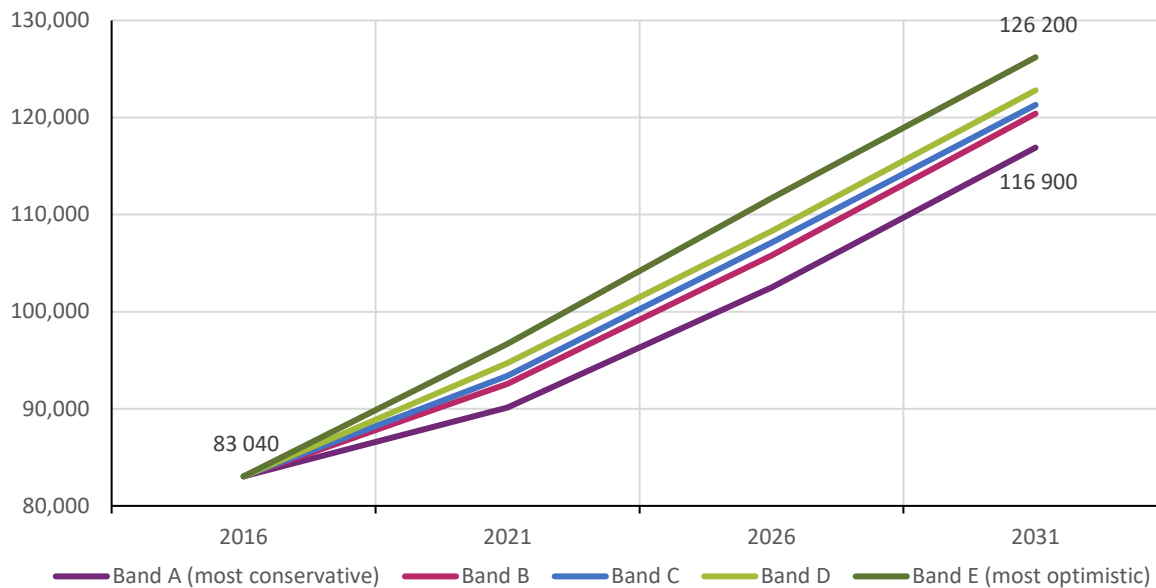


Figure 2: Western Australian Planning Commission - Mandurah Population Projections (DPLH, 2018)

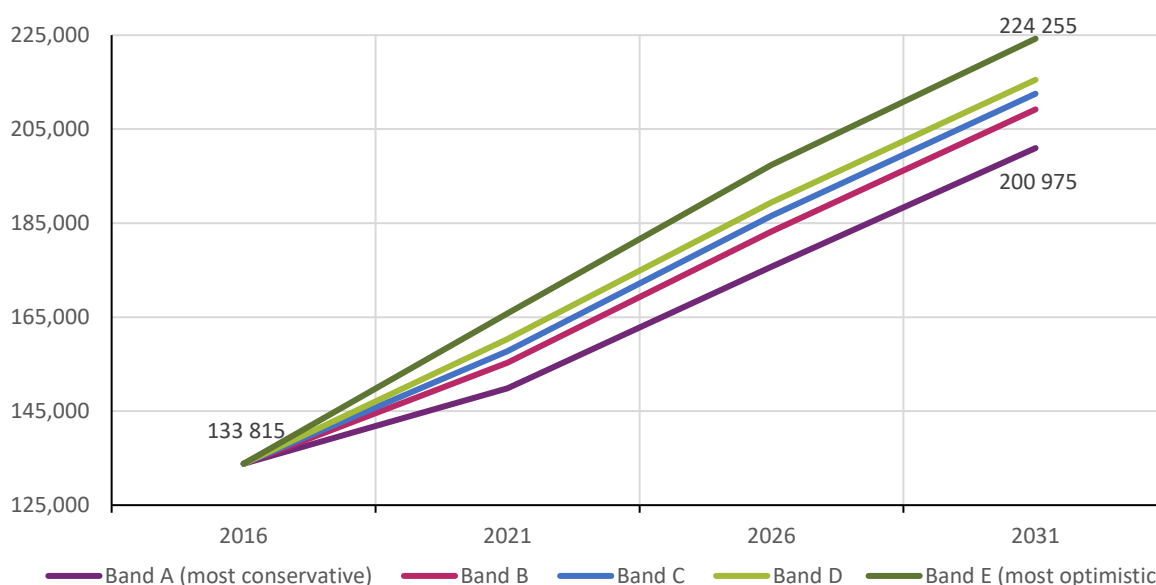


Figure 3: Western Australian Planning Commission - Peel Population Projections (DPLH, 2018)

According to the Department of Planning, Lands and Heritage’s ‘WA Tomorrow’ population projections, Mandurah is expected to grow from 83,040 persons in 2016 to between 116,900 and 126,200 persons by 2031 (Figure 2). Mandurah’s estimated residential population (ERP) annual growth rate between 2006 and 2020 was 3.55%. Based on this, Mandurah’s population will exceed Band E by almost 20,000 people by 2031. This is consistent with Peel, which based on its annual ERP growth rate of 4.2%, will exceed the most optimistic projection by 34,000 residents (Figure 3).

These growth rates predate the Covid-19 pandemic, and resultantly do not consider the cumulative impact of loss of interstate and overseas migration as well as Federal and State Government Covid-19 economic stimulus policies on the growth rate in these regions.

1.2 Age and Sex

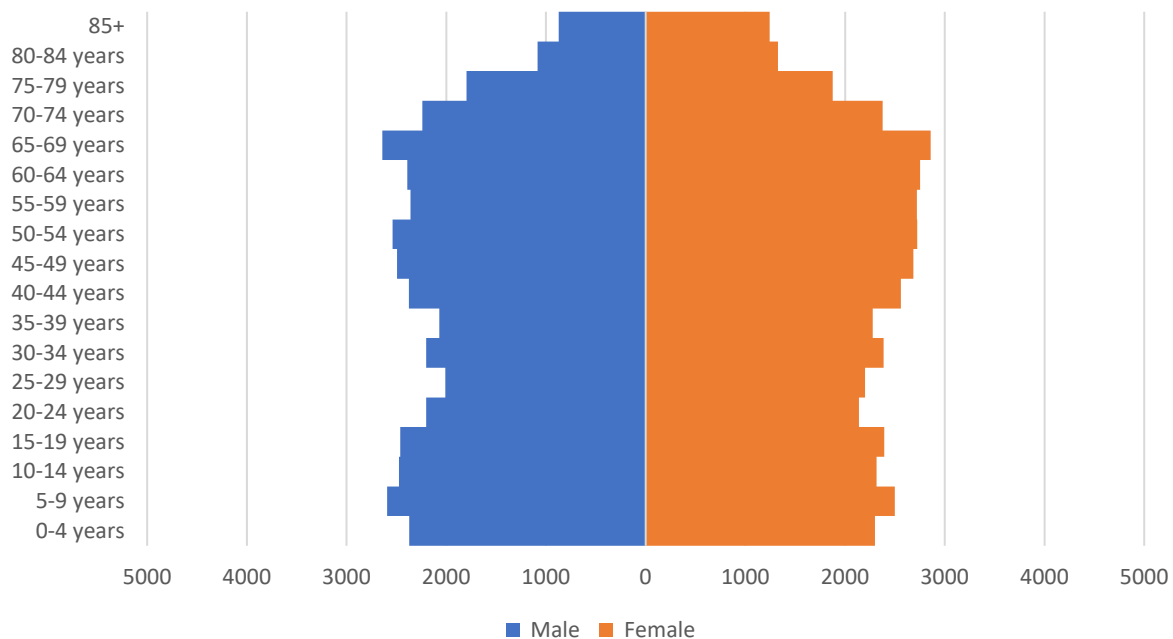


Figure 4: Mandurah Population Pyramid (ABS, 2016)

Figure 4 reflects a relatively even distribution of men and women within Mandurah. Mandurah’s population pyramid reflects a relatively even distribution of men and women within the City. Below the age of 25, there are more males throughout all groups in Mandurah. This amounts to 12099 men below the age of 25 compared to 11644 women. However, above the age of 25, women outnumber men in all groups. This results in 29981 women compared to 27089 men. Due to the aging population in the area, this amounts to 2,428 more women living in Mandurah than men.

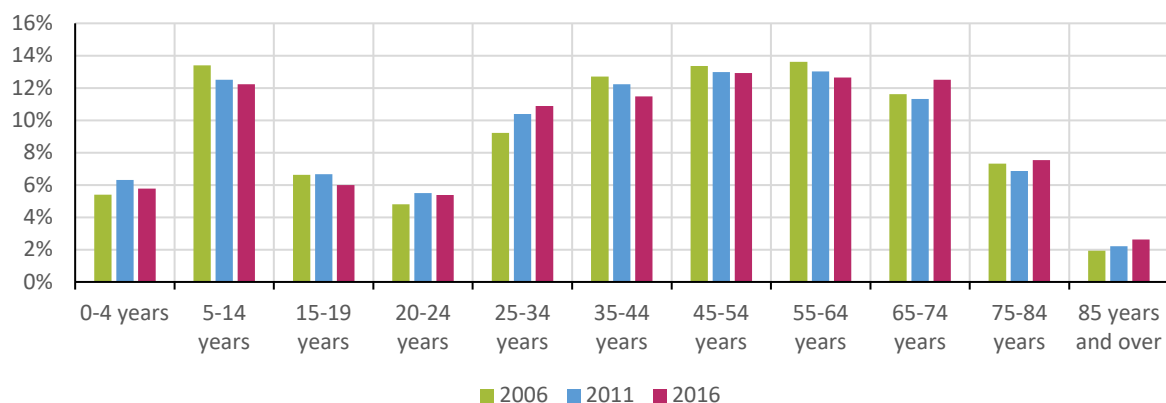


Figure 5: Mandurah Age Distribution 2006-2016 (ABS, 2017a)

Mandurah’s age distribution between 2006 and 2016 has continued to shift towards an ageing population (**Figure 5**). The 65 to 74, 75 to 84 and 85+ groups have all grown between 2006 and 2016. The 25 to 34 age group has also seen a significant increase in this period, moderating the increasing dependency ratio in the area. Despite all groups seeing an increase in absolute population, groups between the ages of 35 and 64 have proportionately declined throughout the period. The proportion of residents below the age of 24 has proportionately declined from 2011 to 2016, after a slight resurgence in the previous period.

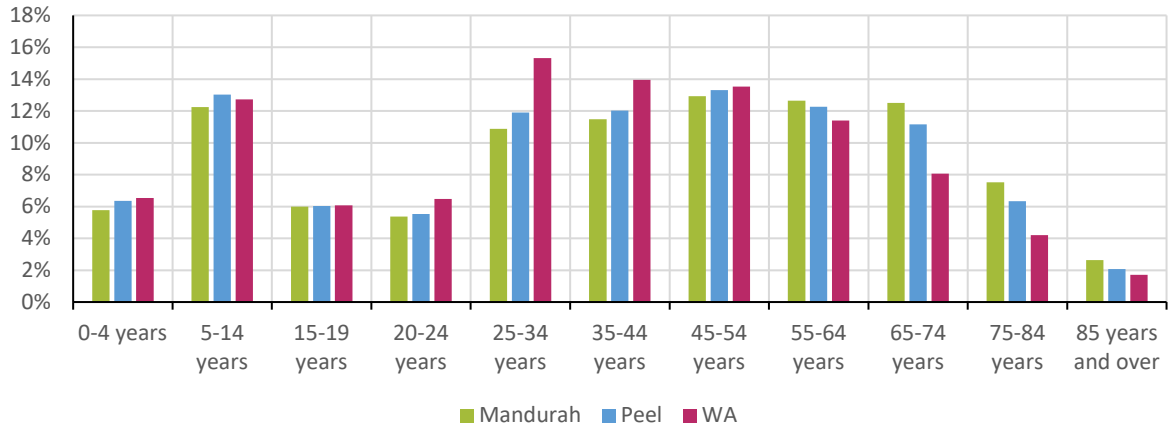


Figure 6: Mandurah, Peel & WA Age Distribution (% Of Population) - (ABS, 2017a)

Compared to both Peel and WA, Mandurah has a higher proportion of residents above the age of 65+ (**Figure 6**). For example, more than 12% of Mandurah’s population is between the age of 65 and 74, compared to 11% for Peel and 8% for WA. In comparison, Mandurah’s proportion of population between the age of 25 to 34 is lower than Peel by around 1% and lower than Perth by over 4%. This could reflect the lack of work opportunities in Mandurah, which may push those between the age of 25 and 34 to the Perth metropolitan area. The 35-44 cohort has a similar trend with a 2.46% variation.



Figure 7: Mandurah Median Age 2006-2016 (ABS, 2017b)

The median age of Mandurah has remained relatively stable between 2006 and 2016 (**Figure 7**). This indicates an older population compared to the Perth median of 36. The median age for men in Mandurah increased in 2016, moving from 38 in 2006 to 43 in 2016, while the median age for women has conformed with the overall median. The Aboriginal and Torres Strait Islander population in this time has aged slightly but remains significantly below the rest of the population. This group has risen from a median age of 17 in 2006 to 20 in 2016. This remains lower than the WA median Aboriginal and Torres Strait Islander age of 23.

Population growth in Mandurah (**Figure 8**) predominantly occurs through net internal migration with overseas migration also experiencing an upswing in growth during the 2018-2020 period. It is noted that COVID-19 border restrictions will likely have implications for the internal migration from

interstate, along with overseas migration as a result of WA’s closed border. It is too early to ascertain potential impacts of this upon the City of Mandurah.

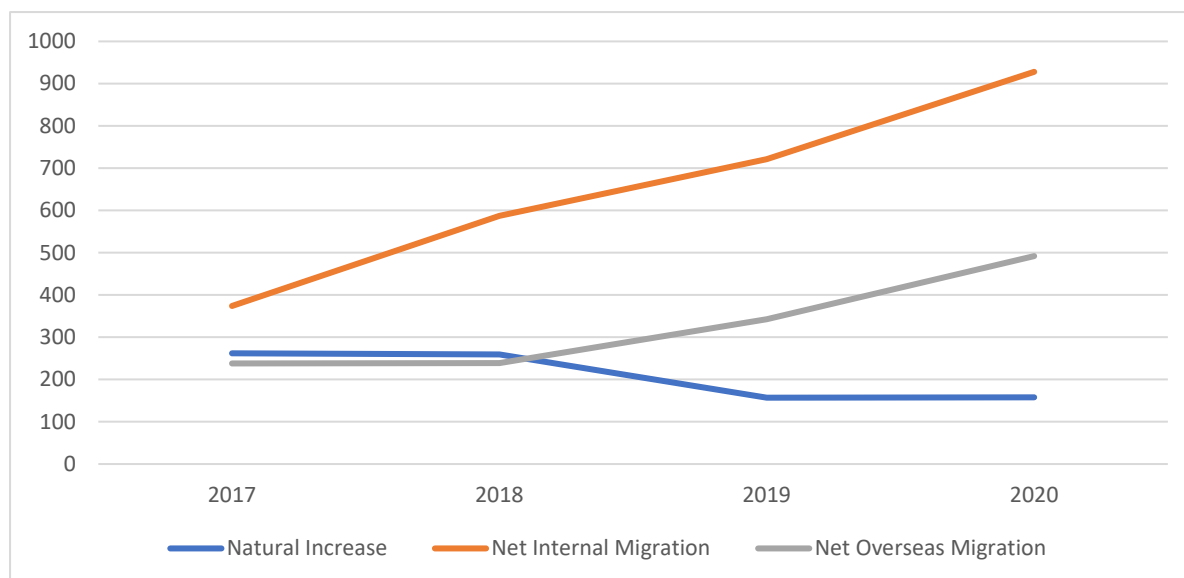


Figure 8: Components Of Population Growth (2017-2020) - Estimated Resident Population Growth (ABS, 2021f)

Table 2 highlights the size of the emerging youth cohort, along with the size and distribution of persons within age brackets at the 2016 Census. Compared to Western Australia, Mandurah contains a higher proportion of persons in their overall population profile who are aged 65-84 (WA – 12.28%, Mandurah (C) – 20.05%) and 85+ (WA – 1.71%, Mandurah (C) – 2.62%).

The youth (0-14), early working age (15-34) and mid working aged cohorts (35-64) in Mandurah are statistically consistent with WA, with some outmigration for tertiary education and employment opportunities potentially impacting retention of persons within these age cohorts in Mandurah.

Table 2: Population Cohort Distribution - ABS 2016 Census (ABS, 2016)

	City of Mandurah (2016)	Western Australia (2016)
Youth – 0-14	18.01%	19.26%
Working Age (Early) – 15-34	22.27%	27.87%
Working Age (Mid) – 35-64	37.06%	38.88%
Aged 65-84	20.05%	12.28%
Aged 85+	2.62%	1.71%
Population (ABS 2016)	80,816	2,474,412

Table 3 highlights that the population growth is consistent across all population cohorts, however the relative size of the over 65 cohort has been historically high which is consistent with Mandurah’s status as a popular retirement destination.

Table 3: Mandurah Actual (2006, 2011 & 2016) & Projected (Band C - 2021, 2026 & 2031) Population Distributions (ABS 2016 & DPLH 2018)

Year	Children 0-14		Working Age Population (Early Age) 15-34		Working Age Population (Mid Age) 35-64		Aged 65-84		Population Aged 85+		Total
	#	%	#	%	#	%	#	%	#	%	
2006	10,486	18.79%	11,530	20.66%	22,148	39.68%	10,575	18.94%	1,082	1.94%	55,821
2011	13,149	18.81%	15,767	22.55%	26,724	38.22%	12,713	18.18%	1,560	2.23%	69,913
2016	14,551	18.01%	17,995	22.27%	29,949	37.06%	16,203	20.05%	2,118	2.62%	80,816
2021	17,400	18.63%	21,800	23.34%	34,400	36.83%	17,200	18.42%	2,600	2.78%	93,400
2026	19,500	18.21%	26,600	24.84%	38,800	36.23%	18,800	17.55%	3,400	3.17%	107,100
2031	22,200	18.30%	31,100	25.64%	43,100	35.53%	20,800	17.15%	4,100	3.38%	121,300

22.67% of Mandurah’s population in 2016 was above the age of 65, which will require the provision of specific social and health care related services and infrastructure to enable persons to be able to age in place. This includes the expansion of aged care, health care (allied health, specialist, and medical services) and community services, all of which provide additional industry development and expansion opportunities. At present, health care, aged care, and community services, along with retail trade, provide a large source of employment within Mandurah.

Based on the population profile of Mandurah, there is the need to provide universally designed housing, aged/dementia friendly urban design and a diversity in housing stock in size and type to support a diverse population. 22.67% of Mandurah’s population in 2016 was above the age of 65, which will require the provision of specific social and health care related services and infrastructure to enable persons to be able to age in place.

1.3 Aboriginal and Torres Strait Islander People

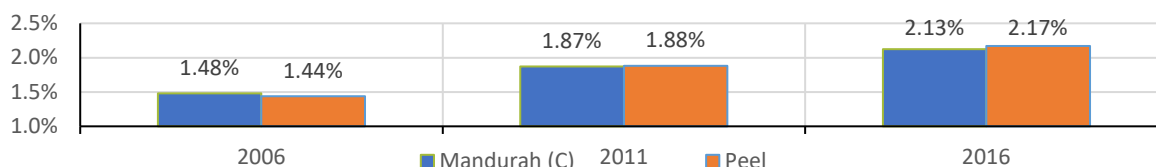


Figure 9: Mandurah & Peel Proportion Of Aboriginal & Torres Strait Islander Populations (ABS, 2017c)

The proportion of Aboriginal and Torres Strait Islander persons has grown between 2006 and 2016 in both Peel and Mandurah (Figure 6). In 2006, the Aboriginal and Torres Strait Islander population was 1.48% (825 persons). This increased to 1.87% (1,307 persons) in 2011 and again to 2.13% (1,718 persons) in 2016. This is similar to Peel’s overall growth, which was slightly faster than in Mandurah, going from 1.44% (1,230) in 2006 to 2.17% (2,828) in 2016. These trends are reflected in Table 4, with Mandurah experiencing a 10.8% AAGR compared to 12.9% in Peel. Both figures are higher than WA, which experienced only a 2.9% AAGR for the Aboriginal and Torres Strait Islander population

Table 4: Aboriginal & Torres Strait Islander Population - Annual Average Growth Rate: Mandurah, Peel & WA (ABS, 2017c)

Aboriginal and Torres Strait Islander Population AAGR 2006-2016		
Mandurah 10.8%	Peel 12.9%	WA 2.9%

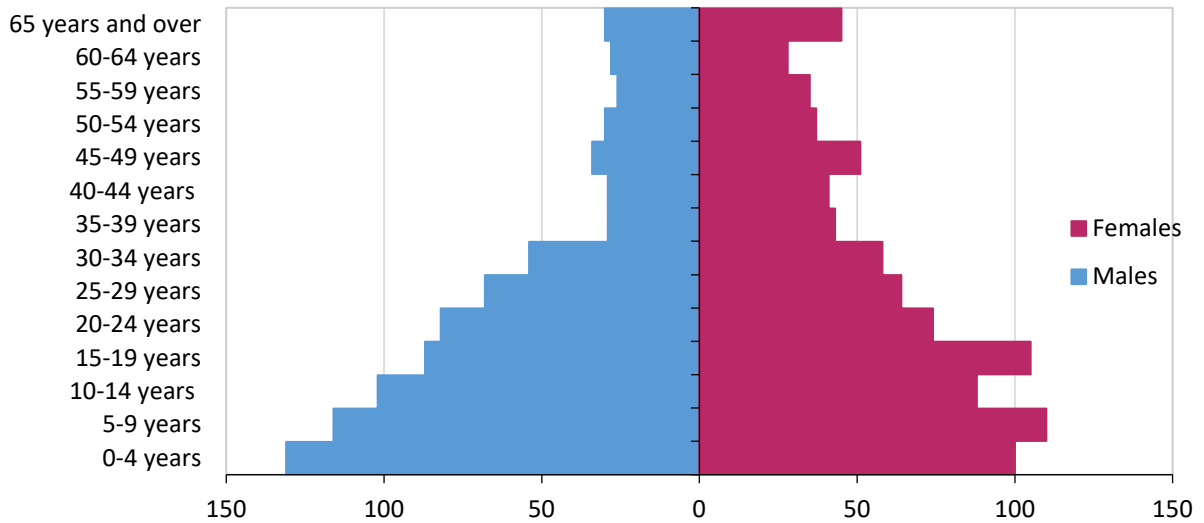


Figure 10: Mandurah Aboriginal & Torres Strait Islander Population Pyramid - 2016 (ABS, 2017c)

The Aboriginal and Torres Strait Islander population in Mandurah (Figure 7), has a large representation of children and young adults, narrowing towards 30-34 years, and a lower proportion of men in contrast to women over the age of 35-39. The only exception to this is in the 15 to 19 age group, where there are more women than men. This indicates a higher life expectancy among female people, which aligns with the findings of the WA Aboriginal Health and Wellbeing Framework 2015–2030.

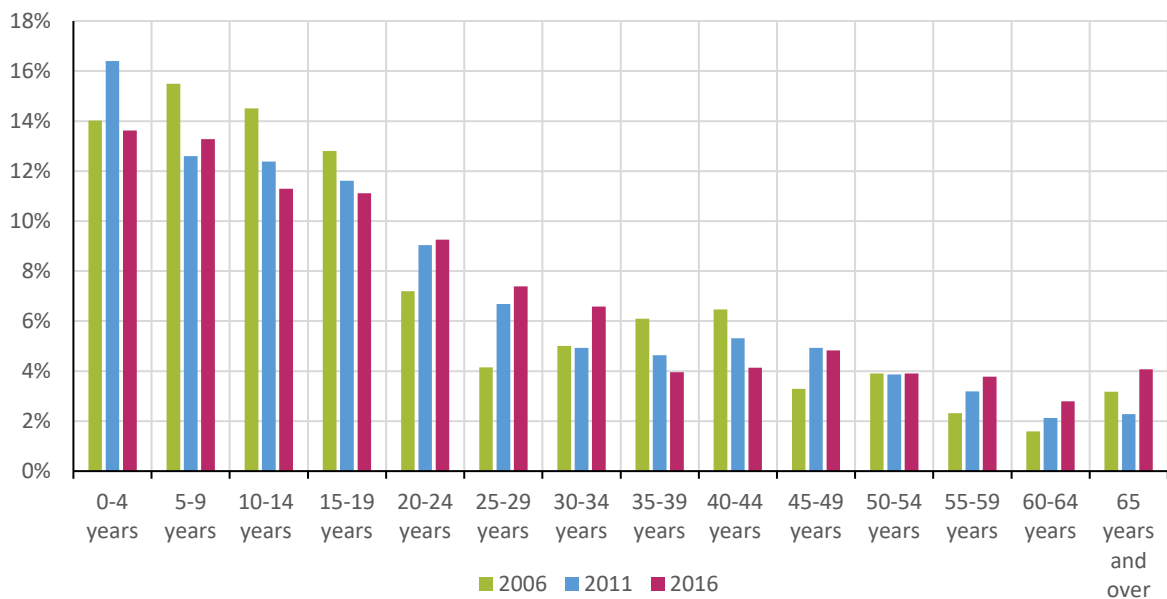


Figure 11: Mandurah Age Distribution Of Aboriginal & Torres Strait Islander Population - 2006-2016 (ABS, 2017c)

The Aboriginal and Torres Strait Islander population is highly variable in its distribution over the last three census periods (Figure 11). All groups older than 55 grew between 2011 and 2016, as have residents between the ages of 20 and 34. On the other hand, groups below the age of 20 have declined between 2006 and 2016, while age groups between 35 and 44 have all decreased from 2006 to 2016. This reflects the gradual ageing of the population.

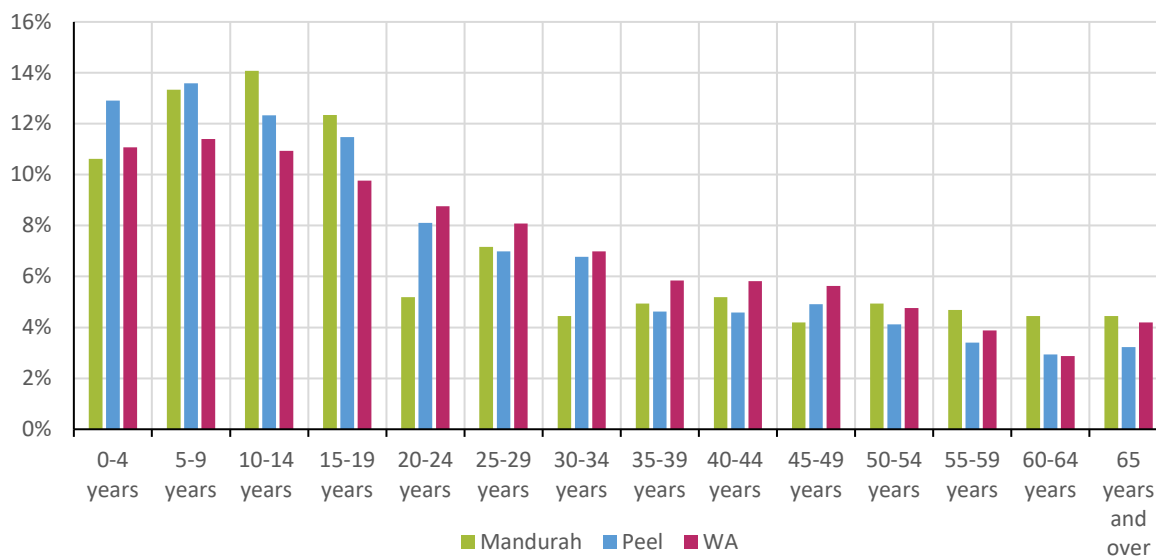


Figure 12: Mandurah, Peel & WA Age Distribution Of Aboriginal & Torres Strait Islander Population - 2016 (ABS, 2017c)

Compared to Peel and WA (Figure 12) the age distribution of the Aboriginal and Torres Strait Islander population in Mandurah has a higher concentration of young and ageing people, with those between the age of 20 and 49 making up a smaller proportion than in WA.

1.4 Population Turnover

Population turnover measures the combined rate of immigration and emigration relative to the size of population, indicating the proportion of residents within a reporting period who are different people to those who were residents in the previous period. Population turnover can identify the changing demographic characteristics and needs of a region within the context of stable population growth.

Mandurah’s population turnover was slightly below Peel between 2006 and 2016 (Figure 13). In 2016, 167 residents per 1,000 were new to the area compared to 182 in Peel. However, in both areas, population turnover has been declining, with Mandurah having 200 new residents for every 1,000 in 2006 compared to 167 in 2016. This is a decline from 20% in 2006 to almost 17% in 2016.

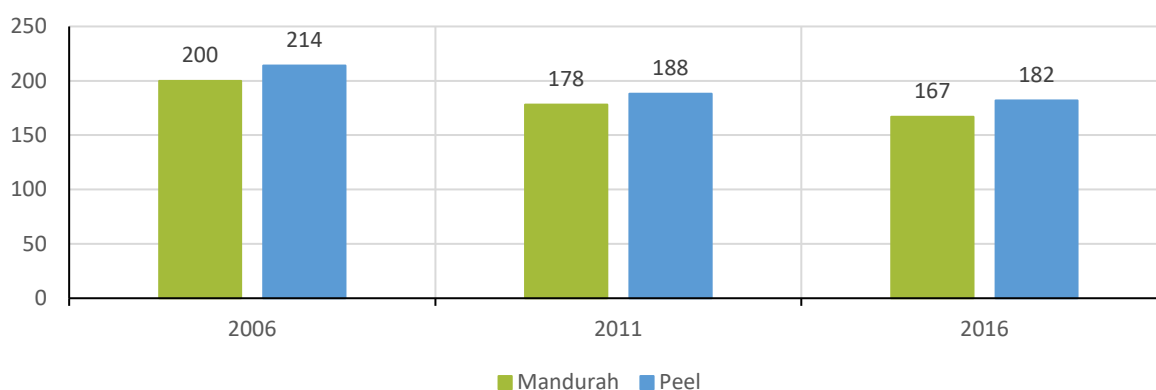


Figure 13: Mandurah & Peel Population Turnover (ABS, 2017d)

1.5 Housing

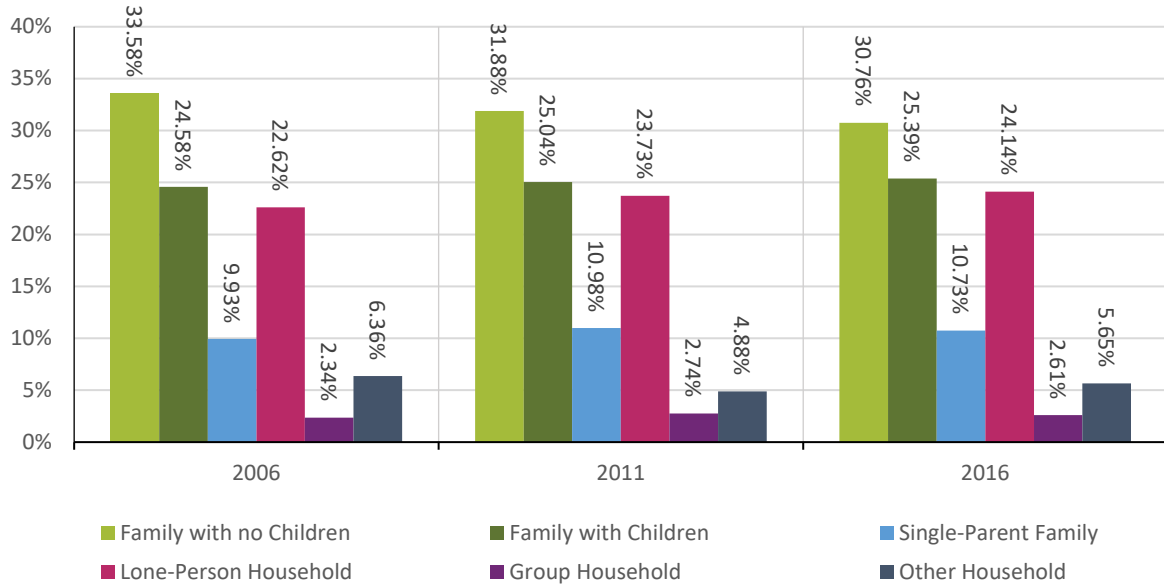


Figure 14: Mandurah Household Composition (ABS, 2017e)

Between 2006 and 2016 (**Figure 14**), Mandurah has seen an increase in families with children by 0.81%, while families without children declined by 2.78%. Single parent households grew from 2006 to 2016 by 0.8%, although this cohort did decline by 0.25% between 2011 and 2016. Lone person households have been increasing, moving from 22.62% in 2006 to 24.14% in 2016.

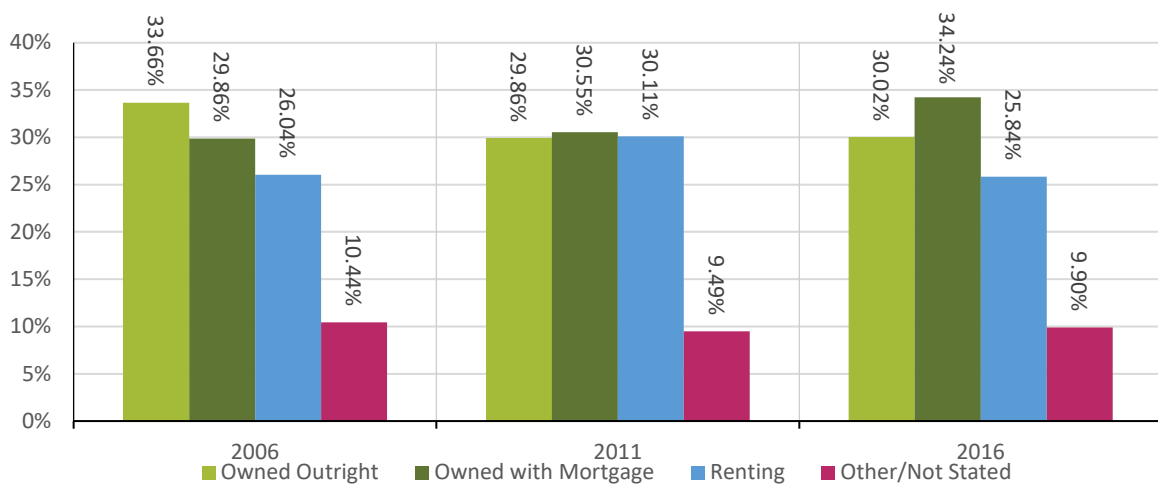


Figure 15: Mandurah Housing Tenure - 2006-2016 (ABS, 2017e)

Between 2006 and 2016 (**Figure 15**), outright ownership of dwellings proportionately decreased from 33.66% to 30.02%, while owned with mortgage increased from 29.86% to 34.24%. This has likely been influenced by the development of new suburbs in Mandurah, such as Lakelands and Madora Bay. The trend of declining home ownership conforms with WA, which declined from 30.2% of residents owning their homes outright in 2006 to 27.3% in 2016. However, Mandurah still has slightly higher proportion of homeowners with outright ownership of their home, aligning with the older demographic of the population. The proportion of population accessing rentals increased from 26% in 2006 to 30.1% 2011, a 115% increase, and then declined to 25.8% between 2011 and 2016.

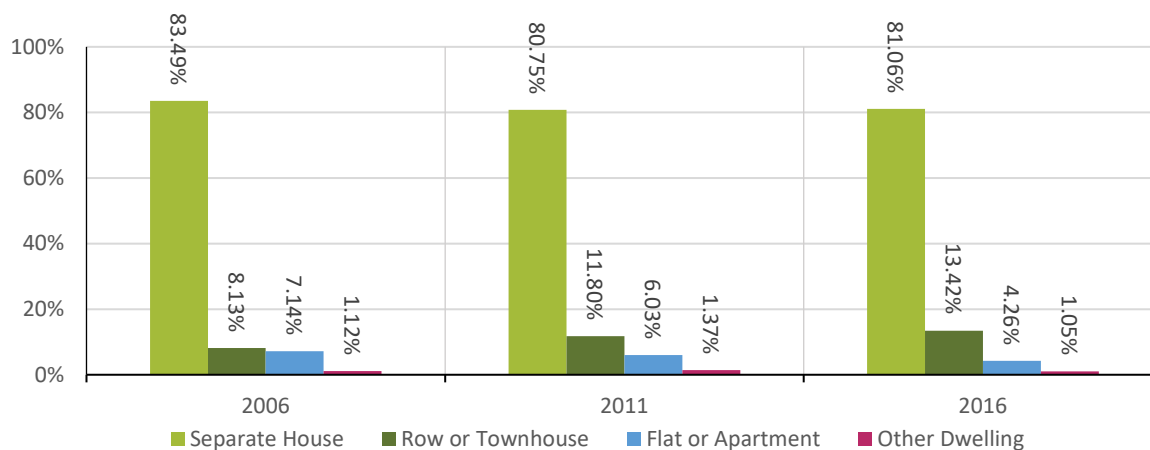


Figure 16: Mandurah Dwelling Structure - 2006-2016 (ABS, 2017e)

Mandurah’s private dwelling structure is overwhelmingly dominated by detached/separate housing (**Figure 16**). While the proportion of detached houses declined from 83.49% in 2006 to 80.75% in 2011, it increased slightly by 2016 to 81.06%. This indicates that any move away from detached housing as the primary dwelling form has stalled. In the same period, the proportion of apartments has declined as a proportion of dwellings from 7.14% in 2006 to 4.26% in 2016, while townhouses have increased from 8.13% to 13.42%.

2 Workforce

Overview

Labour Force & Unemployment:

The labour market in Mandurah is relatively weak when compared to Western Australia and the Peel region. The City’s labour force participation rate has risen between 2006 and 2016. Whilst the participation rate increased by 3.3% between 2016 and 2011, the rate has since plateaued at 55.7% in 2016 and remains 10-13% lower than that of WA, and approximately 3% lower than the Peel region (ABS, 2017f). The low labour force participation rate observed in Mandurah can be attributed to the City’s ageing and single parent population, as well as the LGA’s relatively limited job market as compared to the Perth Metro area.

In September 2021, the unemployment rate in Mandurah was 7.05%, according to the *Small Area Labour Market* (DESE, 2022). Of particular significance is the high youth unemployment rate of 20.5% in 2016 (ABS, 2017f). While unemployment rates have generally followed movements in-line with Peel and Western Australia, the City’s rates have consistently remained 1-3% higher. Several factors could be contributing to the low labour market participation trend including a decline in population migration to the area, economic impacts of the COVID-19 pandemic constraining jobs growth and the populations’ ability to participate in the labour market, and potentially an ageing demographic choosing to exit the labour force.

The following sectors account for more than half (16,544 jobs out of 31,036) of the employment of the workforce who live in Mandurah (REMPPLAN 2020b):

- Mining
- Construction
- Retail Trade
- Education and Training; and
- Health Care and Social Assistance

Whilst no physical mining activities take place within the City of Mandurah, proximity to Alcoa's Alumina Refinery & Bauxite Mining operations, along with surrounding mines such as Newmont Gold Mine (operating from 2016) remain significant employers serviced by a drive-in-drive-out Mandurah workforce. Employment in Mining saw the largest increase in terms of workforce growth, at 45.22% between 2011-2016 reflecting a State-wide trend, followed by Health Care and Social Assistance with a 33.52% and Education with a 25.81% over the same period (REMPPLAN, 2020a). Conversely, Manufacturing and Wholesale Trade experienced contractions again mirroring State-wide trends (REMPPLAN, 2020a).

The impact of the COVID-19 pandemic is likely to see growth in the Construction and its associated sectors (such as Wholesale Trade sector) due to a variety of economic stimulus packages. Participants of the NDIS along with existing aged care providers will result in increasing employment in the Health Care and Social Assistance sector. Conversely, niche Tourism sectors that service international consumers are likely to report decline due to boarder closures, lockdowns and restrictions.

Education rates in the City are also rising, with 45% of qualifications earned being either Cert III or IV, coupled with a minor increase in the number of Bachelor's degrees and advanced diplomas. The rate of educational attainment in the City is lower than that of WA, however, it is higher than the Peel region likely due to Mandurah operating as a regional hub for professional services. These rates of education are typical given the industry profile of the region, where occupations do not require a tertiary level qualification. The educational profile of Mandurah residents is consistent with the type of jobs held, given the predominance of Construction and Health Care and Social Assistance in local employment.

The outwards migration and inward migration of the working age population along with their corresponding educational attainment levels is relevant in understanding the workforce structure and capability within the City. Between 2011 and 2016, the data shows an outward migration of youth aged between 20 and 24 years. The reasons for "youth outwards migration" from regional areas are varied, however, for Mandurah likely relate to the lack of local employment opportunities (particularly professional career pathways) and potentially the desire to continue their education and foundation careers in Perth or beyond. Broadly however, the working population of Mandurah has increasing along with their relative educational attainment levels. This goes some way to explain the slight improvements to the City's overall educational attainment levels, however importantly this movement is the result of the migration of more educated persons to the City rather than upskilling or increasing capability of local persons.

More than half (**55.9%**) of workers who live in Mandurah also work in Mandurah. A further **7.6%** and **6.3%** travel from neighbouring LGAs, the City of Rockingham and Shire of Murray respectively. Health Care and Social Assistance, Retail, Hospitality and Education have the highest rates of self-containment. However, the Retail, Health Care and Social Assistance, and Hospitality sectors self-containment lingers close to 100%, indicating that there is a shortage of local workers in these sectors. Mining self-containment (5%) is low, indicating that employment opportunities in this sector typically lie outside of Mandurah, such as the Pilbara and the Goldfields, as well as nearby LGA's of Murray, Waroona and Boddington.

2.1 Labour Market

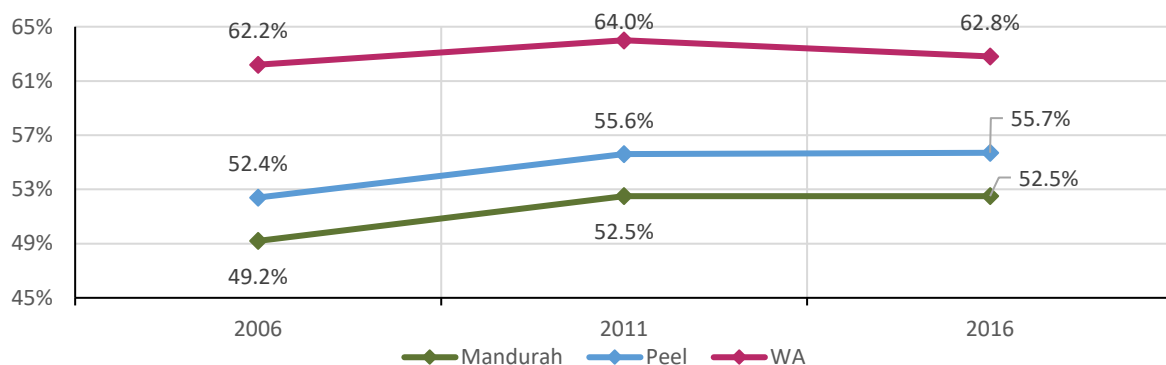


Figure 17: Mandurah, Peel & WA Labour Force Participation Rate - 2006-2016 (ABS, 2017f)

Mandurah's labour force participation rate (LFPR) has consistently been lower than both Peel and Western Australia. Since 2006, the rate has increased by **3.3%** to **52.5%** in 2016. Between 2011 and 2016, the LFPR in Mandurah has remained stagnant, and slightly increased in Peel by **0.1%**. The proportion of people that are of retirement age has increased between 2006 (2.45%) and 2016 (4.28%).

While Mandurah and Peel have lower LFPR than Western Australia, the regions are maintaining or increasing their participation rate while Western Australia's decreases. A lower LFPR indicates that a region is less productive, with fewer people contributing to the economy.

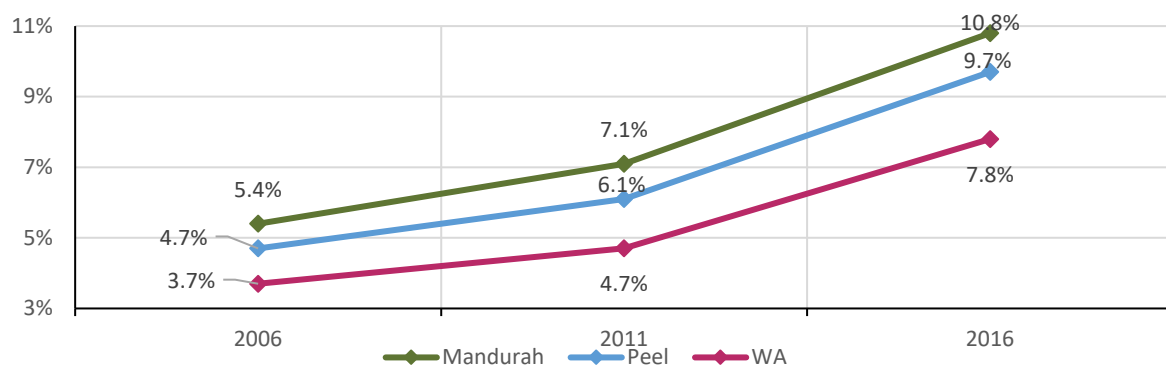


Figure 18: Mandurah, Peel & WA Unemployment Rate 2006-2016 (ABS, 2017f)

The unemployment rate in Mandurah is historically higher than both Peel and WA. At **10.8% (2016)**, Mandurah's unemployment rate is **3%** higher than that of WA.

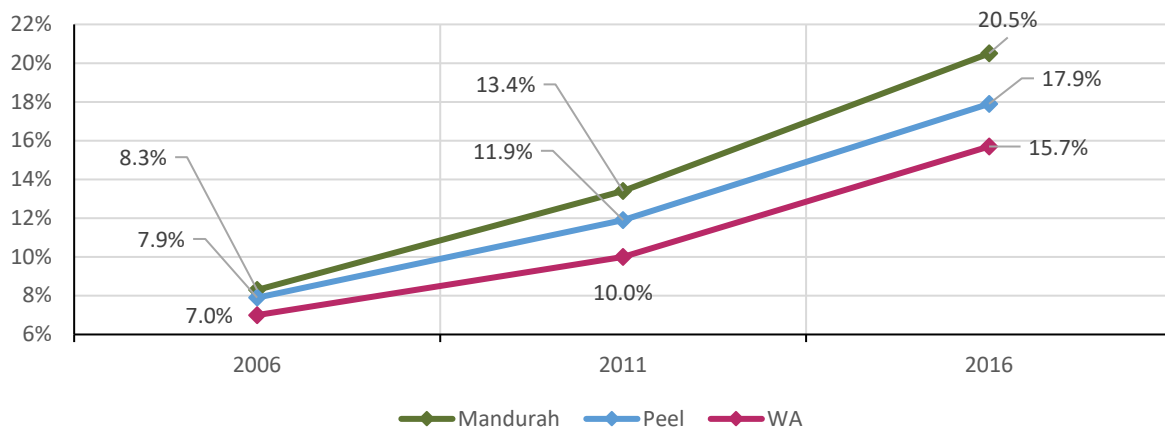


Figure 19: Peel & WA Youth Unemployment Rate 2006-2016 (ABS, 2017f)

Mandurah’s youth unemployment rate in increased from 13.4% in 2011 to 20.5% 2016 which is consistently above the WA and Peel rates.



Figure 20: Mandurah Unemployment & Labour Force (Small Area Labour Market) - 2016-2021 (Department of Employment, Skills & Education, 2021)

SALM Mandurah (C) September 2021	
Unemployment (Sep-2021 %)	Labour Force (Sep-2021 No.)
7%	35,984
(Sep-2020 10.19%)	(Sep-2020 38,928)

Figure 21: Mandurah Unemployment & Labour Force Data (Small Area Labour Market) (Department of Employment, Skills & Education, 2021)

The Small Area Labour Markets (SALM) estimates unemployment on a smaller scale than the Australian Bureau of Statistics (ABS) Census data. The SALM is produced more regularly than the Census but is not as reliable as it is an estimate based on a small survey sample.

In September 2021, the City of Mandurah had an estimated unemployment rate of **7%** across a labour force of 35,984 persons. From 2020 to 2021, the labour force has seen a net decrease of 2,944 persons and a decrease in employment rate by 3.2%.

2.2 Educational Attainment

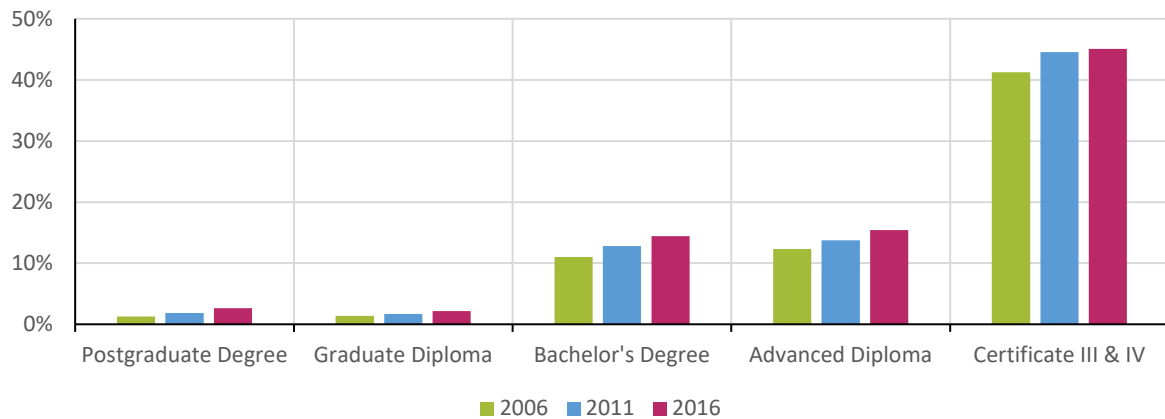


Figure 22: Mandurah Educational Attainment Level - 2006-2016 (ABS, 2017g)

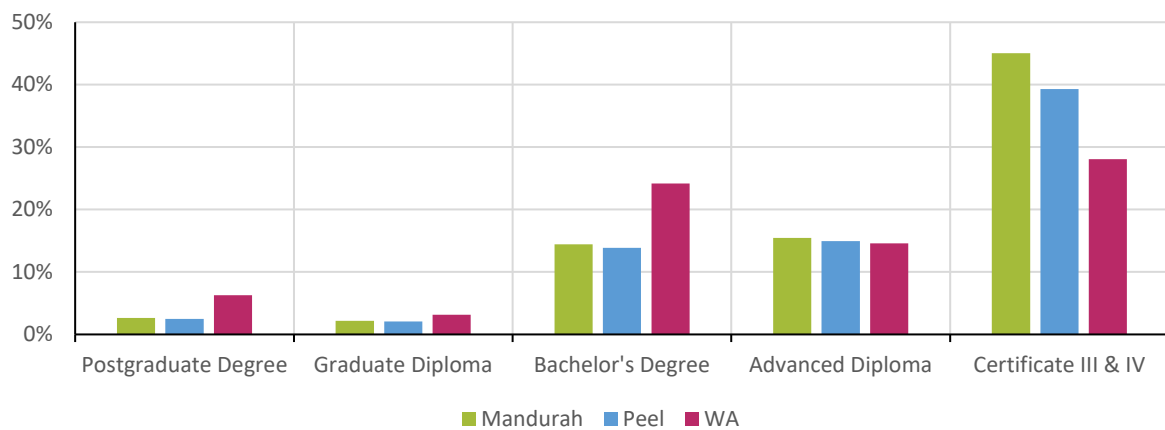


Figure 23: Mandurah, Peel & WA Educational Attainment Level - 2016 (ABS, 2017g)

Educational attainment in Mandurah has increased consistently across all levels since 2006 (**Figure 22**). Certificates III and IV levels account for most of the qualifications, with 45.06% of the population achieving in this category. 15.44% of qualifications are advanced diplomas, and 14.42% are Bachelor's degrees (2016). Between 2006 and 2016, the number of Bachelor's degrees have increased by almost 5%, which is the largest increase of all education types during the period. Mandurah has higher attainment levels than the Peel region in all areas of qualifications (**Figure 23**). Mandurah also leads WA and Peel in Advanced Diploma and Certificate III and IV qualifications. This is in alignment with the occupational structure of the Mandurah, where the dominant industries, such as Construction and Health Care and Social Assistance require at least certificate level qualifications.

As such, educational attainment within Mandurah is reflective of the skills required in the dominant industries.

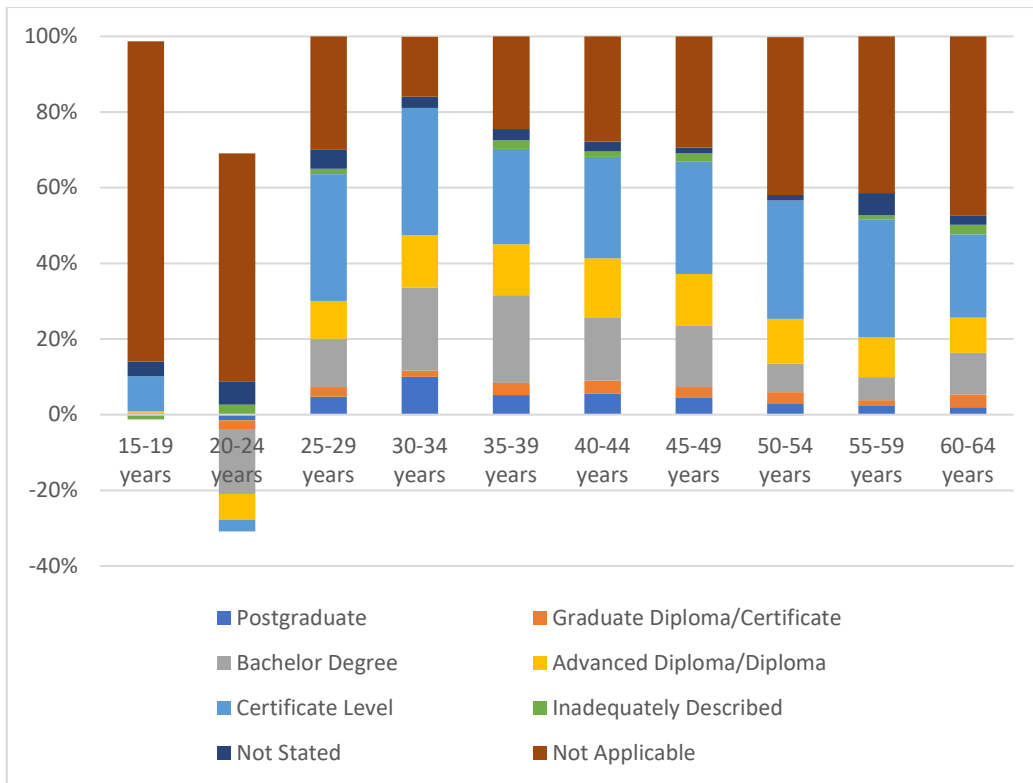


Figure 24: Mandurah analysis of Educational Attainment Level (age cohorts) based on one year and five year change in usual place of residence (ratio of persons) - 2016 (ABS, 2016a)

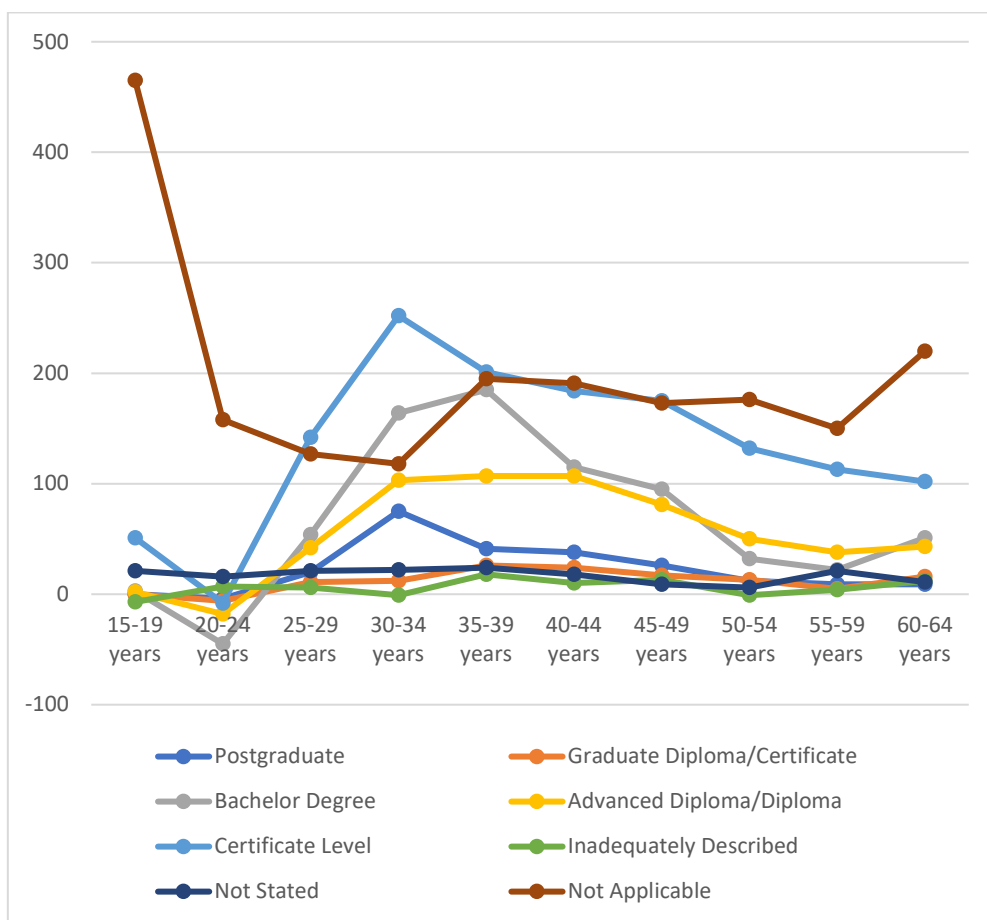


Figure 25: Mandurah - Analysis of Educational Attainment Level based on one year and five year usual place of residence (count of persons) - 2016 (ABS, 2016a)

Figure 24 and Figure 25 provides analysis of the educational attainment of Mandurah’s population based on age cohort and level of qualification. This is calculated by examining data on a persons place of usual residence in Mandurah 5 years earlier to one year prior at the 2016 census (change in population migration). By analysing the status of a residents usual place of residence, we can assess educational attainment attributes and determine whether skill development and retention occurs locally or is reliant on inward migration (such as qualified persons moving into the region, and development of tertiary skills requiring migration out of the region). Between 2011 and 2016, the data shows an outward migration of youth aged between 20 and 24 with tertiary qualifications in years denoted by the initial ‘V’ trough in both figures. By contrast, new residents in every other working age cohort are both increasing in proportion and their relative education levels. Whilst noting that the ageing of the population may provide some variability in these cohorts, the data infers a regional trend occurring in young adults leaving, either for further studies or skilled employment opportunities elsewhere.

2.3 Industry of Employment

An area’s employment profile can be assessed by either counting those who reside in that area or counting those who work there. Assessing employment by place of usual residence will identify the workforce characteristics of residents, but not necessarily the jobs available within that particular area. Conversely, place of work data indicates the workforce characteristics of all workers in an area, providing an indication of the area’s key economic drivers. Both data sets are provided in the analysis below.

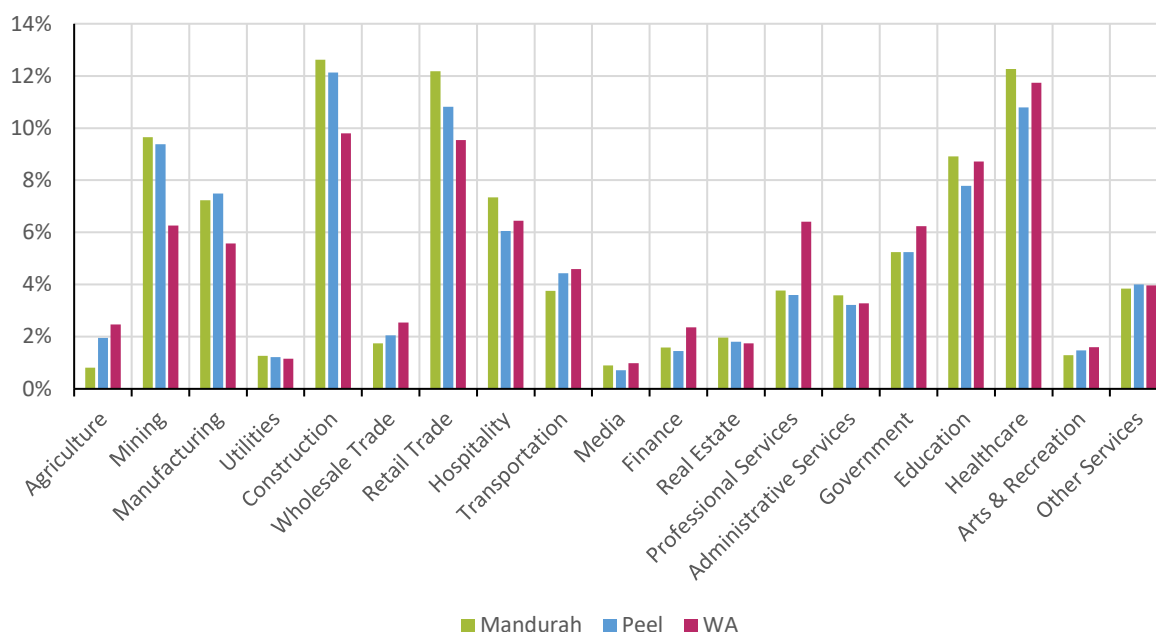


Figure 26: Mandurah, Peel & WA Employment By Industry (Place Of Usual Residence) - 2016 (ABS, 2017h)

Mining (9.65%, 2,869), Construction (12.62%, 3,755), Retail Trade (12.18%, 3,618), Education and Training (8.92%, 2,653) and Health Care and Social Assistance (12.27%, 3,649) are the five largest employment sectors for residents of Mandurah (Figure 26). Mandurah residents has a higher employment rate in these sectors than Peel and Western Australia. Agriculture and Media are the sector least occupied by Mandurah residents. Employment growth of Mandurah residents appears driven by population-based service sectors, leaving the local economy vulnerable to economic downturns or economic disruptions when household discretionary spending contracts.

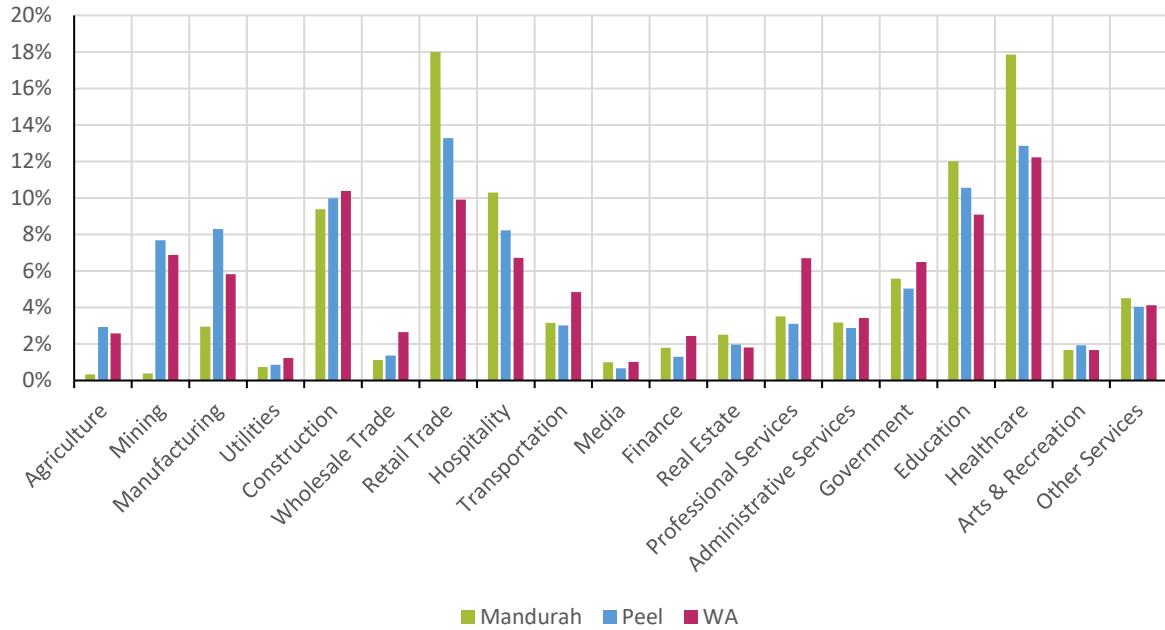


Figure 27: Mandurah, Peel & WA Employment By Industry (Place Of Work) - 2016 (ABS, 2017i)

Retail Trade (17.99%, 3,680), Health Care and Social Assistance (17.85%, 3,652) and Education and Training (12.15%, 2,456) are the largest providers of jobs located within Mandurah (**Figure 27**). Mining, Agriculture and Utilities have the lowest proportion of employment opportunities. Combined, **35.84%** of jobs within Mandurah stem from the Retail trade and Health Care and Social Assistance industries alone.

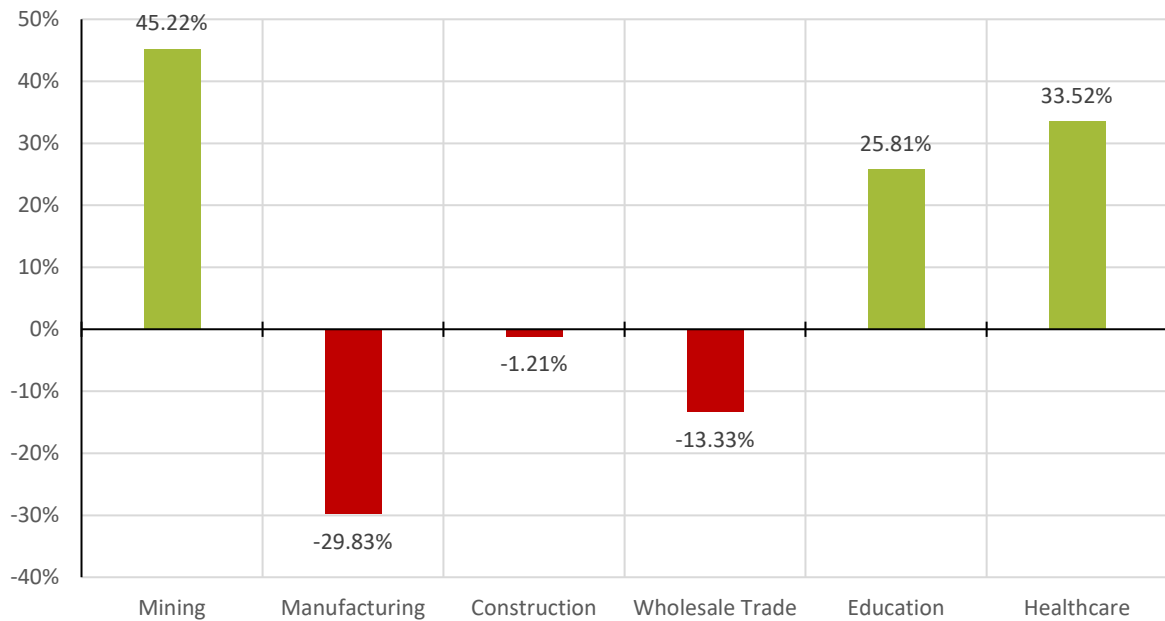


Figure 28: Mandurah Industry Growth & Decline (2011-2016 - Place Of Usual Residence) (ABS, 2017h)

The share of Mandurah residents who work in the Mining, Education and Health Care and Social Assistance sector have increased between 2011 and 2016 (**Figure 28**). Mining saw the largest increase, at 45.22%. This is followed by Health Care and Social Assistance with a 33.52% and Education with a 25.81% increase. Manufacturing (-29.83%, -914 jobs), Wholesale Trade (-13.33%, -79 jobs) and Construction (-1.21%, -45 jobs) saw the greatest decrease in the number of residents who work in the sector. The increase in employment in mining is reflective of an increase in mining activity across the

State during the period and ability for Mandurah residents to participate in the drive/fly-in drive/fly-out workforce whilst enjoying the lifestyle benefits of a regional city. The loss in manufacturing is also consistent across Western Australia, indicating that there are external forces such as automation of processing and technological change which have contributed to this decline.



Figure 29: Mandurah Industry Growth & Decline (2011-2016 - Place Of Work) (ABS, 2017i)

There are several sectors which saw an increase in the number of jobs located within Mandurah (**Figure 29**). Arts and recreation saw an increase of 41.32%, closely followed by an increase of 39.03% in the Health Care and Social Assistance sector. In addition, the Construction industry recorded an increase of 36.42%. Finally, the professional services sector has recorded an increase of 14.13%. Manufacturing saw the greatest loss of jobs within Mandurah, with a 23.38% decrease. Wholesale trade also recorded a 12.17% loss. A loss in manufacturing and wholesale trade is again consistent across Peel and Western Australia and is due to the general decline in Australian manufacturing.

2.4 Self-Containment

Self-containment is the proportion of individuals living and working in the same labour market region and is reflection of the balance between jobs and dwellings in an area. The measure indicates the propensity of residents to seek employment outside the Local Government Area or region in which they live, potentially due to an undersupply of available jobs in a specific industry. A high self-containment implies there are many jobs in an area which employ local people.

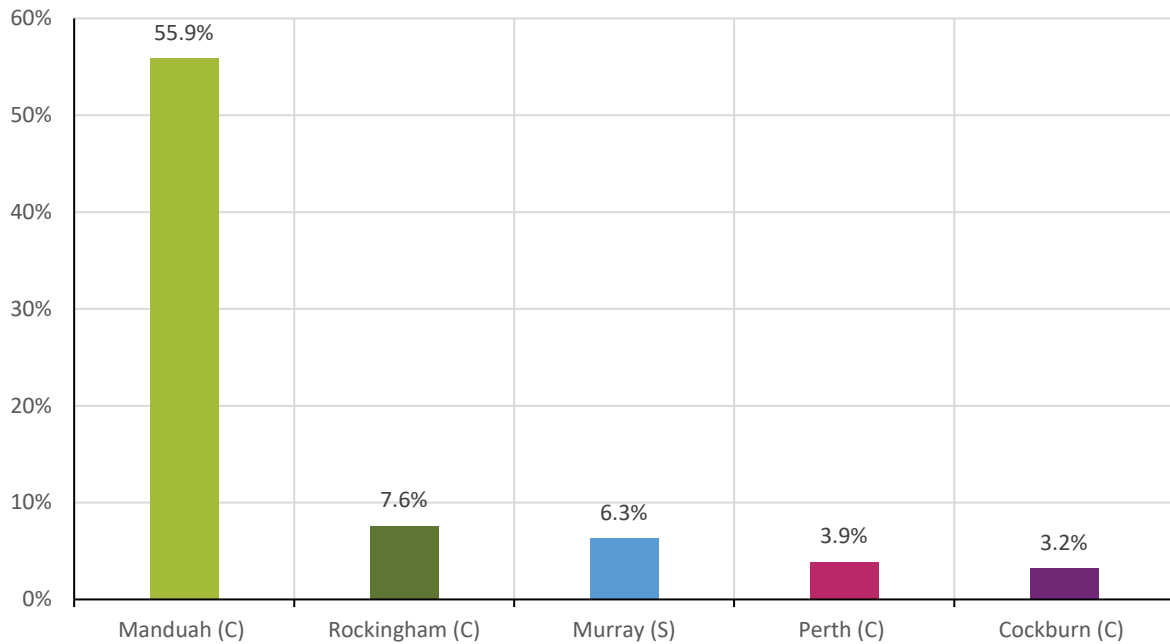


Figure 30: Mandurah Residents Place Of Work - 2016 (REMPAN, 2020a)

More than half of Mandurah’s residents, or 55.9%, work within the locality (**Figure 30**). 18.7% work in neighbouring LGAs, Rockingham and Murray. 3.9% travel to Perth and 3.2% to Cockburn to work. Approximately 8.9% of the workforce are FIFO workers, with 2,757 people working in the Goldfields and Pilbara regions.

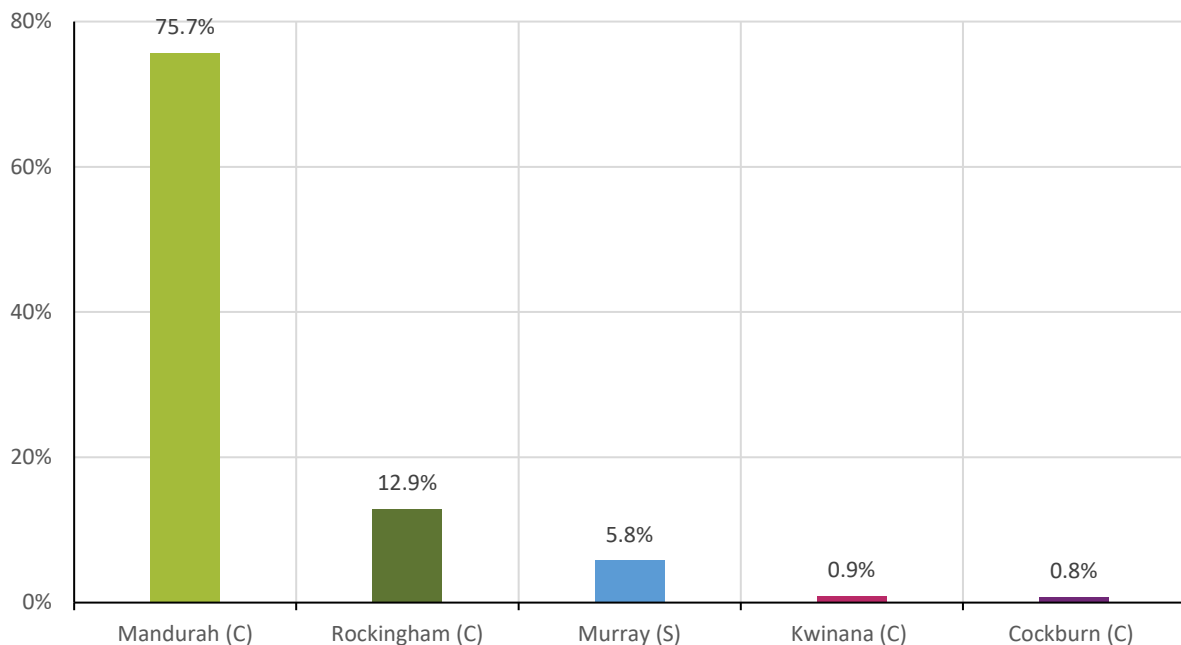


Figure 31: Mandurah Workers Place Of Residence - 2016 (REMPAN, 2020a)

More than three quarters (75.7%) of people who work in Mandurah also live in Mandurah (**Figure 31**). A further 12.9% and 5.8% of Mandurah’s workers live in the neighbouring LGAs of Rockingham and Murray, respectively. Combined, these graphs indicate a lack of jobs to support Mandurah residents which can be a contributor to high unemployment rates and low labour market participation.

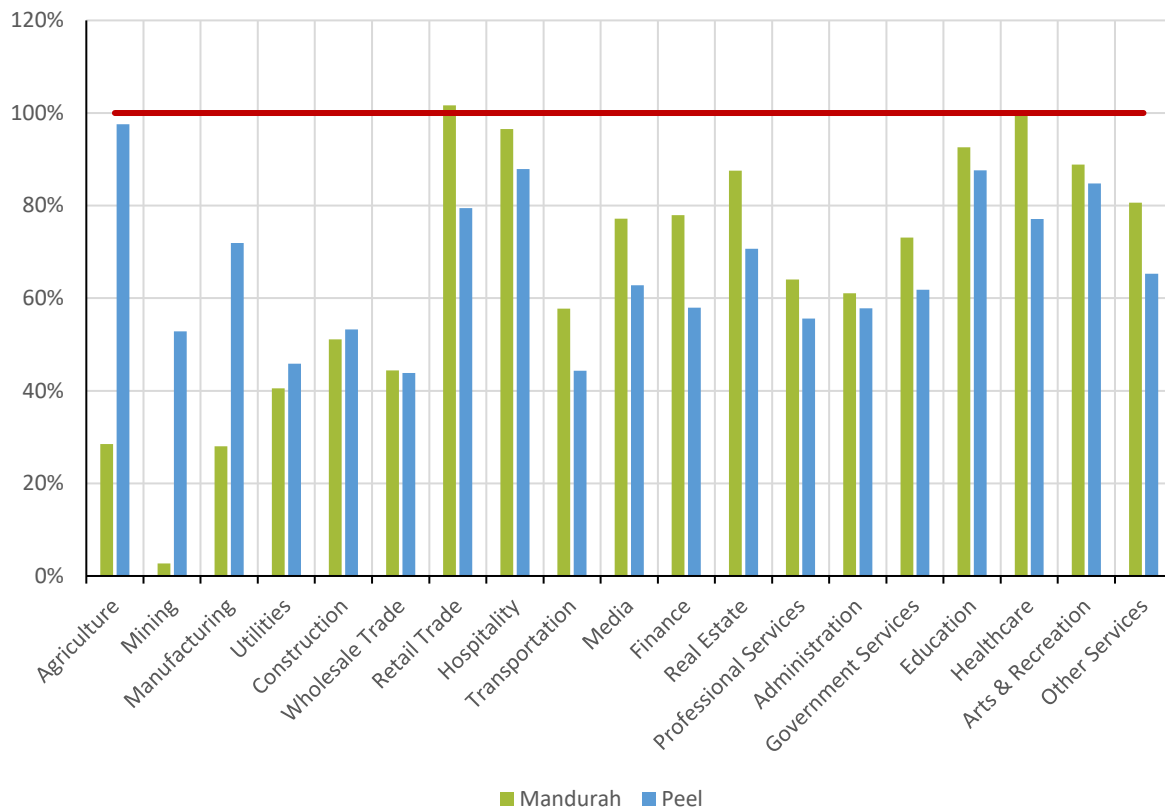


Figure 32: Mandurah & Peel Self Containment By Industry - 2016 (ABS, 2017i)

Retail (101.63%), Health Care and Social Assistance (100.05%), and Hospitality (96.52%) have the highest rate of self-containment in Mandurah indicating that these sectors are significant employers of a local workforce (**Figure 32**). Mining self-containment is extremely low in Mandurah, indicating that Mandurah is home to a significant Mining workforce who travel outside of the LGA for work.

3 Economy

Overview

The economic output of Mandurah was \$8.043 billion in 2019/2020, of which **19.7%** was contributed by the Construction industry and **16.8%** in Rental, Hiring and Real Estate Services. Construction is generally in line with each sector’s share of employment within the City. As Real Estate’s share of total economic output is derived from property services in the form rental income, it should be disregarded as a measure of economic output for the region. There was a significant gap between the top two industries and those remaining in the economy. Health Care and Social Assistance, Retail, Manufacturing and Education, each contributed between **8.6%** and **5.8%**.

Location Quotients identify the most specialised sectors within an area when compared to another, usually larger, economy, in this case comparing Mandurah to Western Australia as a whole. Since 2011, location quotient data indicates that the City has become more specialised in Mining and Agriculture and slightly less specialised in Construction, with the Hospitality and Real Estate sectors also decreasing their respective location quotients. This would indicate that Mandurah is benefiting from regional investment in Agriculture potentially linked to the promotion of these activities in the neighbouring LGA’s of Murray and Waroona including *Peel Business Park* and *Peel Food Zone*. As both these initiatives will have ongoing support from Government and will require a modest workforce with a range of skills including professional qualifications in the disciplines of advanced manufacturing and

food science, there is an opportunity for the City of Mandurah to position itself to be an education and training provider in this regionally significant industry.

The employment base in Mandurah is concentrated in Health Care and Social Assistance, Retail, and Education, which are considered high value-added sectors with ability to support the broader State, however they do not foster growth in inputs from other supporting industries (i.e. limited supply chain backwards linkages). In simple terms, this means that beyond the employees and the services they provide (human services), the industry sectors do not generate much additional purchasing of goods and services from other industry sectors within the economy. Construction is the next biggest employer after these and considering the significant increase in employment in this industry observed between 2016 and 2019, it should continue to be the largest contributor of revenue in Mandurah. By contrast to population driven sectors, Construction requires significant resources that can be sourced from within the economy thus generating growth and associated job growth.

While Construction remains the largest contributor to output in Mandurah and Health Care and Social Assistance, Retail and Education are the biggest employers, there are other industries that have significant potential. Two industries which are expected to be a future focus of the Mandurah economy are Professional Services and Arts and Recreation services. While neither of these industries have high location quotients in 2016, there are planned infrastructure projects which are expected to have future impact on their importance.

The Transform Mandurah program has identified a priority to increase Professional Services employment in the area facilitated by increasing availability of premium office space within the CBD; creating a Government services southern employment hub; and clustering of existing research centres, science-based industry, and tech companies in an Australian Waterways Centre of Excellence and investigation of a regional hydrogen innovation precinct.

The second of these industries, Arts and Recreation Services will be supported through Mandurah's investment in tourism and provides an opportunity for the City to leverage its placemaking and tourism strategies into a building a sustainable employment base, boosting the LGA's pool of local talent. This includes investment in training facilities and expanding the range of major events to build on the success of the Wearable Arts Festival, Stretch Festival and Crabfest. The expansion of waterfront infrastructure, including the development of a circular estuary pool and the redevelopment of the Eastern Foreshore provide an opportunity to maintain Mandurah's status as a daytrip location and take advantage of its proximity to Perth.

3.1 Revenue

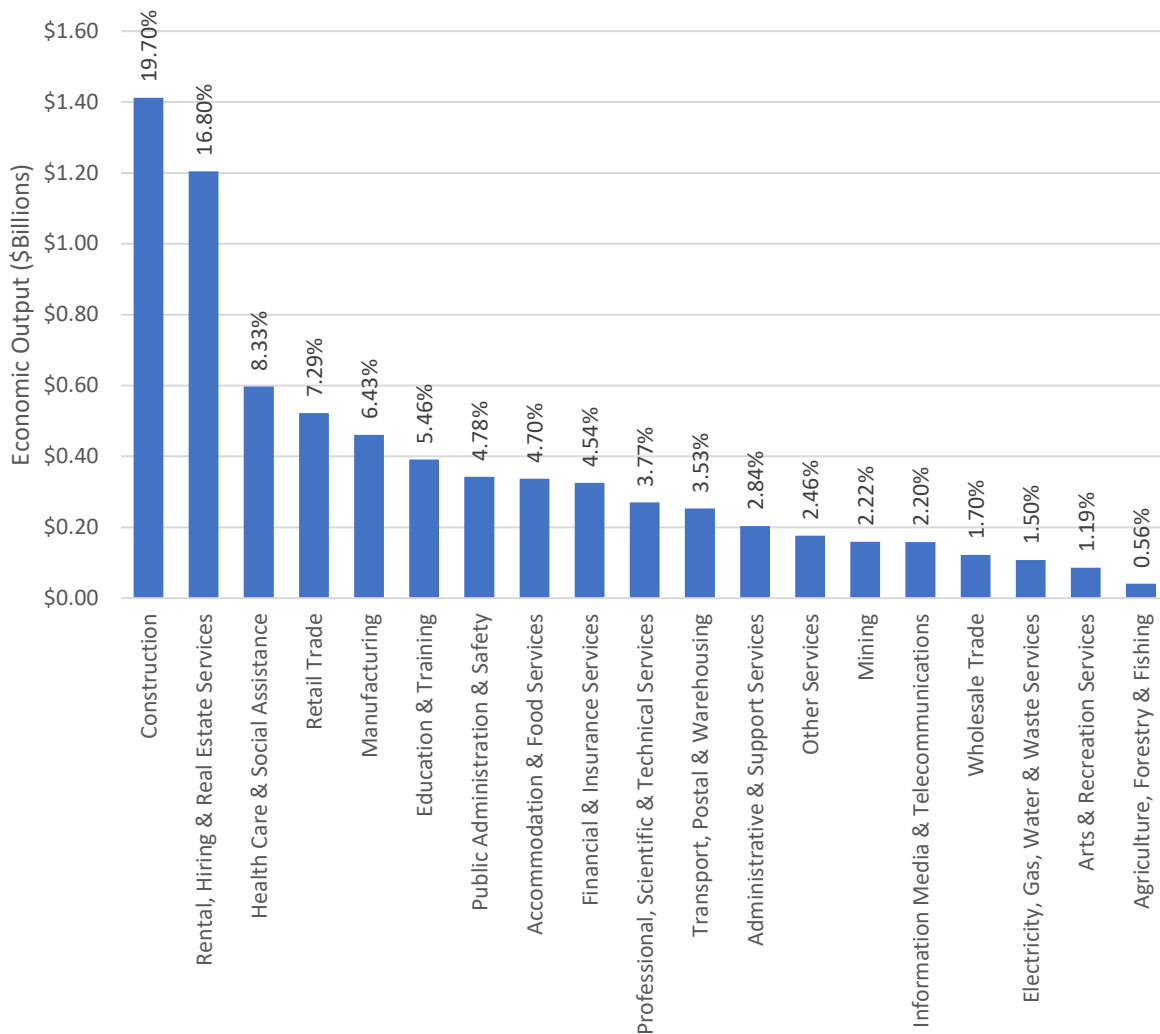


Figure 33: Mandurah - Share Of Revenue By Industry 2020 (REMPLAN, 2021a)

The Peel region had an estimated annual economic output of \$19.56 billion in 2020. Mandurah contributed \$7.16 billion to this total, which amounts to 36.6% of the annual Peel output. Construction contributed \$1.41 billion to Mandurah’s total output, which was the largest of any industry at **19.7%**. Construction is labour intensive, being the third largest employer in the region. The second and third highest contributors were Health Care and Social Assistance and Retail Trade, the biggest employers in the region. These industries made \$0.59 billion and 0.52 billion, respectively. The domestic supply and demand of the household sector in terms of housing is evident in the estimates for the Rental, Hiring & Real Estate Services, containing the ‘Ownership of Dwellings’ as residential property operators).

3.2 Jobs

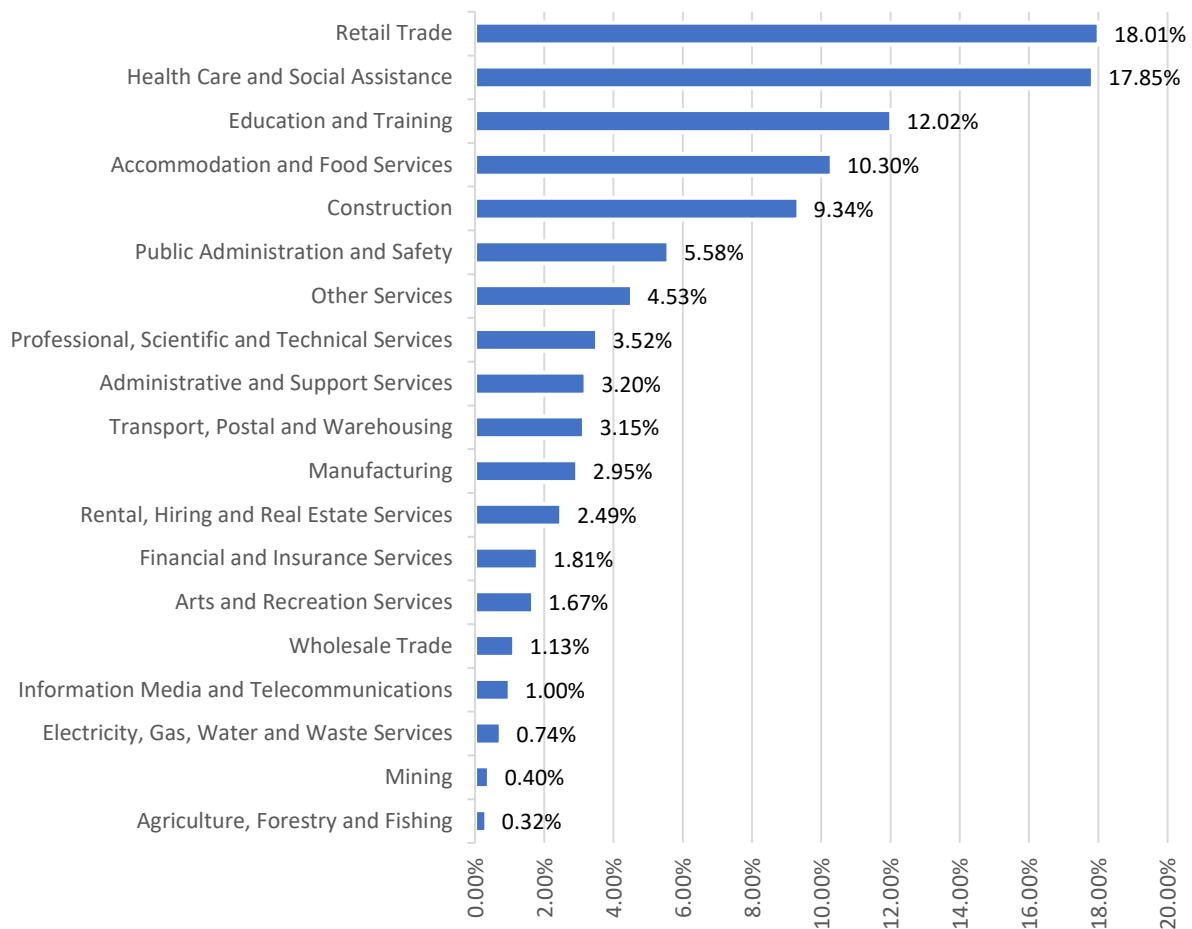


Figure 34: Mandurah Share Of Jobs By Industry - 2016 (ABS, 2017)

At the 2016 Census, Mandurah had 21,307 jobs, compared to 16,758 in 2011. 35.85% of all jobs in Mandurah are in the Health Care and Social Assistance or Retail Trade industries. Health Care and Social Assistance contributes 3,653 (17.85%) jobs to Mandurah’s economy, while Retail contributes 3,686 (18.01%) (**Figure 34**). While employment in Health Care and Social Assistance has grown by 2.18% between 2011 and 2016, Retail has declined by 1.70% relative to total jobs available in the same period. These sectors both exist to service the local population, tying the development of the economy to population growth. Education is the third largest employer in Mandurah, contributing 2,460 (12.02%) jobs. Construction is the fourth largest industry contributing 1,911 (9.34%) jobs. The Construction industry is significant because of its high value add compared to the other dominant industries. According to REMPLAN in 2020, a Construction worker accounts for \$0.159 million value add, compared to Education which is \$0.111 million, with Retail and Health Care and Social Assistance being lower (REMPPLAN, 2020c).



Figure 35: Proportion Of Businesses By Number Of Employees - 2006-2016 (ABS, 2017j)

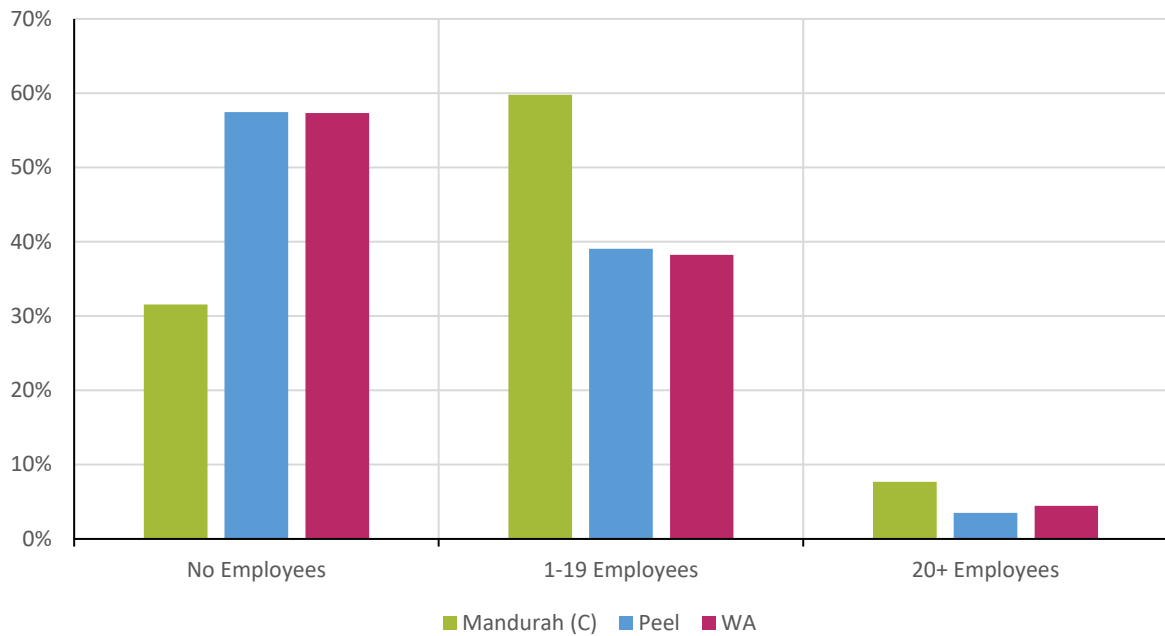


Figure 36: Proportion Of Businesses By Number Of Employees - Mandurah, Peel & WA - 2016 (ABS, 2017j)

The proportion of businesses by number of employees over time in Mandurah has been gradually rising (**Figure 35**). Sole traders declined from 2006 to 2016 from 39% to 31%, whilst businesses between 1 and 19 employees have increased from 55% to 60%. In addition, businesses with 20+ employees have risen steadily from 4% in 2006 to 5.5% in 2011 and finally to 7.67% in 2016. The total count of businesses in Mandurah has declined between 2019 and 2020, falling from 4,630 to 4,513 (**Figure 36**). In this period, the largest decline was between 2019 and 2020, where the number of Businesses fell from 4,646 to 4,513 (ABS, 2021g). This decline was most significant among the Electricity, Gas, Water and Waste Services (42.9%) and Arts and Recreation Services (12.3%) industries. This was followed by Manufacturing (9.9%) and Construction (9.6%). Construction has the greatest proportion of businesses of any industry in Mandurah despite the decline in this period, falling from 1,130 to 1,021.

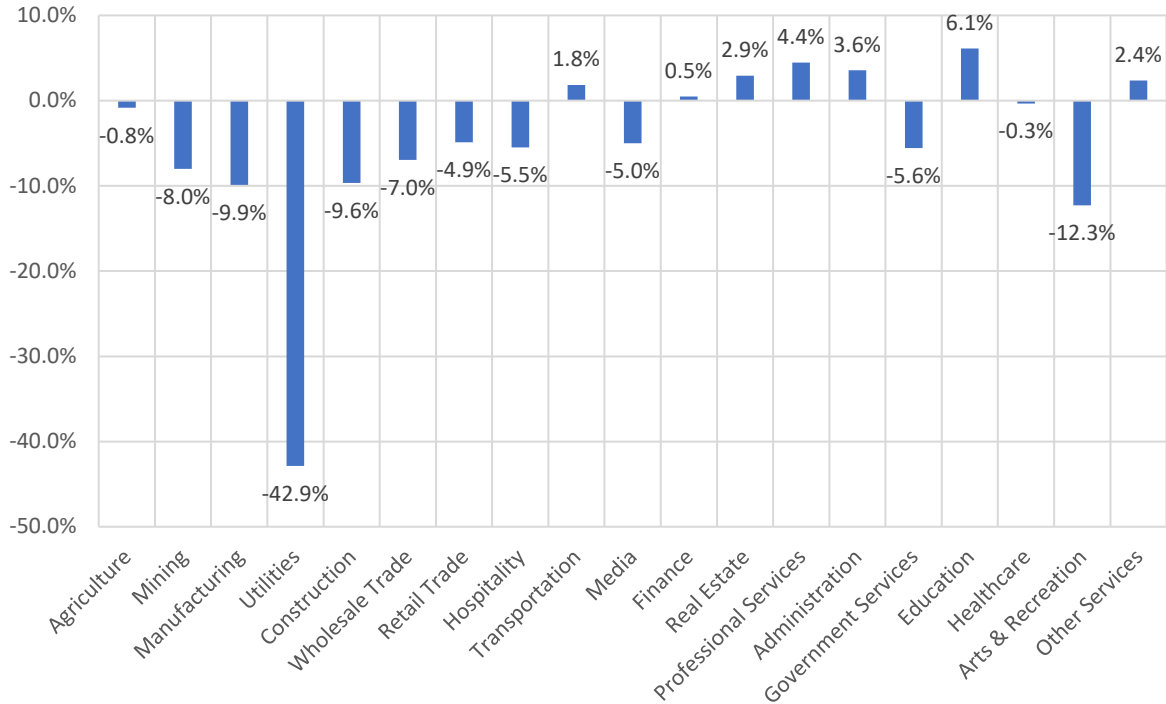


Figure 37: Change In Businesses In Mandurah By Industry Sector - 2019-2020 (ABS, 2021g)

3.3 Location Quotient

An area’s location quotient (LQ) represents the proportional employment in the locality when compared to another, usually larger area. In this instance, both Peel and Mandurah have been compared to WA. The higher a LQ is, the more relatively specialised an area is in a particular sector.

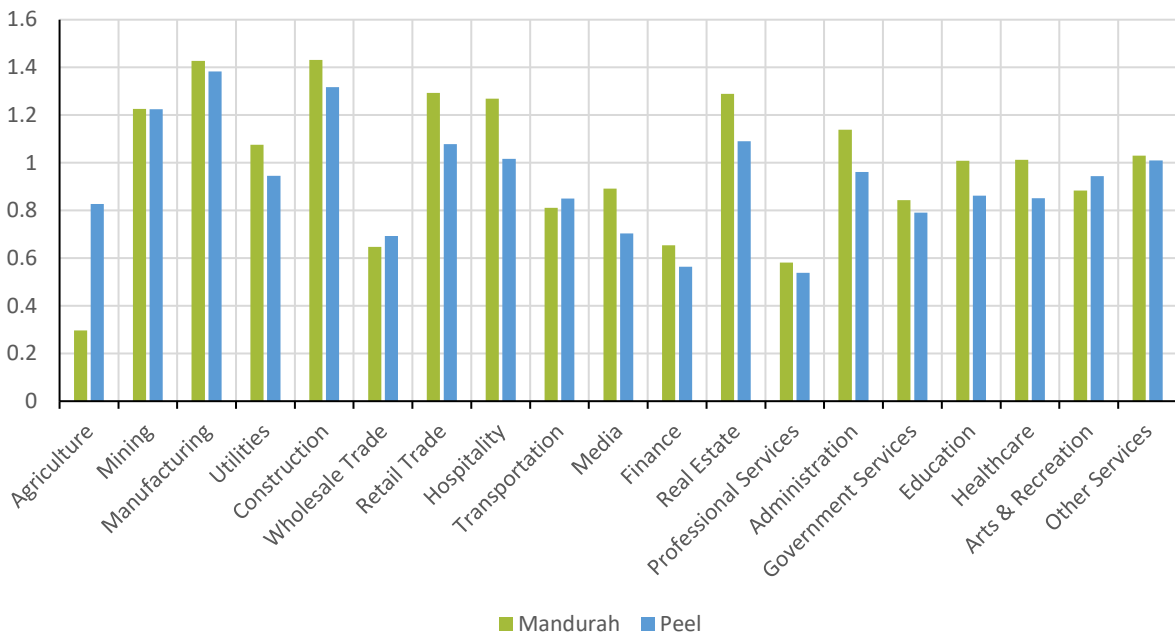


Figure 38: Mandurah & Peel Location Quotients By Industry 2011 (ABS, 2012)

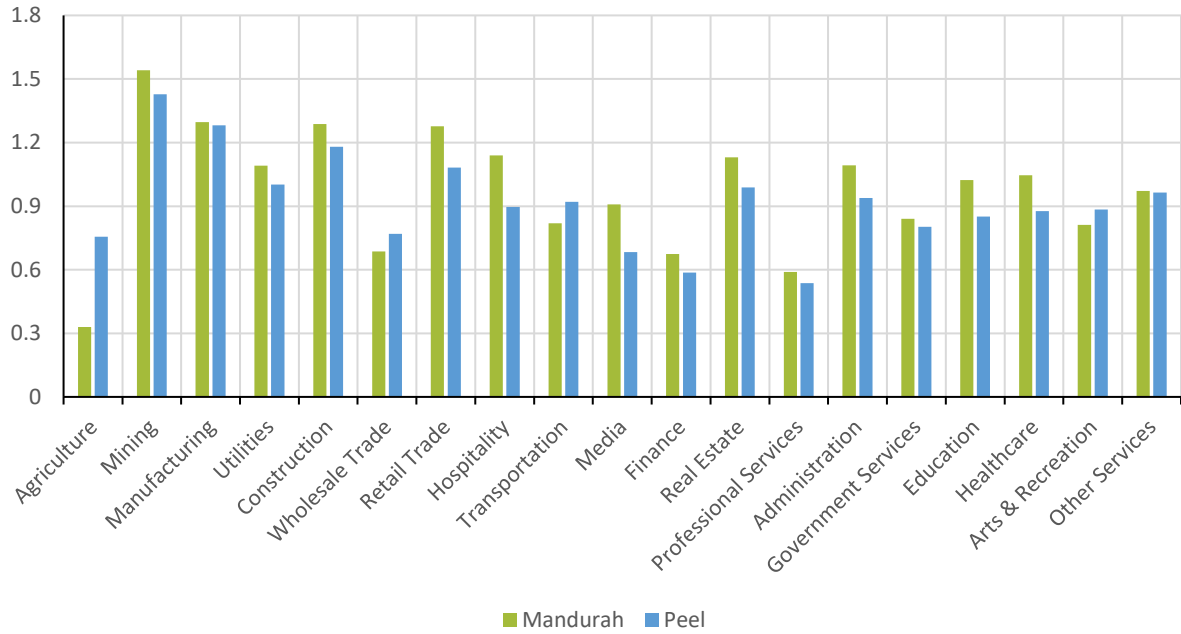


Figure 39: Mandurah & Peel Location Quotients By Industry 2016 (ABS, 2017i)

In Mandurah, the most proportionately significant industries have shifted between 2011 and 2016. In 2011, the industries with the highest LQs were Manufacturing and Construction, both industries declined in 2016 (Figure 38 and Figure 39). Conversely the Mining industry rose from an LQ of 1.23 in 2011 to an LQ of 1.54 in 2016. Compared to the wider Peel economy, Mandurah has had consistently higher LQs in most areas, apart from agriculture and to a lesser degree, Arts and Recreation and Wholesale trade.



Figure 40: Mandurah Change In Location Quotients By Industry - 2011-2016 (ABS, 2012; ABS, 2017i)

Changes in LQs can provide indications of industry sectors that are growing or declining within a locality (Figure 40). Sectors with a LQ over 1 that record increases over time may be considered strongly performing employment sectors, with the prime example of this being the Mining industry. Those with increasing LQs below 1 may be considered emerging industries, with Wholesale Trade being an example of this. Contracting industries in Mandurah include Construction and Hospitality.

The strongest performing industries relative to the reference economy are Agriculture and Mining, both of which are predominantly long-distance commuting (LDC) industries, whether it be fly-in/fly-out (FIFO) or drive-in/drive-out (DIDO). These industries are providing employment for Mandurah residents while maintaining the lifestyle amenity present in Mandurah. However, the FIFO lifestyle can have significant impact on the health of both families and workers (Haslam McKenzie and Hoath, 2014).

3.4 Key Industries

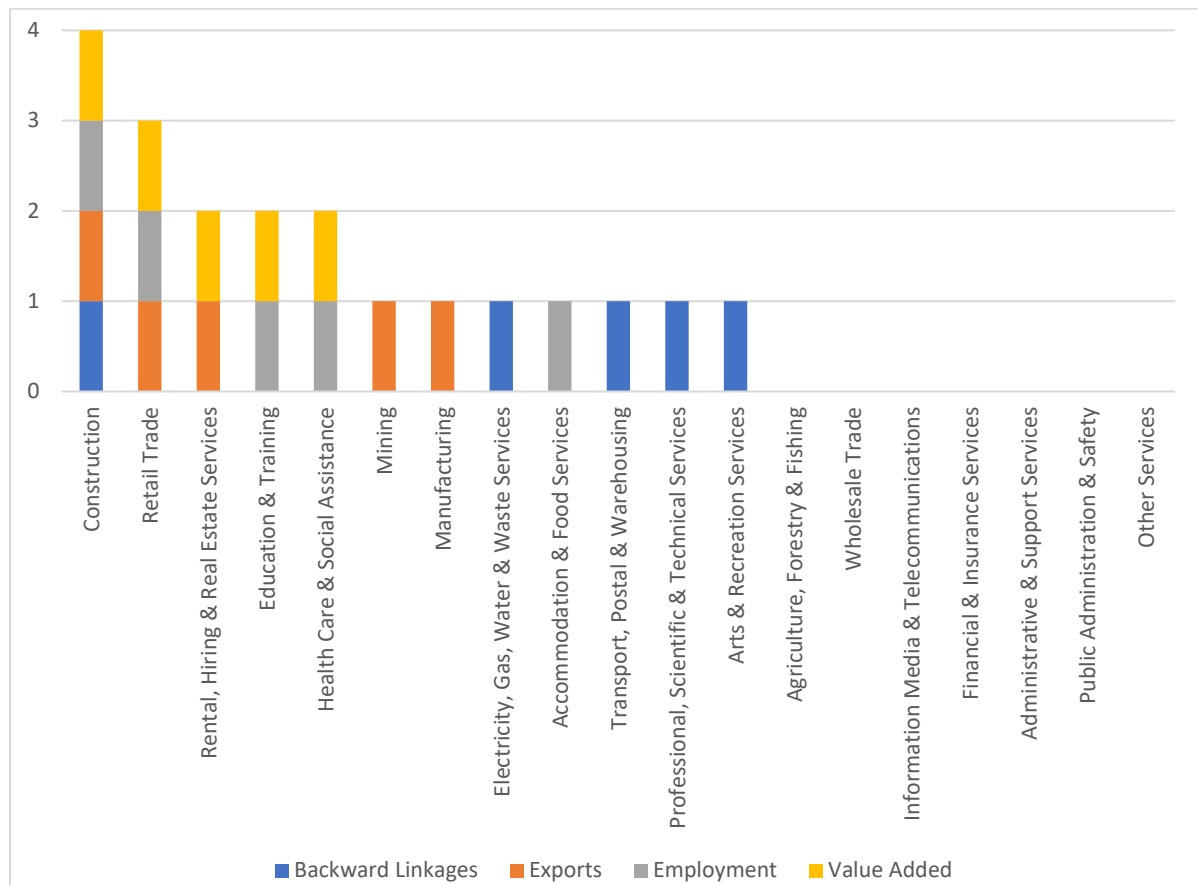


Figure 41: Mandurah Key Propulsive Sectors (2020d)

REMPPLAN Economy utilises economic analysis to provide an analysis of the sectors which underpin the City of Mandurah as the key economic drivers for the City’s economy (**Figure 41**). Sectors are identified in four categories, which can be summarised as follows (REMPPLAN, 2020d):

Backward Linkages: Sectors which spend the largest proportion on locally sourced intermediate goods. These can be seen as sectors that have a well-developed local supply chain and therefore can derive broad benefits to the region through economic multiplier expenditure.

Regional Exports: Represents an inflow of money into the City of Mandurah region as a result of the sale of goods or services to business outside the City of Mandurah or as a result of people outside of the region.

Employment: This represents the proportion of people employed in the sector, compared to the overall employment composition in the economy.

Value-Added: Represents the value added by sectors of the economy. As an intermediate measure to Gross Regional Product, this represents the relative importance of a sector in terms of its economic contribution to the broader State economy.

The Construction industry is currently the most propulsive in Mandurah. Construction is tied to the City's population growth, overall consumer and business sentiment, strength of the broader property market and lending/finance costs. These factors may cause cyclical shifts in economic performance of the City as a result, and therefore diversification and/or specialisation of the City's economic is a critical area to focus on examining. Retail trade is also identified as a key propulsive sector, which is built upon the City of Mandurah's large population base, along with its importance as a Strategic centre under the states planning framework (Department of Planning, Lands and Heritage, 2018). Ongoing local and regional population growth, along with tourism visitor attraction facilitates this sectors growth and expansion, and therefore land use and planning will provide a specific function in this sectors development.

Both Education & Training and Healthcare & Social Assistance have employment and value-added as two of the four identified categories of a propulsive sector, demonstrating the importance of these sectors in the context of a population services driven economy and in the context of future population growth as well as their contribution to the State as a whole. Investment in both sectors will continue to assist with the economic diversification of the economy and provide opportunities for specialisation in certain sectors which demand either developed sectors as a driver. For example, manufacturing capability can further support the regional mining sector or agricultural productivity. Furthermore, education & training can support the skill demand in professional, scientific and technical services, hospitality training (Accommodation & Food Services or Arts & Recreation Services (Tourism)). Therefore, while this information assists in identifying key sectors of focus overall, there is the need to understand and interpret this information for stakeholders to determine how to best leverage investment, people and natural resources.

4 Infrastructure

Overview

The City of Mandurah's persistent population growth, proximity to metropolitan employment centres and its status as a future urban growth centre places significant infrastructure demands on the City in the immediate to medium term. Whilst the City has a broad range of services that support the existing resident and visitor population, there are some notable gaps, particularly in the quality and diversity of education available at all levels and specialised healthcare including aged care services available to residents.

Education

The City experiences lower educational attainment compared to State averages which is in part reflective of sustained socioeconomic disadvantage and historically narrowly focused educational infrastructure with limited access to tailored support. There are now a total of 24 schools in the City, with growth in the City's northern suburbs prompting the construction of a new primary school at Madora Bay Primary School to be completed by 2023. The current expansion of the South Metropolitan TAFE campus to include a hair and beauty training facility and co-located hospitality and tourism training centre will service the growing population of people and in particular youth seeking to engage in vocational education and training to meet the demand for skilled workers within the local tourism economy. Importantly, the project will also benefit the broader community by providing a low-cost hub for the public to access these services whilst supporting student's learning environment. The model highlights the opportunity to foster specialisation and linkages within primary, secondary and vocation/tertiary education centred around promoting an education pathway to employment where there is a tangible need.

Health and Social Services

The South Metropolitan Peel Sub-Regional Planning Framework (2015) identifies Mandurah as a Strategic Metropolitan activity centre providing the main regional activity and servicing the surrounding population. The service capability of Mandurah's health care and social assistance sector therefore needs to respond to the requirements of the broader Peel population. Currently health and social assistance services are generalised and overstretched. The commitment to a \$152 million redevelopment and expansion of the Peel Health Campus will see a significant lift in the capability and capacity of the public health infrastructure including Emergency Department available in the region. A growing aged population highlights not only the need to provide further medical and health care options but also the opportunity to expand into specialised fields of medicine, medical research and training. Similarly, an increasing CALD community and Aboriginal population within the City, may necessitate the provision of specific Indigenous health care and culturally competent health care and additional education and training for this specialised workforce.

Public Amenities

There is a variety of sports and recreational facilities available to the public, with a range of multi-sport open spaces and associated clubhouses with integrated community infrastructure such as halls and commercial kitchens. In recent years, the City has concentrated efforts to facilitate greater youth engagement through targeted infrastructure such as the Mandurah Skate Park and Circular Estuary Pool including scheduling events to promote use and broader community participation. The two sites form important components of the Mandurah Foreshore Redevelopment aiding to link the east and west sides of the estuary reaffirming the Mandurah Town Centre. With the City predicted to expand by 8,153 dwellings in the longer term (Urban Land Development Outlook), investment in the amenity and character of Central Mandurah will aid in attracting higher density residential redevelopment including new commercial development to meet an aspirational commercial floor space capacity of 22,900 square metres by 2030.

Utilities to support sustainable intensification

The capacity of existing utilities and services in parts of Mandurah present a barrier to growth, residential intensification, and the ability to meet density targets within the City. Advocating for the advancement of the Water Corporation's infill sewerage program in the areas of Falcon, Halls Head and Dawesville areas would enable timely redevelopment of these older suburbs, transition towards a mixture of housing options as well as address the land contamination impacts of discharge along the City's sensitive coastal environment.

Transport

The addition of a new train station at Lakelands in 2023 as well as the recent completion of the multi-storey car park at Mandurah station will provide residents additional transport options and ease pressure on the City's existing road network especially for peak time north and south movement. Both projects will see additional focus and opportunity to deliver a comprehensive pedestrian and cycling network as an alternative to private car trips by linking stations with surrounding suburbs and key employment and activity areas. The increasing popularity and use of electric bikes and scooters is likely to increase achievable commuter distances bringing about greater community demand for an integrated and safe off-road shared path network throughout the City. *Perth and Peel @ 3.5 Million* outlines further investigation into a long-term contingency station at Gordon Road in Mandurah and establishing a high-priority transit corridor between Mandurah and Pinjarra to strength the eastward link to the Shire of Murray. Longer term, the proposed extension of Mandjoogoordup Drive to intersect with the southern extension of Tonkin Highway will also open the City to the East including future employment centres at Nambeelup.

4.1 Services

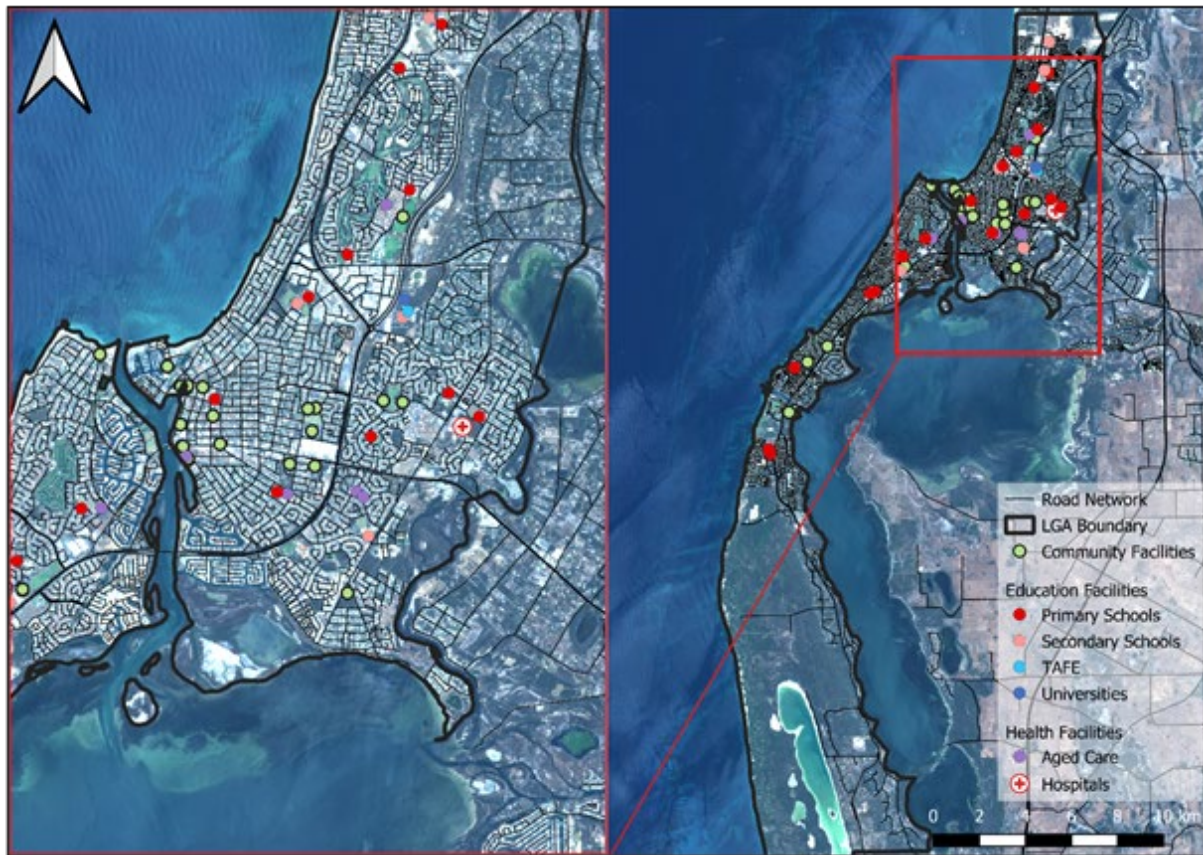


Image 1: Mandurah Community, Education & Healthcare Facilities

Education

Table 5: Education Facilities In Mandurah (C)

Education Service	Number of Services	Public	Private
K - Year 6	16	Dudley Park Primary School; Falcon Primary School; Glencoe Primary School; Greenfields Primary School; Halls Head Primary School; Lakelands Primary School; Mandurah Primary School; Meadow Springs Primary School and Meadow Springs Education Support Centre; North Mandurah Primary School; Oakwood Primary School; Ocean Road Primary School; Riverside Primary School and Riverside Education Support Centre; South Halls Head Primary School; Madora Bay Primary School (opening 2023)	St Damien's Catholic Primary School Assumption Catholic Primary School

K- Year 12	5		Frederick Irwin Anglican School; Mandurah Baptist College; Living Waters Lutheran College Halls Head; Mandurah Baptist College; Mandurah Catholic College.
Year 7 - 12	4	Coastal Lakes College; Coodanup Community College; Halls Head Community College and Halls Head College Education Support Centre (year 7-10); John Tonkin College and John Tonkin College Education Support Centre (year 11-12).	
Public Vocational Training	1	South Metropolitan TAFE Mandurah Campus – Cert II – IV, specialised occupations	A number of private registered training organisations provide services within the City
University	1	Murdoch University Mandurah Campus - Nursing	

Of the twenty five (25) schools in Mandurah, nine extend to Year 12, four are specific high schools (Year 7 – Year 12), with the rest either primary schools (Kindergarten – Year 6), or Kindergarten – Year 12. A new primary school, Madora Bay Primary School has been confirmed for Mandurah's northern suburbs with an expected completion by the 2023 school year.

Vocational education and training is provided by South Metropolitan TAFE Mandurah Campus and a number of small registered training providers. Offerings are limited to focus on Certificate II through IV in industry sectors such as construction, hospitality, health, social services, business and beauty therapy.

Murdoch University Mandurah Campus is the sole higher education operator in Mandurah specialising in health courses, including Nursing and a Post-Graduate Counselling degree.

The lower educational attainment of Mandurah residents is reflective of the educational infrastructure in the locality. An aspiration to diversify the local economy and grow professional workers may require investment in growing the local post-secondary offerings of both the VET and university providers alongside investigations into potential satellite hubs.

Health Care

The Peel Health Campus general hospital is located in Mandurah and services the Peel region through 206 licensed beds, bays and treatment spaces. The Campus provides a range of healthcare services with 24-hour emergency care centre and comprehensive medical, surgical, maternity and rehabilitation services. The site accommodates a specialised medical centre catering for visiting specialists as well as pharmacy and diagnostic services.

Mandurah Community Health Care Centre located adjacent the Peel Health Campus provides publicly funded community health programs and clinics for adults and children including:

- Community health nursing;
- Dietetics;
- Occupational therapy;
- Physiotherapy;
- Podiatry; and
- Child health nurse.

A dedicated Aboriginal Health and Wellbeing Centre, Nidjalla Waangan Mia, is co-located at the site.

Peel Health Hub located centrally near the Mandurah train line provides a one stop shop for the primary health needs of young people, adults, families and carers in Mandurah and the broader Peel region. A range of services are available including GPs, mental health, alcohol and other drugs, and support for people experiencing assault, sexual abuse and family violence.

A range of allied health and diagnostic services are available through private providers either located in Mandurah or attending regularly as visiting specialists in areas such as physiotherapy, occupational therapy, podiatry, chiropractic, nutrition, and a range of medical imaging services.

A growing population, particularly with growth in the over 55 cohort, highlights a need to provide further medical and health care options and an economic opportunity to expand into specialised fields of medicine, medical research and training. Similarly, an increasing CALD community and Aboriginal population within the City, may necessitate the provision of specific Indigenous health care and culturally competent health care and additional education and training for this specialised workforce.

Seniors Services

As at June 2019 there were 24 residential aged care facilities located in the City of Mandurah with a number of providers within and outside of the region providing home care packages. The number of both residential aged care and in home care places demanded in the City is projected to increase significantly over the period to 2031 primarily driven by an increase in the number of adults aged over 70 creating opportunities for future investment and job creation. (*Peel Opportunity Assessment and Profiling, Regional Development Australia Peel, October 2019*).

The Mandurah Seniors and Community Centre offers a meeting place for people aged over 55 to engage in a variety of activities, services, affordable meals and special events. The Centre offers a range of health and wellbeing services on site including chiropractic, beautician, podiatry, library outreach and digital assistance.

Sport and Recreation

There are a variety of sports and recreational facilities available to the public, with a range of multi-sport open spaces and associated clubhouses with integrated community infrastructure such as halls and commercial kitchens. Mandurah has an active recreation strategy, which provides benchmarks for active open space. It also recommends that the City provide a total of 13 active open spaces to cater to the growing population, taking into consideration both children, young adults and adults. Five active recreation sites were identified across local structure plans, including Ocean Road Primary School, Lakelands District Open Space (three spaces identified at this site) and Madora Bay Primary School.

The locality offers many scenic walking and bike trails along the coast, around the Peel Harvey Estuary and amongst the Yalgorup National Park.

Mandurah has three libraries', supporting the southern, central and northern suburbs with literary options, community spaces, community building activities and tech support.

The City of Mandurah Youth Development Team operate from the Billy Dower Youth Centre offering a range of free or low-cost programs and activities for the 11-25 year old cohort across a variety of locations. Programs include a driver education programme, and a Youth Dream Big Fund designed to help financially support young people in pursuing their specific dreams or goals or upskilling and developing talents.

4.1 Land Use

Residential land

The Urban Land Use Development Outlook (ULDO) is developed by the Department of Planning, Lands and Heritage and outlines urban land use in the short, medium and long term. The ULDO states that in the short term, the City of Mandurah is expected to see an increase of **3,172** dwellings including 2,400 single dwellings, 745 multiple dwellings, 27 “other” dwellings. In the medium term, there is an expected **2,372** dwellings. Of these, 1,225 will be single dwellings and 1,147 will be multiple dwellings. In the long term, 1,889 single dwellings and 720 multiple dwellings will be built, combining for a total of 2,609.

The City’s Urban Form and Housing strategy outlines a range of density targets within the City. There are pockets of high-density housing growth within the City centre, as well as further south in Falcon. In the City, high density is surrounded by areas of medium density. There are also areas of low density, close to inlets and waterways. In the suburbs of Mandurah, the strategy shows standard density.

Commercial land

The ULDO also outlines future commercial land development in the short, medium, and long term. In the short term, a total of 8,900 square metres is expected to be developed. In the medium term, 14,000 square metres is expected to be developed. The ULDO does not outline any expected long-term commercial land use.

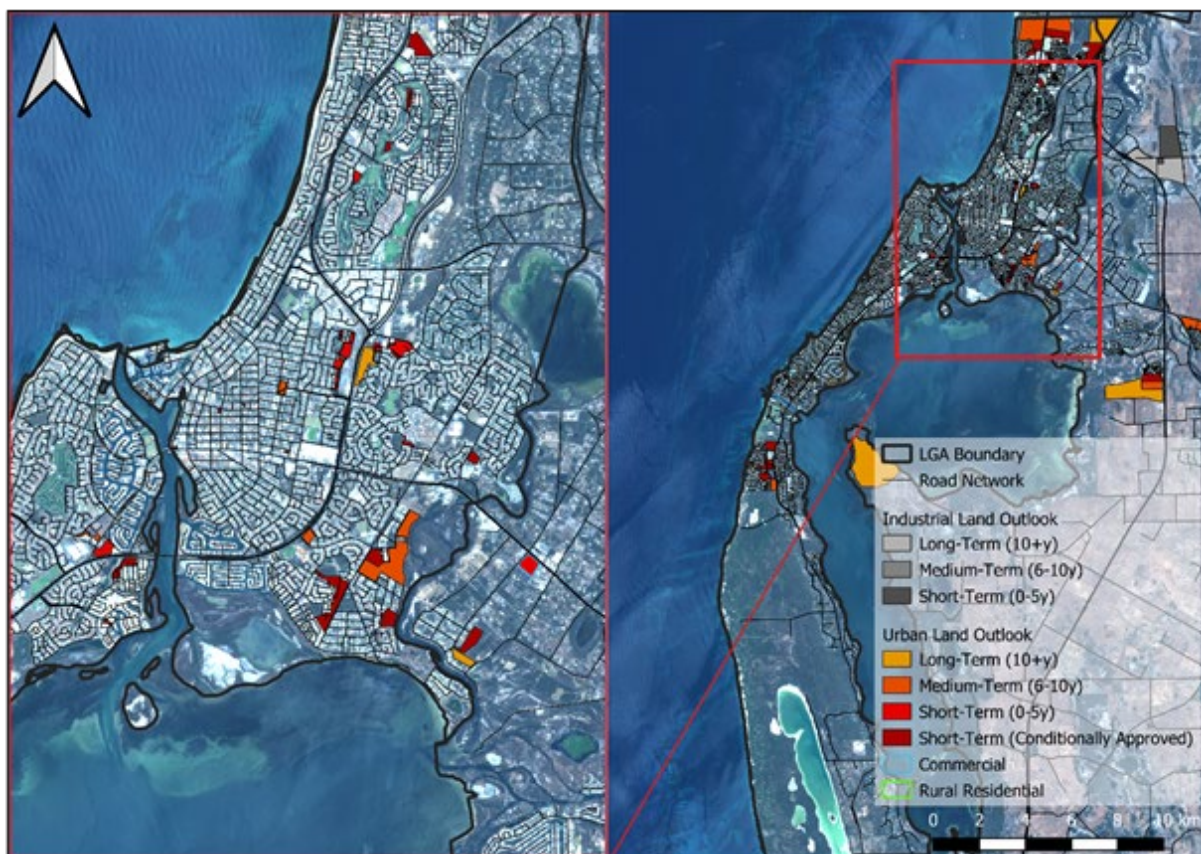


Image 2: Mandurah Land Development Outlook

4.2 Utilities

Power

Electricity is supplied to the City through 132 kV and 330 kV transmission power lines that are connected to a terminal in Mandurah, which is connected to the Kwinana network. *Perth and Peel @ 3.5 Million* outlines an additional 132kV Infrastructure Substation that is proposed to be built in Nambeelup. In addition, it describes an upgrade of 132kV power lines between Waikiki to Mandurah, Mandurah to Furnissdale to Pinjarra, and Cannington to Meadow Springs to Pinjarra.

Water

The City of Mandurah's potable water supply is sourced from the Water Corporation's Integrated Water Supply Scheme (IWSS). The IWSS accesses water from four sources; surface water, ground water, desalinated seawater and groundwater replenishment. While surface and ground water have traditionally fulfilled the needs of Mandurah and the wider Perth region, a greater emphasis has been placed on desalination and groundwater replenishment in recent years as the importance of seeking climate independent water sources as increased. Mandurah is served by three wastewater treatment plants at Gordon Road, Halls Head and Caddadup. These facilities dispose of treated wastewater into the superficial aquifer by passive recharge. Treated wastewater is utilised for the irrigation of open space, which combined with water efficiency programs firmly establishes the LGA as a leading Waterwise Council in Western Australia. Beyond municipal open space irrigation uses, there may be an opportunity to harness surplus wastewater to a value-add industry. These opportunities are currently under analysis by the Water Corporation with decisions anticipated in late 2022.

The rapid expansion of urban development in some areas necessitates the development of greater water storage facilities to increase pressure for reticulated distribution. Examples of this include the suburbs of Bouvard and Parklands. Mandurah's access to non-potable groundwater supplies is currently limited in the northern suburbs. Considering these areas are some of Mandurah's fastest growing suburbs and with the expansion of active open spaces and recreation spaces to service this population, an alternative water supply is needed. This water supply may be sourced from an extended program of recycled wastewater distribution from the Gordon Road Waste Water Treatment Plant, however this will require the construction of new piping and consideration of this option is subject to the analysis mentioned above.

Transportation

The City's primary point of connection with Greater Perth is the Kwinana Freeway, via Mandjoogordap Drive, Paganoni Road and Gordon Road. Pinjarra Road connects Mandurah to the Shire of Murray. Old Coast Road and Forrest Highway are the primary routes connecting Mandurah to the southern regions of Western Australia. These roads act as regional distributors.

Mandurah train station connects the Mandurah residents via the Metronet rail network to Greater Perth. It is the only regional train station connected to the Transperth network as opposed to the TransWA network. A further train station is currently under construction at Lakelands, and a multi-storey car park has been built at Mandurah station to facilitate ease of access for commuters. *Perth and Peel @ 3.5 Million* outlines further investigation into a long-term contingency station at Gordon Road in Mandurah.

Mandurah City Centre is relatively well serviced by buses, with 25 routes connected to Mandurah Station (Image 5). There are also bus services to Pinjarra, as well as Perth. A ten-year plan has been endorsed by Mandurah to develop a cycle-network, which will see existing paths upgraded, and key missing linkages addressed.

In addition, a high priority, high frequency transit corridor between Mandurah-Ravenswood-Pinjarra has been outlined in *Perth and Peel @ 3.5 Million*. It is identified that these corridors will “provide public transport connections between activity centres, population catchments, rail stations and local bus services”.

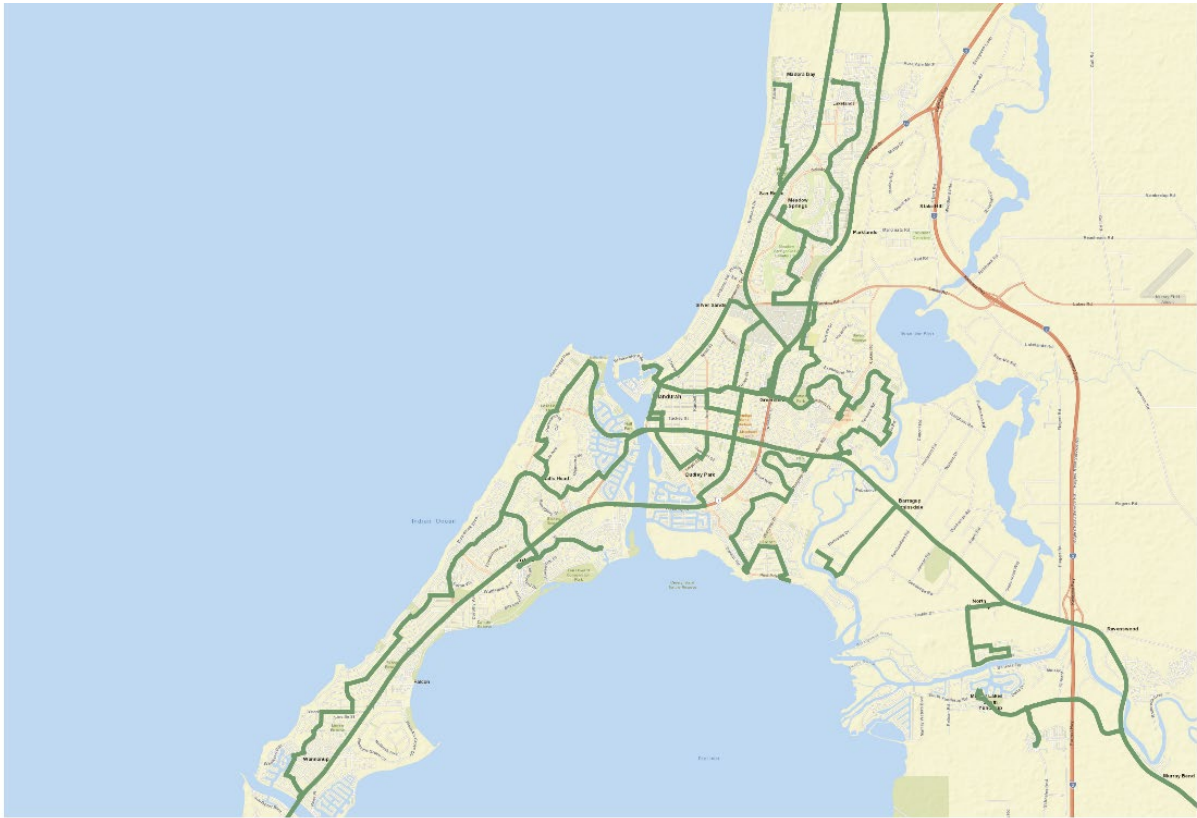


Image 3: Public Transport Network - Bus Routes

Part B:

5 Case Studies

5.1 Institute for Marine and Antarctic Studies (IMAS): Hobart

The concept of an Australian Waterways Centre of Excellence (AWCE) in Mandurah proposes a similar function, gathering the previously dispersed industry for water technologies that has organically developed within Mandurah. This includes the 140 PHD students who operate in the area annually; a Murdoch University research group; a natural resource management organisation; and water related government services. The idea of this hub is to concentrate these decentralized but related entities into an agglomerated hub of innovation, which aligns with the IMAS development in Hobart.

The Peel-Harvey Estuary is recognised as a wetland of international importance under the Ramsar Convention. All components of the Ramsar wetlands and the waterways that drain into it are under threat from increasing development, exacerbated by their extreme vulnerability to the drying climate. The Peel-Harvey estuary, rivers and waterways are in very poor health. It is likely that without a transformational approach to their management, a further reduction in rainfall and streamflow will see the estuary system collapse.

The waterways are central to local community values, being significant to the local lifestyle, economy and are synonymous with the Peel region. Development of a Centre of Excellence has the potential to support broad monitoring and interventions, raise the profile of the natural asset and the management approach and bring about innovations in management through enabling connections.

The Institute for Marine and Antarctic Studies in Hobart is an example of how to successfully create an innovation hub related to environmental sciences. The hub was announced in 2009/10 as a purpose-built facility for marine and Antarctic sciences in Hobart with \$45 million funding from the federal government Australian Government Capital Grants Program (CGP). The site was established by the University of Tasmania in conjunction with CSIRO and Australian Antarctic Division. Prior to the built infrastructure Hobart had a strong existing marine and Antarctic sciences industry, the development of the IMAS enabled the co-location of dispersed agencies and businesses into a co-operative research space.

The IMAS hub is located at Princes Wharf No. 2 Shed, on the Hobart waterfront, adjacent to the CSIRO Marine and Atmospheric Research Centre providing a central location for all the combined institutions. The hub is easily accessible to the local community thus encouraging community engagement facilitated through a publicly accessible ground level containing an auditorium and exhibition space.

Much like the IMAS hub, the AWCE project is proposed to be located in central Mandurah, to activate the space and encourage interaction between the local community and the research centre. The ground floor of the facility could function as an exhibition or interpretive space, providing a tourism and education function. A lecture theatre is proposed for inclusion which would primarily be used by tertiary institutions.

Since 2010, IMAS has tripled in size. With a current annual budget of AUD\$50 million, IMAS houses 190 staff, and 185 PhD students at three locations across Tasmania, with state-of-the-art research and teaching facilities.

IMAS has become the highest performing research institute of the University of Tasmania. IMAS has built a critical concentration of internationally recognised scientific expertise and leadership; and established enduring partnerships with government, industry and peer institutions around the globe.

Some of these achievements include:

- Partnering with government, industry and the community to solve real-world problems; and
- Contributing to scientific knowledge and building the reputation of the University, and the state of Tasmania, as an internationally-recognised centre for excellence in research, research training and education

The IMAS hub model demonstrates a viable example of how a relatively small city can take advantage of its natural environmental assets to create world class innovation hub. The model shows the value of having the direct involvement of a university in a development of this form. The leadership of the University of Hobart provided greater opportunity for federal grants to assist the development. Furthermore, it provided an anchor tenant which could make use of the research infrastructure and provide existing knowledge and linkages with other specialist institutions both at a national and international level. In the development of the AWCE facility, co-ordination with existing tertiary institutions in the area or in the wider Perth region would be essential to the success of the development.

5.2 Hobson Bay Wetland Centre – Environmental Research and Eco-Tourism facility: Victoria, Australia

Another example that supports the Waterways Centre of Excellence is the Hobsons Bay Wetlands Centre, Melbourne. The Hobson Bay Wetland Centre will be constructed on a 420ha internationally significant regenerated wetland (former saltworks) site in Altona Meadows Victoria on the lands of the Bunurong people of the south eastern Kulin Nation. Blessed with several distinct ecosystems including significant marine areas, wetlands (including the Ramsar listed Cheetham Wetlands), and coastal parks along with five waterways, the site provides habitat to a diversity of plant and wildlife, including many rare and threatened species and migratory birds.

With a commitment from the State Government of \$16 million (2022), the Centre is intended to incorporate environmental field studies centre (research facilities), classrooms, community spaces, eco-tourism visitors centre and café and will complement installation of boardwalks, connected walking trails, interpretive displays, nature play zones and predator proof fencing in critical locations. It will ultimately support the implementation of national, state and local strategies aimed at protecting and restoring the natural environment as well as promoting community education, health and wellbeing through connection to the natural environment.

The Wetland Centre will form the center piece infrastructure for the ongoing cross-organisational engagement and long-term conservation of the region supporting collaborative partnerships between Hobsons Bay Wetlands Centre Inc and several strategic partners including University sector (Deakin University), State Government (Ecolinc Science & Technology Innovations Centre (Department of Education & Training), Melbourne Water, Greater Western Water (formerly City West Water)), Cirqit Health, and Birdlife Australia, Blue Carbo Lab⁵. This Centre will create a visitor experience for tourist and local visitors, school, citizen scientists, academic researchers, Rangers, Environmental Friends groups and; health and wellbeing programs.

[Once built the] design vision celebrates this significant setting through a proposal that incorporates regenerative, climate resilient and biophilic design principles within a range of facilities and services oriented towards the needs of health and recreation, and natural environment education, research and conservation.

The design principles are supported by ephemeral wetland and landscape features, connecting visitors to the adjacent Truganina Park and Cheetham Wetlands in order to create a unique visitor and learning experience.

⁵ <https://hobsonsbaywetlandscentre.org.au/our-team>

Considered visitor journey experiences and connections throughout the site celebrate the landscape as the primary element, while the architecture of the proposed Visitors Centre, Lookout Platform and Research Cluster, support this approach and the transformation of the site into an economically beneficial eco-tourism destination for Melbourne's west. (Grinshaw 2022)

Much like Mandurah, Hobson Bay forms part of the East Asian Australasian migratory bird flyway and protection of local and international threatened species. The Hobson Bay Wetland Centre provides an example of what could be achieved through projects like Mandurah's potential *Waterways Centre of Excellence and Waterways Data Array (Region wide water monitoring tool)* recommended in the Mandurah Sub Regional Economic Analysis and Transform Mandurah. A similar project in Mandurah would align with the Mandurah Biodiversity Strategy 2013 protection and retention targets and strengthen the connection between biodiversity and land use planning by providing a centralised facility to coordinate eco-tourism and community participation in conservation.

5.3 Telehealth Centre and Centre of Excellence

Telehealth involves the incorporation of information and communication technologies (ICTs) to deliver telemedicine, medical education, health education over a distance as an alternative to in-person health care⁶. Telemedicine appointments allow the customer to discuss their health concerns, symptoms, and medical issues with a qualified health care provider in real-time through interactive tools such as video conferencing, online portals, apps, email as well as by telephone.

Since the Covid-19 pandemic, the range of services available through telehealth in Australia has temporarily expanded with the Australian Government progressively added more telehealth item numbers to the Australian Medicare Benefits Schedule (MBS)⁷. Whilst this activity was initially driven by the requirement for social distancing and to reduce the risk of patient to practitioner and patient to patient transition of the virus, the opportunity to increase patients access to care and at a reduced costs, particularly in regional and remote areas, means that its continued use is expected. Common activities now include GP consultations, specialist consultations, mental health, nursing practitioner consultations and some allied health. Due to the reduction of geographical barriers, telehealth formats can reduce disparity of access in the service type, quality and availability often experienced in regional or remote communities.

Building on the momentum of telehealth, there is the opportunity for regional locations like Mandurah to specialise in the delivery of telehealth services to better support their immediate community and potentially become leaders in the continued adoption and evolution of online health services and digital platforms for medical centres and practitioners in other regions.

The 'Center for Telehealth' and 'Telehealth Centre for Excellence' in Mississippi both form part of the University of Mississippi Medical Centre and is an example of a public academic medical center where practitioners work whilst concurrently taking part in research to test, explore, demonstrate and advocate for innovative ways to advance the modern practice of telemedicine.

The Center for Telehealth provides remote, on-site access to caregivers in more than 35 specialties, including urgent care, trauma, mental health, dermatology, cardiology, infectious diseases, and Alzheimer's and dementia care. Pediatric telehealth specialties

⁶ <https://www1.health.gov.au/internet/main/publishing.nsf/Content/e-health-telehealth>

⁷ Snoswell, C.L., Caffery, L.J., Taylor, M.L., Haydon, H.M., Thomas, E., Smith, A.C. Centre for Online Health, The University of Queensland. Telehealth and coronavirus: Medicare Benefits Schedule (MBS) activity in Australia. <https://coh.centre.uq.edu.au/telehealth-and-coronavirus-medicare-benefits-schedule-mbs-activity-australia> . Published May 19, 2020. Accessed 7 February 2022.

*include remote concussion evaluation, cardiology, neurology, psychiatry, genetics and urology.*⁸

The goal of the Centre of Excellence is to develop the tools, resources and best-practice know-how to sustainably expand the emerging industry and support practitioners and medical clinic around the country in their adoption and use of telehealth platforms. Its functions are reported to include:

- *Publicise, circulate, broadcast, and publish evidence-based materials;*
- *Improving physician and patient awareness and address practitioner questions regarding telemedicine;*
- *Offer guidance determined by best practices of telehealth;*
- *Research to support further changes in models of delivery;*
- *Provide research statistics/facts/finds promoting use of telemedicine and telehealth;*
- *Provide technical assistance to other telehealth providers;*
- *Assessing the impact of telehealth on health care spending; and*
- *creating new and/or refining payment methods.*⁹

Since its inception in 2003, the Telehealth Centre for Excellence in Mississippi has become one of two leading telehealth research facilities in the USA and continues to inform the model for national telehealth expansion which now includes over 200 telehealth sites.

Similar to the Mississippi model, Australia's Digital Health Cooperative Research Centre located in South Australia, joins participants (consumers/providers), academia, industry and government to accelerate the implementation of digital health technologies, underpinned by evidence-based research¹⁰. The DHCRC was awarded a \$55 million contribution from the Commonwealth Department of Industry, Science and Technology given its potential to lead digital health innovation and commercialisation, create long term sustainable jobs and attract talent within the health and digital economy.

As Australia continues to adopt telehealth platforms, there is the opportunity for Mandurah to leverage its competitive advantage in the delivery of health services and social assistance to lead the development of the sector by adopting a similar Centre of Excellence in Telehealth model and complementing South Australia's Digital Health CRC.

A Mandurah Telehealth Centre for Excellence associated with Murdoch University and the Peel Health Campus/Hub has the potential to facilitate local industry specialisation, improve the delivery of health services within the Peel region and create sustainable jobs in medicine, preventative medicine, aged care and language interpreter services. Concurrently, a Centre of Excellence would provide local opportunities for professional skills and career pathways associated with academic research on telehealth models and outcomes, as well as the information technology required to develop and maintain telehealth platforms. A Centre for Excellence could focus medical services via telehealth models to support Mandurah and the region's culturally and logistically diverse communities (CALD) and help advance best practices for indigenous populations.

⁸ University of Mississippi Medical Centre. UMMC earns national Telehealth Center of Excellence designation. https://www.umc.edu/news/News_Articles/2017/October/ummc-designated-as-national-telehealth-center-of-excellence.html. Published October 5, 2017. Accessed 7 February 2022.

⁹ The University of Mississippi Medical Centre, 2017.

¹⁰ Digital Health CRC, 2022.

5.4 Regional customer operations hubs (call centres) - Morwell Innovation Centre at heart of Gippsland Hi-Tech Precinct; Gippsland

The reshoring of customer operations hubs (call centres) back to Australia presents the opportunity for regional locations such as Mandurah to potentially create hundreds of jobs, revitalise regional centres and improve opportunities for residents requiring flexible working arrangements. Regional locations offer the advantages of cheaper office accommodation costs as well as the ability for companies to contribute to communities that are disproportionately affected by higher unemployment brought about by major structure reform and the transition from traditional mining and manufacturing to professional and knowledge-based jobs¹¹. Similarly, growth in professional and office-based jobs can buffer the impacts of the economic cycles and external influences in regional areas that are heavily reliant on the strength of one industry, for example tourism or agriculture.

In the past year, several large companies have made a commitment to using either Australian contact centres and/or returning their own call centres to Australia including Serco, Westpac, Telstra and Alinta Energy¹². Alinta Energy will become a key tenant in a new \$17 million government funded Innovation Centre located in Morwell in the Latrobe Valley just 90 minutes from Melbourne (opened 2020)¹³. The relocation is anticipated to secure a further 230 jobs for Morwell. The opportunity was made possible through the Government's Investment Attraction and Jobs *Victoria* program and the \$40 million *Latrobe Valley Economic Development Program* resulting in the *Gippsland Hightech Precinct* underpinned by high-speed broadband digital connectivity, which has seen the customer operations return to Australia from the Philippines. The decision to relocate is reported by the Alinta Energy to be a combination of Government incentives alongside a desire to build on existing community ties and business operations with proximity to their Gippsland Loy Yang B Coal-fired Power Station. The decision also comes after the closure of the former Hazelwood mine and subsequent decommissioning of Gibbsland's coal-fueled thermal Hazelwood Power Station in 2017 which saw 750 job losses.

The Morwell Innovation Centre offers a 100-seat conference facility, commercial tenancies, and an innovation hub to promote creative thinking and practice which Alinta Energy will use to work with energy experts and the tertiary education sector to develop alternative energy solutions¹⁴. The Innovation Centre will act as a business incubator for new product development, providing support to start ups. The Innovation Centre is just one part of the broader High-Tech Precinct Gippsland which will virtually and physically bring together partners from across private sector industry, government, higher education and research. Partners include LaTrobe City Council, Gippsland Tech School, TAFE Gippsland, Federation University and private sector businesses. The Morwell Innovation Centre is expected to host a combination of private sector commercial tenants, industry project teams, and university research teams and over time grow employment pathways towards professional jobs in the Region¹⁵.

Mandurah shares many of the physical and social attributes of Morwell, including proximity to the CBD, dominance of a few industries (construction, health and mining related employment) as well as opportunity to revitalise its the city centre. The High-Tech Precinct Gippsland, with the Morwell

¹¹ Grattan Institute, 2017.

¹² <https://cxdirectory.com.au/subcategory/outsourcing/australia>

¹³ Innovation Centre Brings hundreds of Jobs to Gippsland, <https://www.premier.vic.gov.au/innovation-centre-brings-hundreds-jobs-gippsland>

¹⁴ LaTrobe Valley Authority, Morwell Innovation Centre open for Business, <https://lva.vic.gov.au/news/morwell-innovation-centre-open-for-business>

¹⁵ Reinforcing research and innovation in Gippsland, <https://www.hitechgippsland.com/>

Innovation Centre development at its heart, provides a multi-tiered model for how State Government and Local Government could work together to attract private investment partnerships with the capability to diversify the Region's economy and facilitate the development of professional and high skilled workforce without relying solely on a Government services southern employment hub as a catalyst.

Regional Priorities and & Future Opportunities

Five regional priorities have been considered as part of this report to guide the future development of the City of Mandurah. Four of these priorities directly address the five key themes of the *Peel Regional Investment Framework*, these being Resilient Communities, Capable People, Thriving Industry and Tourism Excellence. A fifth priority, Delivering Regional Infrastructure was developed to address major infrastructure projects as per the recommendations of *Perth and Peel @ 3.5 Million*. Goals and action items for each of these were ascertained through consultations with representatives of the City of Mandurah as well as analysis of local, regional, and state-level policies and strategies to ensure alignment with the *Peel Regional Investment Framework*.

Several of these priorities share common, most notably the ability to leverage the City's extensive waterways and ecological environments to deliver an Australian Waterways Centre of Excellence (AWCE) to foster conservation opportunities and develop cross-organisational partnerships between community groups, government, businesses, universities, and education providers.

As a member of the Perth and Peel Hydrogen Cluster, the City of Mandurah is leading engagement in the role that renewable energy may play in diversifying and decarbonising local industries with a particular focus on hard to abate sectors such as transport. A Mandurah/Peel Hydrogen Transport Hub (heavy vehicle refuelling facility) in the City, would integrate Mandurah into the wider hydrogen energy network along with incentives to encourage adoption with a focus on industries with back-to-base transport fleets (e.g. charter buses, public buses, municipal vehicles, waste trucks, tourism sea vessels, drayage trucks, cement trucks material handling, taxi).

Similarly, a potential WA Hydrogen Innovation Precinct located within proximity of the City of Mandurah would help develop and grow Western Australia's fledgling green hydrogen industry by filling a gap in the industry development chain whilst concurrently promoting industries. Whilst current State and Federal funding is primarily focussed on developing large-scale hydrogen hubs for energy production and export, an Innovation Precinct could focus on enabling hydrogen start-ups and SMEs to test, develop and demonstrate their technology, and by doing so, enhance the cost-competitiveness and scalability of Western Australia's hydrogen industry. The Perth and Peel Hydrogen Cluster supported by the City of Mandurah has identified an opportunity to create a new hydrogen innovation precinct - or micro-hub - where hydrogen start-ups and small-medium enterprise (SME) companies could undertake research and development (R&D), testing, demonstration and early-stage commercialisation of their technologies and products. An innovation precinct concept could allow these activities to be undertaken without the risks of large capital investment required for a full-scale hydrogen commercialisation hub, and would utilise a co-located, or shared-use facility model to reduce and/or defer industry start-up costs ultimately diversifying local industry. Being strategically located near both the Kwinana Industrial Area and established Peel based resource companies such as Alcoa, South32 and Newmont Gold also represents significant opportunity for collaboration, co-location and co-investment in clean hydrogen technologies with Mandurah supplying the future workforce.

Further priorities recognise the need for greater transportation integration within the City, particularly to cater for residents accessing the Metronet at the Lakelands Train Station. Consideration of additional or prioritised pedestrian, cycling, kiss-and-ride and park-and-ride in Lakelands will provide integrated transport connections to the Perth Metro Area via rail.

Underpinning all the recommendations of this report is the need to invest in the people of Mandurah to ensure they have the necessary skills and capabilities to participate in the current and emerging industries in Mandurah and Peel. Whilst Mandurah's education levels are slowly increasing, this movement is the result of the migration of more educated persons to the City rather than upskilling

or increasing capability of local persons. Investment in education at all levels, and specifically early childhood education is required to ensure young people in Mandurah reach equivalent developmental learning milestones and literacy and numeracy to their Perth peers. This foundation work will be paramount in leveling the education attainment (WACE) divide and ensuring that there is equality in opportunities across all of Mandurah's residents. Engaging with education support programs to raise aspiration, foster critical and creative thinking, personal and social capabilities and engagement in Mandurah's local environment at all levels (pre-kindy to tertiary) will remain a key priority and resourcing necessity for stakeholders.

An understanding of the key issues and opportunities that catalyse the need for action within each of these five priorities is paramount to ensuring successful outcomes. This understanding is provided through the demographic and economic analysis discussed in earlier sections, with the key trends affecting each of the five priorities summarised in the tables provided in Appendix 1 below. Assessing local, regional and state strategies, as well as discussions with City representatives has allowed for key currently proposed actions, activities and projects to be identified. Additionally, the tables identify future potential initiatives to capitalise on the opportunities presented by economic trends and existing projects. These future potential initiatives will be discussed further with regional stakeholders to prioritise and allocate a project lead as deemed appropriate.

Alongside this analysis the City of Mandurah and Peel Development Commission are undertaking a joint Transform Mandurah initiative to investigate the socio-economic case for a large-scale intervention to change the socio-economic trajectory of Mandurah. The initiative involves independent research into the challenges and opportunities and investigation of intervention options. The pathways identified in the tables provided at Appendix 1 are therefore to be considered by stakeholders in conjunction with the findings of the Transform Mandurah investigation initiative.

6 Conclusion

Leveraging information highlighted in this Sub-Regional Economic Analysis, case study examples and the goals of local, regional and State strategies has allowed for the identification of currently proposed and future potential initiatives for the City of Mandurah and associated stakeholders to implement, in accordance with the themes of the *Peel Framework*. These reflect the goals and intent of existing plans and strategies yet provide additional pathways to local economic growth and diversification that supplement key actions already committed by the private sector, the City of Mandurah and State government.

These opportunities represent proactive steps that may be taken within the City to ensure its economic diversification is successful in the long-term in alignment with the overarching goals for the future of the wider Peel.

Understanding these opportunities in the context of the demographic and economic analysis discussed in earlier sections will provide insight into how Mandurah can respond to the challenges it faces. Addressing these challenges using carefully researched and exhibited measures that have been carefully adapted for use in the locality will ensure the goals and priorities of both local strategic plans and the *Peel Framework* are met.

The Peel Development Commission (the Commission) intends to support stakeholders in delivering the outcomes of these initiatives to progress the wider economic development of the Peel as a whole. The Commission can aid in the facilitation of these initiatives through advocacy, access to State government networks and existing private sector relationships, grant funding, as well as policy support, particularly in key areas of interest where the goals of Mandurah and Commission align. Ongoing co-operation between the Commission and regional stakeholders is critical to ensuring the success of the initiatives identified in this Sub-Regional Economic Analysis as part of a regionally led process, maximising opportunities for collaboration and value-add across the wider region.

Several major projects within close proximity to the City of Mandurah are being developed which will provide additional employment opportunities and longer-term supply chain opportunities that will aid in economic diversification.

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Thriving Industry	
Goal: A broadened and diversified industry base to boost the depth and breadth of jobs and occupations across the region. The Peel's industries and businesses are diverse and globally competitive and part of an economy that has raised incomes and living standards for all.	
Achieved By:	
<ul style="list-style-type: none"> Expansion of export orientated high level industries. Increasing employment self-sufficiency. Maintaining a strong health and wellbeing industry to support the population. 	<ul style="list-style-type: none"> Developing an innovation hub and expansion of quality office space to attract opportunities for private investment for satellite offices for professional jobs. Developing a highly skilled and competitive employment base, while providing opportunities for older residents.
Key Issues:	Key Opportunities:
<ul style="list-style-type: none"> Climate change and potential impacts on key industries. Concentration of employment and businesses in population-based services such as social services, education, construction, and retail. Weak export orientated industries, with employment concentrated in the surrounding region. A lack of employment creation strategies in place. Lack of available high end office accommodation combined with the proximity to Perth makes attracting professional service businesses or government agencies challenging. The vulnerability of service based industries to shifts in the economic cycle. Reliance on agriculture and mining in surrounding localities for employment stability of Mandurah residents and success of supply chain services. 	<ul style="list-style-type: none"> Strong economic links with the rest of Peel and other surrounding LGAs all offering a pipeline of transformational economic development projects. Explore intersection of regions' strategic industries to identify unique knowhow that exists or could be developed through strategic projects or support. Access to a high skilled labour force in the Perth region realised through promotion of Mandurah as an employment centre. Proximity to the Peel Business Park and WA Food Innovation Precinct provides opportunities to develop supply chain linkages with export orientated businesses. A well-developed health care system, with a particular focus on aged care in line with demographic needs. Develop a high skilled design to manufacture sector leveraging off the strength of the existing manufacturing sector in the region.
Currently Proposed Initiatives:	Future Potential Initiatives:
Planned and funded actions outlined in existing State, regional and local strategies, to be delivered as per relevant plans by key stakeholders.	Potential actions suggested by this report based on economic trends and expansion of existing actions, to be developed in conjunction with key stakeholders.
Quick Wins (Less Than 1Yr):	Short Term (1-2Yr):
<ul style="list-style-type: none"> Activation of town centre for commercial development through a review of the Mandurah City Centre Master Plan. Promotion of the Local Content initiative increasing local business engagement in Government contracts. Continued support of local businesses to enhance their capacity and capability to support private and government sectors through initiatives such as the Local Content program and the Small Business Advisory service. 	<ul style="list-style-type: none"> In coordination with the Perth and Peel Hydrogen Cluster investigate, via feasibility and business case, the opportunity to develop a Hydrogen Innovation Precinct including assessment of potential sites within proximity to Mandurah. Regional collaboration to aggregate demand and forward plan for hydrogen refueller infrastructure/facility. Engage with stakeholders to build capacity of small to medium enterprises through provision of co-working spaces, connection to local networks and educational institutions in alignment with Transform Mandurah aspirations. Actively build on and promote the City of Mandurah's unique lifestyle and physical environment to encourage private sector investment in professional office spaces attracting highly skilled persons to work and live in Mandurah.
Short Term (1-2Yr):	Medium Term (2-5Yr):
<ul style="list-style-type: none"> Finalise and begin implementation of the Transform Mandurah strategy. Development of a Business Case for the proposed Australian Water Centre for Excellence. 	<ul style="list-style-type: none"> Mandurah/Peel Hydrogen Transport Hub (heavy vehicle refuelling facility) located in the City, which would integrate Mandurah into the wider hydrogen energy network along with incentives to encourage adoption with a focus on industries with back-to-base transport fleets (e.g. charter buses, public buses, municipal vehicles, waste trucks, tourism sea vessels, drayage trucks, cement trucks material handling, taxi). Activity and focus aimed at reducing carbon emissions across industry and hard to abate sectors such as transport. Examine scaling and business relocation opportunities to better support the development of niche industrial clusters, e.g. Hydrogen Innovation Precinct at Peel Business Park, Food Technology at Peel Business Park, General Industry (at Pinjarra) and Warehousing in Mandurah. Development of the water innovation precinct (Australian Waterways Centre of Excellence), including educational opportunities and attracting water science experts. The attraction of industry with associated professional services (i.e. call centres) or government co-location hub to utilise new office space and develop Mandurah as a key southern metropolitan professional services hub.
Medium Term (2-5Yr):	
<ul style="list-style-type: none"> Development of the commercial and business centre in Mandurah, attracting higher level service jobs to the area. 	

	<p>Long Term (5+Yr):</p> <ul style="list-style-type: none"> Encourage local businesses and institutions relevant to water innovation to co-locate at the Australian Waterways Centre for Excellence (AWCE). Specialised health sector development where Mandurah has specialised knowledge and a competitive advantage to extend on that knowledge (e.g. telehealth, medical research, cancer treatment, specialised surgery, rehabilitation, addiction treatment, psychiatric medicine).
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Tourism Excellence

Goal: A network of adventures that attracts visitors and enables them to engage with the Peel’s natural and built attractions in a sustainable manner. The Peel’s tourism industry and related businesses will be diverse, competitive and sustainable creating economic growth and jobs through high value products and services.

Achieved By:

- Providing unique short-stay accommodation in the City
- increasing the provision of diverse attractions that utilise the natural and built environment
- Marketing Mandurah as a viable short-stay destination for the Peel region
- Improving connectivity to the Greater Perth region (through Public Transport)

<p>Key Issues:</p> <ul style="list-style-type: none"> COVID-19 and impact on visitor related services over a protracted period. For example, the impact on structured tours which are less attractive to domestic tourist and visitors from Greater Perth. Historically negative perception of Mandurah by Greater Perth potentially linked to lower socio-economic status and under-developed condition of Central City. Few attractive and unique short-stay accommodation options available to tourists in the Central City. Mandurah not always considered a distinct tourist destination, but often an outer suburb extension of Perth. Other areas can seem more attractive as they provide a more destination-style environment, such as Margaret River or the South West. 	<p>Key Opportunities:</p> <ul style="list-style-type: none"> Leverage current visitation trends to build and consolidate Peel as a major destination, increasing tourism related jobs which align with current regional skills. Opportunity for cultural tourism through the WA State Government Jina Plan and the local Indigenous knowledge. Diverse natural environment is a major asset, Mandurah estuary and the Peel inlet is twice the size of Sydney Harbour. Close proximity to Perth and the Perth International Airport makes the City of Mandurah easily accessible to interstate and international tourists creating the ability for inclusion in day-trip and short-stay itineraries. Ability for Mandurah to position itself as an overnight and short-stay destination. Development of a diverse range of niche accommodation offerings and tourism product. Competitive advantage due to existing infrastructure, larger economy and greater population base. Recent investment in complementary infrastructure to form Foreshore Precinct that services both tourist and local populations (i.e. estuary pool, international standard skate park). Substantial space for large events.
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<p>Currently Proposed Initiatives: Planned and funded actions outlined in existing State, regional and local strategies, to be delivered as per relevant plans by key stakeholders.</p>	<p>Future Potential Initiatives: Potential actions suggested by this report based on economic trends and expansion of existing actions, to be developed in conjunction with key stakeholders.</p>
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<p>Quick Wins (Less Than 1Yr):</p> <ul style="list-style-type: none"> Development of Peel-Yalgorup Wetlands Trails master plan to facilitate nature-based tourism Western Foreshore Recreation precinct Smart Street Precinct development Continue strategic marketing highlighting Mandurah as a tourism destination <p>Short Term (1-2Yr):</p> <ul style="list-style-type: none"> Implement the Trolls in WA project increasing visitation. Investigate cultural and eco-tourism opportunities at the Thrombolites. Eastern Foreshore South Precinct development. City Centre Parking Plan. <p>Medium Term (2-5Yr):</p> <ul style="list-style-type: none"> Eastern Foreshore North Boardwalk Precinct development. Western Foreshore Commercial Precinct redevelopment. 	<p>Short Term (1-2Yr):</p> <p>Medium Term (2-5Yr):</p> <ul style="list-style-type: none"> Collaborate with Indigenous population to develop a cultural tourism program - potential to incorporate an Indigenous cultural centre into existing infrastructure such as Mandurah Performing Arts Centre or new infrastructure such as Yalgorup trails or AWCE. Sailing adventures linked to Perth and Port Geographe in multi-day trips. Yalgorup Trails and Thrombolites experiences and eco-tourism development. Tourism resort development. Dedicated service infrastructure to accommodate RV and caravan-based visitors/tourism in close proximity to the City Centre. <p>Long Term (5+Yr):</p> <ul style="list-style-type: none"> Atrium redevelopment Increased accommodation options with a range of budgets (“Glamping, BnB”)
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- Develop geo-tourism trails and a Peel Aspiring Geopark.
- Develop Yalgorup National Park Eco-Tourism Destination.

Capable People

Goal: The availability of an educated and highly skilled workforce with the capacity and capability to flexibly respond to workforce requirements for the future. The Peel’s workforce will be highly skilled and adaptable to structural and technological change to support an economy that is strong, diverse and high performing.

Achieved By:

- Employment opportunities for vulnerable demographics
- Diverse and comprehensive educational opportunities linked to industry growth sectors
- A highly skilled and competitive employment base
- Transition from population-based employment
- Development coherent training, education and employment pathways
- Flexible employment options to maximising workforce participation
- Expanding tertiary education opportunities.

Key Issues:

- Complex socio-economic health and mental health challenges constraining education, training and employment.
- Intergenerational unemployment, fuelled by lack of access to diverse and appropriate employment opportunities.
- Current service delivery model (Metro centric) not working, as indicators are not improving with current ratios.
- Fewer jobs than people in the region resulting in a skills leakage
- Currently the level and types of qualifications delivered in Peel do not match the aspirations of the region or the needs of industry.
- Industries operating in the region and requiring highly skilled workers are importing skills.
- Limited spaces dedicated to connect start-ups and innovators.
- Proposed transformational projects not aligning with funding availability or priorities and are therefore unable to progress.
- High rates of youth unemployment, female unemployment and long term, cross generational unemployment.
- Low labour force participation rate, primarily tied to the ageing population.
- Lower levels of Western Australian Certificate of Education (WACE) completion compared to WA.

Key Opportunities:

- Create inclusive workplaces to access underutilised workforce of youth, women and people over 65 years.
- Attract skilled workers to both work and live in the region to fill immediate skills gaps.
- Explore intersection of regions’ strategic industries to identify unique knowhow that exists or could be developed through strategic projects or support.
- Expansion of existing TAFE footprint in Mandurah with new tourism and hospitality training centre.
- A focus on school to workforce transition programs, skill development and career/workplace training.
- Funding, reskilling and upskilling of local workers aligned with current and emerging industries.
- Proximity to Peel Business Park and Perth CBD provide opportunities for upskilling and high skill levels jobs.
- Existing linkages with major universities from both the existing Murdoch campus in the area as well as with ECU through a weekly Regional Learning Hub in Mandurah.

Currently Proposed Initiatives:

Planned and funded actions outlined in existing State, regional and local strategies, to be delivered as per relevant plans by key stakeholders.

Future Potential Initiatives:

Potential actions suggested by this report based on economic trends and expansion of existing actions, to be developed in conjunction with key stakeholders.

Quick Wins (Less Than 1Yr):

- Release of the People of Peel Human Capital Insights report providing detail of the current status of human capital in the region including the challenges and opportunities.
- Release and implementation progression of a People of Peel Human Capital Roadmap responding to the research and detailing key initiatives to achieve the goal of skilled, adaptable and empowered people to drive a thriving regional society and environment.

Short Term (1-2Yr):

- \$9.17 million hospitality, personal services and tourism training centre on the Mandurah Education campus.
- Forge linkages between hospitality and tourism training centre, WA Food Innovation Precinct and local businesses and producers to develop coherent employment pathways.
- Development of the Transform Mandurah Strategy and advocacy for state government interventions to shift the socio-economic status.

Short Term (1-2Yr):

- Delinking of equity based financial assistance with a focus on merit based and employment linked scholarships in emerging industries and high skill professions.
- Promotion of partnerships with employers, VET providers and University Sector to link local students to current and future Mandurah based employment and skill pathways through employment and citizenship/curricular aligned internships.
- Review and update City of Mandurah’s Early Childhood Strategy 2012-2016.
- Early interventions and support for pre-kindergarten and primary school aged residents to raise literacy and numeracy capability to allow students to successfully met the breadth and depth standard, the achievement standard and the literacy and numeracy standards throughout senior secondary schooling and achieve WACE. Example programs suitable for investment include The University of Western Australia and Edith Cowan’s Children’s University Program which already partners with some of Mandurah’s schools.
- Support programs that raise aspiration in students with a focus on primary school aged residents.
- Hosting local employment forums to connect job seekers with employers and upskilling opportunities.

Medium Term (2-5Yr):

- Attract private investment to develop high quality office space in central Mandurah, attracting professional services jobs to the area.

Long Term (5+Yr):

- Development of the water innovation precinct AWCE, including educational opportunities and attracting water science experts.

Medium Term (2-5Yr):

- Collaboration with the university sector in the development of the AWCE.
- Support the establishment of a tertiary education Regional Learning Hub to provide local resources and pastoral care for tertiary students in Mandurah.
- Enhance educational opportunities that support key industries in the rest of Peel, with a focus on businesses established in the Peel Business Park.
- Develop partnerships between schools and key industries in the area to provide direct career pathways.

Long Term (5+Yr):

- Develop international linkages with foreign water research facilities/ organisations to attract institutions to the AWCE and provide greater employment while encouraging migration of highly skilled individuals.

Strong & Resilient Communities	
Goal: Creation of support services and infrastructure that will ensure the community is strong and resilient and able to increase its participation in, and contribution to, the future development of the Peel. The Peel will be a strong, vibrant and resilient community underpinned by best practice social services and infrastructure.	
Achieved By:	
<ul style="list-style-type: none"> · Implementation of the Mandurah 'Active Ageing Plan'. · Developing collaborative care model to support community. · Diversify housing stock for young and elderly people. 	<ul style="list-style-type: none"> · Providing a range of sport, recreation and leisure facilities. · Improve transport options within and outside of Mandurah. · Encourage community participation through events e.g., sports and volunteering.
Key Issues:	Key Opportunities:
<ul style="list-style-type: none"> · Large cohort of over 65 population requiring specialised health services. · Limited range of quality housing options and polarised price points, with detached single dwellings being dominant, limiting the options for Mandurah's population to access right-fit housing and to age in place. · Higher housing costs proportionate to median household income compared to other regional centres in WA. · Proportionately large homeless population in Mandurah, with approximately 170 homeless people recorded in ABS data. · High unemployment rate compared to WA average. · High levels of youth unemployment compared to WA average. · High levels of underemployment potentially linked to casualisation of the workforce. · Stakeholders have noted a lack of confidence and positivity about the future amongst the youth of Peel, leading to disengagement from education and anti-social behaviour 	<ul style="list-style-type: none"> · Increasing migration of residents including CALD communities that can be utilised. · Passionate, committed and connected community and health service sector. · Extensive leisure facilities already present in Mandurah including the newly developed skate park and 23 active reserve spaces in the city. · Placemaking initiatives and social infrastructure construction along the Mandurah foreshore. · The local coastal and riverside environment is a significant asset for recreational activities. · Public health plan completed by the City in 2020 provides a framework for public health management for the next 10 years. · Invest in supporting health sector to consolidate care specialisation and research to support the large ageing population. · Significant State investment in Peel Health Campus, redeveloped as a public hospital and opportunity for private sector investment in an adjacent private health facility. · The housing stock in Mandurah is some of the most affordable in Perth. · Underutilised residential land with capacity for significant infill development enabled by the expansion of the sewerage network especially along the coast. · Leverage Government commitment to reduce commuter costs on Mandurah Train line to support inward migration to Mandurah and public transport connections to and from the Station and Mandurah Centre.
Currently Proposed Initiatives:	Future Potential Initiatives:
Planned and funded actions outlined in existing State, regional and local strategies, to be delivered as per relevant plans by key stakeholders.	Potential actions suggested by this report based on economic trends and expansion of existing actions, to be developed in conjunction with key stakeholders.
Quick Wins (Less Than 1Yr):	Short Term (1-2Yr):
<ul style="list-style-type: none"> · Expansion of emergency department and car park of public Hospital at the Peel Health Campus site est. value \$10 million. · Completion of the Eastern Foreshore South Precinct, including Estuary Pool. · Delivery of the Peel Away the Mask III report and action plan. 	<ul style="list-style-type: none"> · Undertake a City led design charette to test development models for underutilised land for social/affordable housing both in LGA ownership and Community Sector. This can be used as a basis to make sites development ready in preparation for funding Opportunities. · Consider partnership approach with construction industry/local developers to deliver sustainable, affordable, intergenerational and/or universal design housing as demonstration projects/display homes. · Develop a publicly available 'scorecard' and 'up-spec request' that can be made available to the public for use when assessing, negotiating modifications and upgrades to project homes to accommodate liveable/universal design. · Local scale Transport Plan in acknowledgement of the Lakelands Train Station completion, resultant parking pressures and need for integrated cycle, pedestrian, public transport and scope alternative parking / park and ride sites in vicinity. · Establishment of a Family Support Network (FSN) and District Leadership Group (DLG) within the region to drive a collaborative approach to service provision through partnership with the social service sector.
Short Term (1-2Yr):	Medium Term (2-5Yr):
<ul style="list-style-type: none"> · Development of the Dawesville Community Centre. · Secure investment in Peel Health Hub 2.0 expanding the current facility and integrated model of care to further support women, children and their families in the Peel region. 	<ul style="list-style-type: none"> · Creation of more targeted and effective service delivery in specific areas of need within the Mandurah community through the FSN and DLG mechanisms. · Update of Public Health Plan 2020-2023.
Medium Term (2-5Yr):	Long Term (5+Yr):
<ul style="list-style-type: none"> · A further \$152 million investment in Peel Health Campus by the state government. · Development of a Common Ground facility at 81-87A Allnutt Street, Mandurah, which provides long term housing and services to persons experiencing or at risk of experiencing homeless and/or on low incomes (\$28.1 million by the state government). 	

- Co-location of existing and new service delivery agencies, streamlining services and facilitating a collaborative approach to service provision.
- Aligned with an Integrated Transport approach implement an efficient rapid transit within the Central City encompassing Mandurah Terrace, Pinjarra Road, Mandurah Road with a potential spur the Mandurah Education Precinct.

Delivering Regional Infrastructure

Goal: To develop economic opportunities within Mandurah via the implementation of major infrastructure projects, leveraging the existing built and natural assets of the City and creating linkages across the wider Peel.

Achieved By:

- Delivering infrastructure aligned with Mandurah’s priorities.
- Increasing self-sufficiency in Mandurah

Key Issues:

- Condition of current infrastructure
- Proximity to Perth as an alternate service provider
- Availability of quality office space

Key Opportunities:

- Access to skilled construction workforce in both Peel region and Perth.
- build on already developed community Infrastructure to create a high amenity and liveable environment to confirm Mandurah as a Lifestyle capital/destination.
- Digital connectivity throughout the Mandurah City Centre (i.e. wireless, wired and satellite technologies/high speed internet, public and free wi-fi hotspots, mobile)

Currently Proposed Initiatives:

Planned and funded actions outlined in existing State, regional and local strategies, to be delivered as per relevant plans by key stakeholders.

Future Potential Initiatives:

Potential actions suggested by this report based on economic trends and expansion of existing actions, to be developed in conjunction with key stakeholders.

Quick Wins (Less Than 1Yr):

- Smart Street Redevelopment – West.
- Eastern Foreshore South Redevelopment.

Short Term (1-2Yr):

- Smart Street Extension – East.
- Development of Lakelands Station to be completed by 2023.
- Delivering access to Yalgorup National Park to enable the expansion of eco-tourism.
- CBD revitalisation

Medium Term (2-5Yr):

- North Mandurah Waste Water Reuse Scheme.
- \$110 million to build a second Mandurah Estuary Bridge.

Short Term (1-2Yr):

- UNESCO Global Geopark investigation and business case.

Medium Term (2-5Yr):

- Advocate for Sewer expansion program and commence feasibility study alongside Water Corporation.
- Policy development and advocacy for the expansion of Hydrogen and Electric Vehicle charge station infrastructure throughout the City.

Long Term (5+Yr):

- Underutilised residential land with capacity for infill development.
- Eco tourism infrastructure establishment in Yalgorup National Park.
- Australian Water Centre of Excellence.
- Tourism resort park offering affordable short stay accommodation options for the tourism market.
- Heavy vehicle infrastructure and Hydrogen Highway establishment.