



SHIRE OF SERPENTINE JARRAHDALE SUB-REGIONA 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 Peel region.

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 careful 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 Shire of Serpentine-Jarrahdale. 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 wider Peel.

Serpentine-Jarrahdale's population is one of the fastest growing in Australia, increasing at an estimated annualised rate of **12.2%** over the last fourteen years from **13,246** to **32,562**, indicating the Shire is on track to exceed the Western Australian Planning Commission's WA Tomorrow Population Projections. The Shire's growth is driven by an influx of young families into the area, with over **50%** of the population under the age of 35. However, the Shire has limited housing diversity, which fails to adequately cater for both a growing population and varied family and household compositions. Given that over **98%** of dwellings in the Shire are detached single homes, limited housing diversity in the Shire will pose a challenge in the form of housing affordability. This is evident in both the the rapid decline in home ownership rates observed in the Shire since 2006, as well as the increasing rates of mortgage and rental stress observed in the Shire, with Byford observing the highest rates of mortgage stress in Australia overall.

The Shire has historically observed low unemployment levels and high labour force participation relative to the State and Peel averages for these metrics. Educational attainment levels in the Shire have shown slight increases, particularly at the university level, however these remain lower the State average for all attainment levels beside Certificate III & IV. The Shire's education profile is generally consistent with its dominant employing sectors, these being Construction, Education and Agriculture. Only **24%** of Serpentine-Jarrahdale residents work in the Shire, with most looking elsewhere in the Perth Metro for employment. This has resulted in extremely low employment self-sufficiency levels by industry for the Shire, meaning there is a disproportionate number of jobseekers in Serpentine-Jarrahdale.

Serpentine-Jarrahdale's economy is relatively diverse, with the Shire's construction industry being the largest jobs and revenue generating sector, contributing **\$536 million** to the local economy in 2019. This sector is predominantly driven by the expansion of housing subdivisions around Byford and Mundijong, however an increasing amount of civil infrastructure projects in the area means that businesses are provided with an opportunity to diversify their operations and expand their offerings to serve a wider market. Other opportunities in the local economy lie in the Cardup Business Park with the potential clustering of light industry, construction and equine businesses, as well as through the development of vibrant town centres for Byford and Mundijong to anchor employment and economic activity. The Shire is committed to an active business investment attraction program to grow local businesses and an employment base in this area.

The Shire lacks major tertiary education, healthcare and aged care facilities to meet the needs of its growing population. To this end, a TAFE facility is proposed as part of the METRONET station precinct development in Byford, with the Shire expressing a will to cluster local healthcare services in a 'Health Hub' located in this precinct. Facilitating transport linkages through the proposed Byford rail extension

will be key to improving the service offerings available to Serpentine-Jarrahdale residents in the shortterm, with this transport link providing opportunities to increase population density and develop local industry long-term. The Shire contains ample land for both residential developments, centred around Byford and Mundijong town centres as transport-oriented developments, as well as for industrial development, centred around Cardup Business Park and in the longer term, West Mundijong Industrial Area.

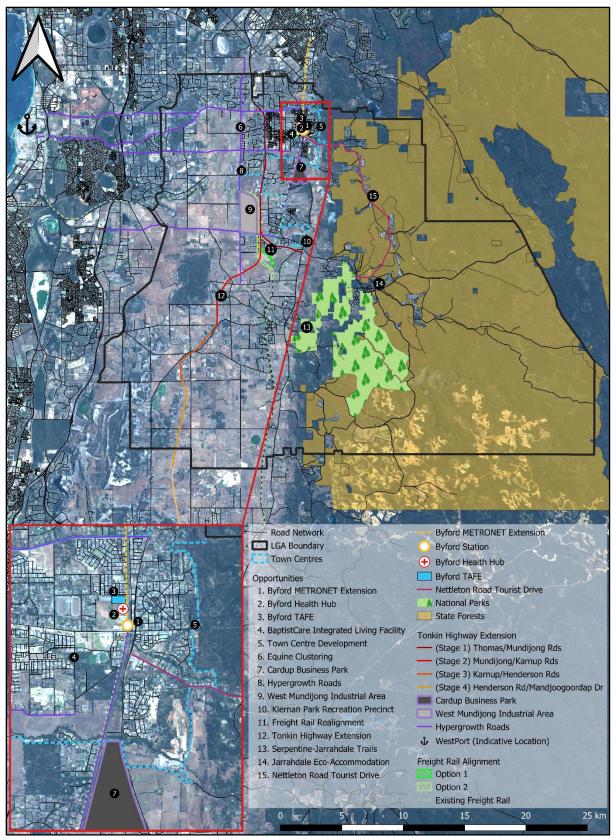
Several major projects have been proposed to stimulate the Shire's economic diversification, with each of these addressing one of the five key themes of the Peel Regional Investment Framework, as well as delivering regional infrastructure to drive competitive growth long-term. These involve the development of local industry based around a high-tech innovation ecosystem, the development of employment pathways for school-leavers and the creation of an attractive trails tourism marketing strategy to serve the Perth Metro market. 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 a manner aligning with the overarching goals of the Peel Regional Investment Framework.

Leveraging expertise from economies that have undertaken similar economic diversification actions to those intended for Serpentine-Jarrahdale will allow the Shire to understand the critical applications of projects and policies proposed under economic diversification initiatives. The technological-based expansion of agricultural firms, development of innovation ecosystems and introduction of community transport initiatives pursued in localities such as Waroona, Bell Bay and Camden provide an important guide for initiatives within Serpentine-Jarrahdale such Cardup Business Park, West Mundijong Industrial Area and the Byford METRONET station precinct development. Whilst further exploration is required around the applications of these actions in a manner specific to Serpentine-Jarrahdale, this Sub-Regional Economic Analysis identifies the key contingencies and actions pursued that are applicable to the Shire's social, economic and environmental goals.

This Sub-Regional Economic Analysis identifies several pathways for Serpentine-Jarrahdale to diversify its economy, most notably:

- the intensification of construction, manufacturing and equine industries around Cardup Business Park and the future West Mundijong Industrial area, involving the adoption of a supporting innovation ecosystem;
- increasing the capacity for local construction firms to tender for projects in the wider Perth Metro; and,
- the expansion of placemaking and trails initiatives to enhance the capacity of the Shire to deliver tourism excellence.

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 Shire and wider Peel are met.



Map 1. Shire of Serpentine-Jarrahdale Opportunities

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1.0 Population & Demographics

Serpentine-Jarrahdale is the fastest growing Local Government Area in Australia, with the Shire's total population growing by **122%** over the period from 2006-2016. The Shire's population grew at an average annual rate of **12.2%**, approximately **300%** faster than the average for the Peel region and **501%** faster than the average for Western Australia over this period. Serpentine-Jarrahdale's population increased significantly in the years after 2011, synonymous with the approval and completion of large greenfields subdivisions in the localities of Byford and Mundijong, led by the Metropolitan Redevelopment Authority (now Development WA) Wungong Urban project.

As indicated by the increase in the proportion of residents in the **0-4**, **20-24** and **25-34** age brackets and the decline of Serpentine-Jarrahdale's median age from **37** to **32**, the Shire's population growth has been driven by an influx of young families. Serpentine-Jarrahdale's attractiveness to young families is likely due to the LGA's proximity to jobs in Perth's south-eastern corridor as well as the relative availability of land and affordable housing prices, with median house prices in the LGA being around **\$375,000**, compared to **\$495,000** for the wider Perth metro area (REIWA, 2018).

The rapid growth of Serpentine-Jarrahdale's population, particularly in the younger age brackets, provides the LGA with an opportunity to develop a substantial local employment base. A large increase in the number of services provided to the community, particularly within the education, healthcare, retail and recreation spheres, is needed to accommodate the expected **32,387** to **39,267** new residents in the Shire by 2031. Investment in local businesses and infrastructure such as schools, health services, community facilities and support services will provide long-term job opportunities to Shire residents, prevent the Shire from becoming a 'dormitory suburb' and will help ensure its continued economic and population growth.

Despite the Shire's rapidly growing population, Serpentine-Jarrahdale's housing stock lacks the diversity required to service the needs of a range of residents, particularly regarding the affordability of housing required by the young families comprising most of the Shire's new residents. Over **98%** of the Shire's housing stock is comprised of single detached homes, meaning new residents have limited choice of living arrangements beyond location. Rates of home ownership have declined by over **12%** since 2006, likely due to affordability pressures and an increasing degree of mortgage stress. The number of single parent and lone person households in Serpentine-Jarrahdale has been slowly increasing over the same period. This, together with increasing rates of mortgage stress observed by locals, has a negative effect on social outcomes within the Shire, highlighting the need for diversified and affordable housing in support of a strong and resilient community long-term.

1.1 Population Growth

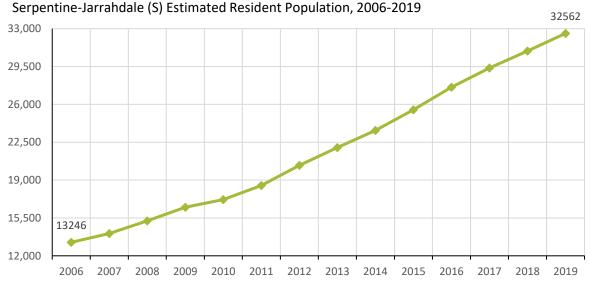
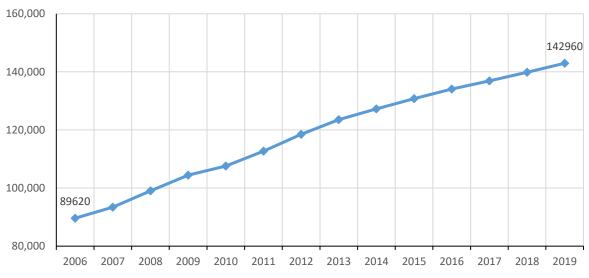


Figure 1. Serpentine-Jarrahdale Estimated Resident Population 2006-2019 (ABS, 2020a)



Peel Estimated Resident Population, 2006-2019

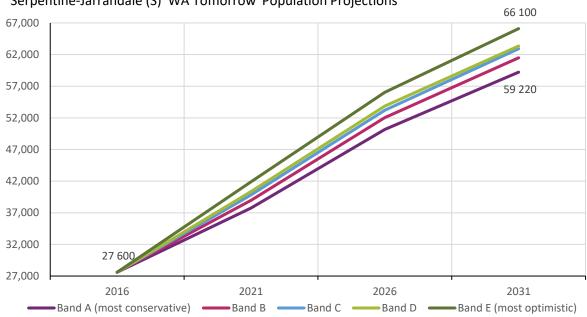
Figure 2. Peel Estimated Resident Population 2006-2019 (ABS, 2020a)

The Shire's estimated resident population has grown by **145.8%** from 2006 to 2019, with population increasing at an accelerated rate between 2011 and 2017. Since 2017 population growth has slowed slightly, however remains higher than the growth rates seen between 2006-2011. Peel's estimated resident population has grown by **59.5%** over the same period, with growth rates slowly slowing toward 2013 and remaining steady from 2014 onwards.

ERP AAGR 2006-2016 Serpentine-Jarrahdale 12.2% Peel 4.2% WA 1.9%

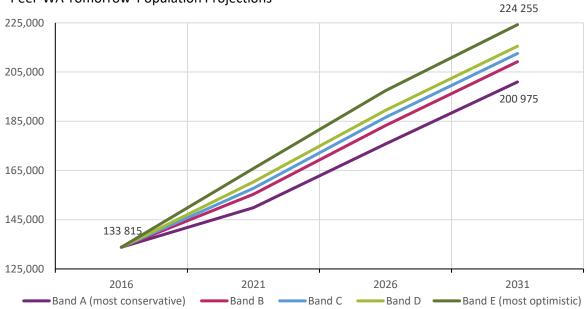
Table 2. Estimated Resident Population Average Annual Growth Rates: Serpentine-Jarrahdale, Peel and WA (ABS, 2017a)

Assuming the 12.2% average annual growth rate of Serpentine-Jarrahdale's estimated resident population between 2006 and 2019 continues, the Shire can be expected to exceed its 'WA Tomorrow' forecast. Continuation of Peel's average annual ERP growth rate of 4.2% will lead to the region having a population in line with the most optimistic 'WA Tomorrow' projections by 2031.



Serpentine-Jarrahdale (S) 'WA Tomorrow' Population Projections

Figure 3. Serpentine-Jarrahdale 'WA Tomorrow' Population Projections (DPLH, 2017)

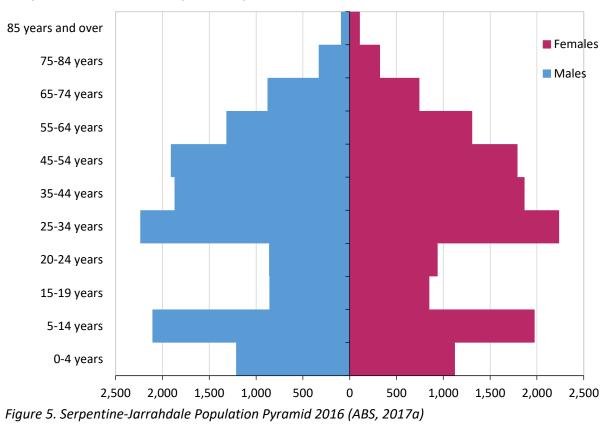


Peel 'WA Tomorrow' Population Projections

Figure 4. Peel 'WA Tomorrow' Population Projections (DPLH, 2017)

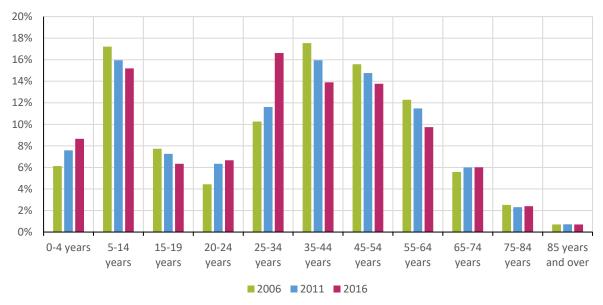
Serpentine-Jarrahdale is projected to have between **59,220** and **66,100** residents by 2031 according to the 'WA Tomorrow' population forecast. The Peel region is expected to have between **200,975** and **224,255** residents by the same year. This forecast is based on the existing trends for fertility, migration and mortality, offering five different scenarios to account for variation. It is worthwhile to note the impacts of the COVID-19 pandemic have not been considered. While this may affect the projections in the short-term, there is less likely to be major long-term impacts to these projections due to the Shire's position as a major growth centre.

1.2 Age and Sex

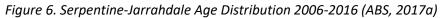


Serpentine-Jarrahdale (S) Population Pyramid, 2016

Serpentine Jarrahdale retains a roughly balanced gender makeup, with **13,617 males** to **13,216 females** living in the Shire. The slightly higher proportion of men living in the LGA may be due to the prevalence of men employed in the local construction sector.



Serpentine-Jarrahdale (S) Age Distribution, 2006-2016



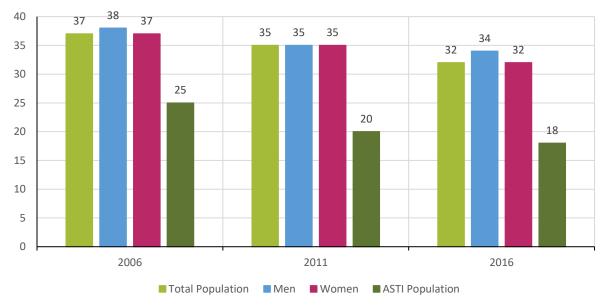
The Shire has seen a steady increase in the proportion of residents in the **0-4**, **20-24** and **25-34** age brackets since 2006, indicative of an increase in the number of young families living in the area. Serpentine-Jarrahdale has also seen the proportion of residents **above 65** remain steady.



Serpentine-Jarrahdale (S), Peel & WA Age Distribution, 2016

Figure 7. Serpentine-Jarrahdale, Peel and WA Age Distribution 2016 (ABS, 2017a)

Relative to Peel and WA, Serpentine-Jarrahdale has a much younger population. The proportion of residents in the Shire under the age of 15 is approximately **2%** higher than that of Peel and WA, whilst the proportion of residents in the 25-34 age bracket is **4.5%** higher than Peel and **1.5%** higher than WA. The relative youth of Serpentine-Jarrahdale's population is further indicative of the Shire's status as an attractor of young families.

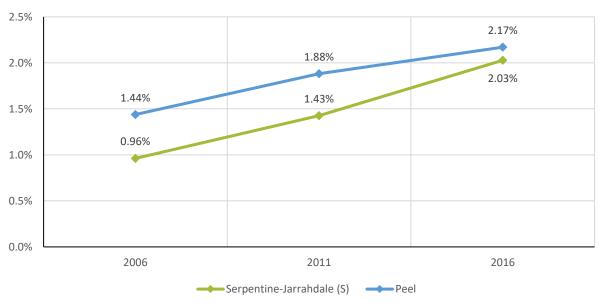


Serpentine-Jarrahdale (S) Median Age, 2006-2016

Figure 8. Serpentine-Jarrahdale Median Age 2006-2016 (ABS, 2017b)

The median age for Serpentine-Jarrahdale has declined from **37** in 2006 to **32** in 2016, however the median age for men has declined less than that of women. The median age for the Shire's ATSI population has decreased drastically from **25** to **18** over the same period, likely due to the relatively high growth in the number of ATSI children in the Shire. The overall decline of the Shire's median age across both sexes and in the ATSI population supports the notion of Serpentine-Jarrahdale as a destination for young families.

1.3 Aboriginal and Torres Strait Islander People



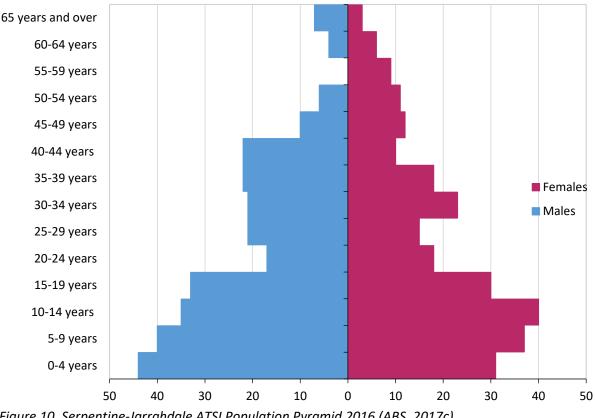
Serpentine-Jarrahdale (S) & Peel ATSI Population Proportion, 2006-2016

Figure 9. Serpentine-Jarrahdale and Peel Proportion of ATSI Population (ABS, 2017c)

ATSI Population AAGR 2006-2016 Serpentine-Jarrahdale 33.8% Peel 12.9% WA 2.9%

Table 2. ATSI Population Average Annual Growth Rate: Serpentine-Jarrahdale, Peel and WA (ABS, 2017c)

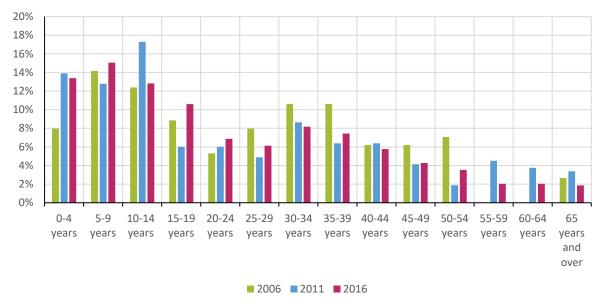
The Shire contained 0.48% less ATSI residents than the Peel region as a proportion of population in 2006, however had closed this gap to only **0.15%** less ATSI residents as a proportion of population by 2016. This is reflected in the aggregate annual growth rate for Serpentine-Jarrahdale's ATSI population, which is **20.9%** higher than the ATSI population growth rate for Peel over the same period.



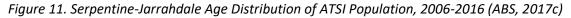
Serpentine-Jarrahdale ATSI Population Pyramid, 2016

Figure 10. Serpentine-Jarrahdale ATSI Population Pyramid 2016 (ABS, 2017c)

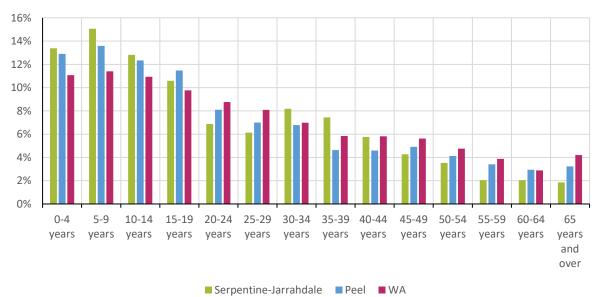
Serpentine-Jarrahdale's ATSI population contains a relatively higher proportion of men, with 282 males to 260 females living in the Shire. This difference is most profound in the 0-4 and 5-9 age brackets, as well as the 35-39 and 40-44 age brackets.



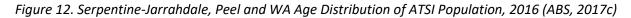
Serpentine-Jarrahdale (S) Age Distribution, 2006-2016



There has been a general increase in the proportion of ATSI residents in all age brackets **below 24** within Serpentine-Jarrahdale since 2006, possibly due to a combination of higher fertility amongst ATSI residents and increased in-migration of children, teenagers and young adults.



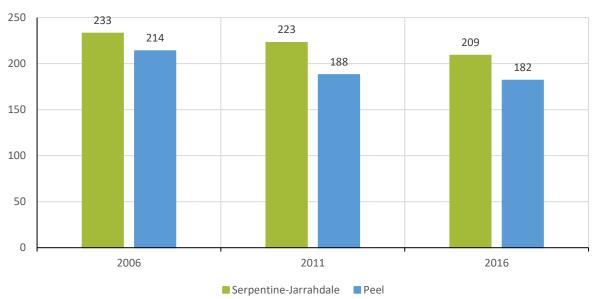
Serpentine-Jarrahdale (S), Peel & WA Age Distribution, 2016



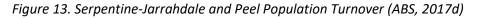
The relative youth of Serpentine-Jarrahdale's ATSI population is notable when compared to Peel and WA, with the Shire having roughly **1%** more ATSI children than Peel and **3%** more than WA. Serpentine-Jarrahdale also has approximately **2%** more ATSI residents in the **30-34** and **35-39** age brackets than Peel and WA.

1.4 Population Turnover

Population turnover measures the combined rate of both in and out-migration 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.



Serpentine-Jarrahdale (S) & Peel Population Turnover, 2006-2016



Serpentine-Jarrahdale has had a consistently higher rate of population turnover than the Peel region, however this has declined somewhat from **233 new residents per 1000** in 2006 to **209 per 1000** in 2016. This would indicate that between **20-23%** of the Shire's residents are different in any given year and can possibly be explained by the Shire's high population growth as well as small outflows of existing residents seeking further education and employment opportunities.

1.5 Housing

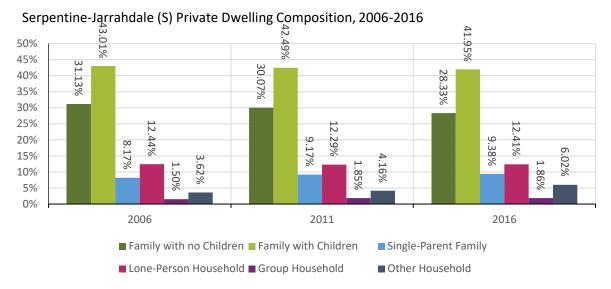


Figure 14. Serpentine-Jarrahdale Household Composition 2006-2016 (ABS, 2017e)

Between 2006 and 2016, Serpentine-Jarrahdale saw a decreasing proportion of families, both with and without children, falling by a respective **1.80**% and **1.06%**. The proportion of single-parent families increased by **1.21%** over the same period, whilst the proportion of lone-person households remained relatively steady.



Serpentine-Jarrahdale (S) Private Dwelling Tenure, 2006-2016

Figure 15. Serpentine-Jarrahdale Housing Tenure 2006-2016 (ABS, 2017e)

The Shire observed a marked increase in the proportion of residents owning their home with a mortgage, rising **10.26%** between 2006 and 2016. The corresponding fall in the proportion of residents owning their home outright was greater, at **12.05%** over the same period, whilst the share of residents renting remained relatively the same. This decline in home ownership correlates with an increase in the Shire's unemployment rate towards 2016 as well as the general trend towards lowered rates of home ownership that has been observed nationally, indicating it may be a symptom of Serpentine-Jarrahdale's rapid population growth. An additional factor may be the increasing degree of mortgage stress Shire residents face, with Byford identified in S&P Global's RMBS Performance Watch as having the highest rate of mortgage stress nationally, a rate **2%** higher than the Greater Perth area.

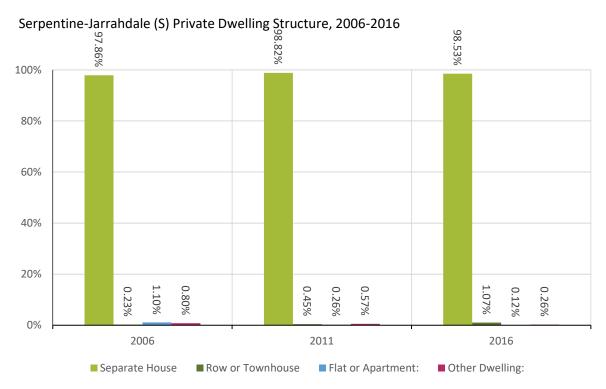


Figure 16. Serpentine-Jarrahdale Dwelling Structure 2006-2016 (ABS, 2017e)

The housing stock of Serpentine-Jarrahdale almost entirely consists of separate, detached homes, with the proportion of residents living in this housing type increasing modestly between 2006 and 2016. Residence in other housing types remained relatively steady over the same period. The high proportion of residents living in separate homes reflects the rural nature of the Shire and the corresponding wish for new development to reflect the existing sense of place. The development of high-density and mixed-use town centres in Byford and Mundijong, catalysed by the connection of the area to METRONET may lead to an increased diversity of housing stock, which would provide benefits for youth, older residents and the overall strength and resilience of the community in Serpentine-Jarrahdale. The Shire has noted an intent to facilitate interim land uses, such as car parking, to reserve land and facilitate the development of higher density housing long-term.

2.0 Workforce

Serpentine-Jarrahdale, despite lacking major commercial or industrial districts, has a robust labour market that sees labour force participation rates typically **3.5-4%** higher than the rest of WA and **13%** higher than the rest of Peel. Unemployment and youth unemployment rates have remained consistently **2-4%** lower than those of Peel and WA. Though the Shire saw a deterioration in both indicators over the period from 2006-2016, this was observed in line with state economic trends and unemployment had recovered to **4.4%** prior to the COVID-19 pandemic, synonymous with an uptick in residential dwelling approvals in the Shire. The strong labour market observed in Serpentine-Jarrahdale is likely due to the relative youth of its population, the LGA's proximity to jobs in Perth's south-eastern corridor and the high level of construction activity on greenfields developments in Byford and Mundijong.

Residents of Serpentine-Jarrahdale are increasingly well educated, however possess lower-level qualifications relative to Western Australia as a whole. **41.35%** of Serpentine-Jarrahdale's residents held a Certificate III or IV level qualification in 2016, whilst only **14.45%** held a bachelor's degree. However, the educational profile of Serpentine-Jarrahdale residents is consistent with the type of jobs held by residents. Construction, Retail Trade and Agriculture have consistently been the most prominent employers in the Shire, typically providing jobs that do not require university-level qualifications.

Construction is the single largest employing sector in Serpentine-Jarrahdale, employing **13.8%** of residents and **17.2%** of workers in the Shire, growing by **92.47%** between 2011 and 2016. This industry has been sustained by the rapid population growth of the Shire, responding to an increased demand for housing particularly in the Byford, Mundijong and Whitby areas. COVID-19 stimulus measures targeting this sector will likely result in additional jobs growth into 2021, however the sector remains exposed to potential cyclical downturns in the future. The Healthcare sector is another large employer of Serpentine-Jarrahdale residents, increasing its share of employment by **23.8%** and the overall number of Shire residents employed by **80.81%**. However, most healthcare jobs available to residents are located outside the LGA at nearby major hospitals such as Armadale Health Service and Fiona Stanley Hospital.

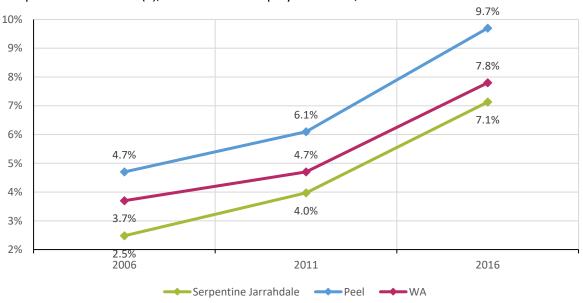
75.57% of Serpentine-Jarrahdale residents leave the Shire for work, typically to the Perth metro LGAs of Armadale, Gosnells, Canning and Cockburn. These LGAs all contain major hospitals and/or are located along Perth's south-eastern corridor, a major industrial employment centre. Observation of Serpentine-Jarrahdale's self-containment statistics indicates there is a much higher proportion of residents working in each industry than there are jobs available within the Shire, synonymous with the lack of any major activity or employment centre servicing the LGA. Developing activity centres that include a diverse number of services, particularly around the fast-growing areas of Byford and Mundijong, will be key to ensuring the self-sufficiency of Serpentine-Jarrahdale's workforce and the Shire's continued growth.

2.1 Labour Market



Serpentine-Jarrahdale (S), Peel & WA Labour Force Participation Rate, 2006-2016

Serpentine-Jarrahdale has had a labour force participation rate that has been steadily increasing from **66%** in 2006 to **67.8%** in 2016, remaining higher than that of the Peel by approximately **13%** throughout the same period. This difference is likely explained by the Shire's relatively youthful population and rapid growth in housing construction within the area providing a high number of jobs with low entry requirements.

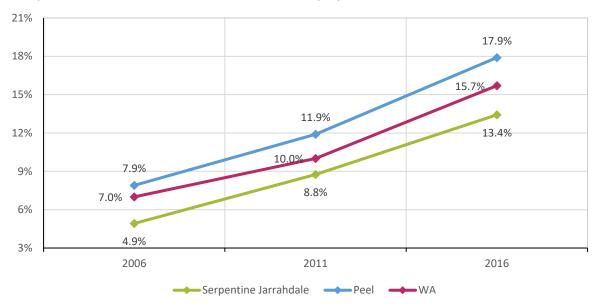


Serpentine-Jarrahdale (S), Peel & WA Unemployment Rate, 2006-2016

Figure 18. Serpentine-Jarrahdale, Peel and WA Unemployment Rate 2006-2016 (ABS, 2017f)

Figure 17. Serpentine-Jarrahdale, Peel and WA Labour Force Participation Rate 2006-2016 (ABS, 2017f)

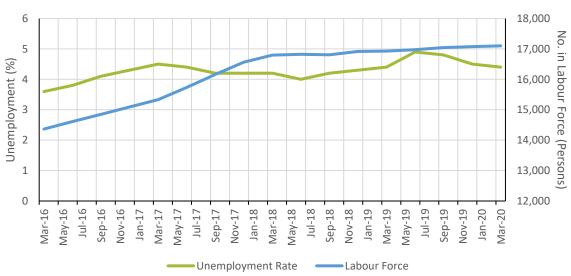
The Shire has seen an uptick in unemployment since 2006, particularly between 2011 and 2016 where Serpentine-Jarrahdale's unemployment rate increased by **3.1%**. This increase in unemployment can most likely be attributed to the slowdown of WA's economy at the end of the mining boom, as similar increases in unemployment were recorded across the Peel region and WA. Despite this, the Shire's unemployment rate has remained consistently lower than that of Peel and WA.



Serpentine-Jarrahdale (S), Peel & WA Youth Unemployment Rate, 2006-2016

Figure 19. Serpentine-Jarrahdale, Peel and WA Youth Unemployment Rate 2006-2016 (ABS, 2017f)

The youth unemployment rate in Serpentine-Jarrahdale increased by **8.5%** between 2006 and 2016, however has consistently remained approximately **3.5%** lower than that of Peel and **2%** lower than that of WA as a whole. Increasing youth unemployment in the Shire may be attributed to the deterioration of economic conditions in the state over that period, as well as a rapid growth in the Shire's youth population outpacing growth in jobs.



Serpentine-Jarrahdale (LGA) SALM Unemployment and Labour Force, 2016-2020

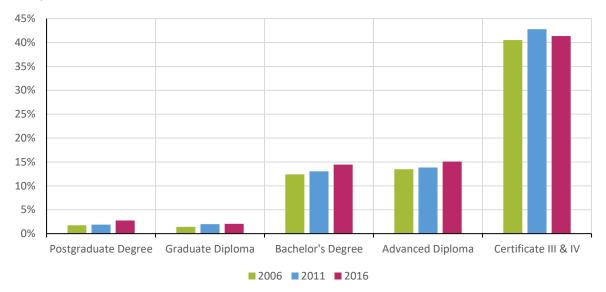
Figure 20. Serpentine-Jarrahdale SALM Unemployment and Labour Force 2016-2020 (DESE, 2020)

SALM Serpentine-Jarrahdale (S) March 2020Unemployment (%) 4.4%No. in Labour Force 17,102Yearly Change- 0.0%172

Table 3. SALM Serpentine-Jarrahdale Data (DESE, 2020)

In March 2020, Serpentine-Jarrahdale recorded an unemployment rate of **4.4%** across a total labour force of **17,102**. This represented no change in the Shire's unemployment rate since March 2019 and an increase in the labour force of **172** workers over the same period. The Shire's relatively low unemployment may be attributed to an increase in housing construction within the LGA and improvement in the state's mining sector.

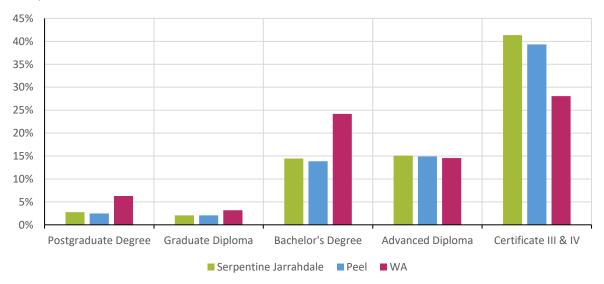
2.2 Educational Attainment



Serpentine-Jarrahdale (S) Educational Attainment Level, 2006-2016

Figure 21. Serpentine-Jarrahdale Educational Attainment Level 2006-2016 (ABS, 2017g)

Between 2006 and 2016, Serpentine-Jarrahdale saw approximately **1%** increase in the proportion of population holding an educational qualification for all levels of attainment, with the highest growth seen amongst those holding a bachelor's degree, increasing by **2.03%**. As higher education and vocational training becomes more accessible, it is expected educational attainment in the Shire will grow.



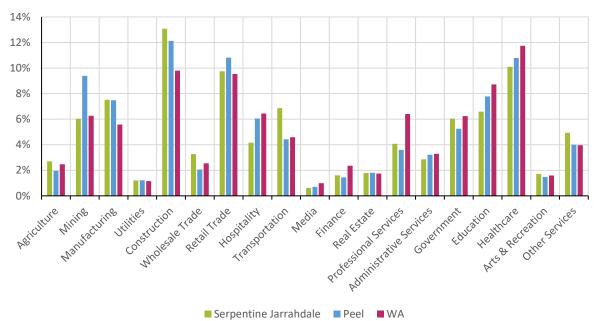
Serpentine-Jarrahdale (S), Peel & WA Educational Attainment Level, 2016

Figure 22. Serpentine-Jarrahdale, Peel and WA Educational Attainment Level 2016 (ABS, 2017g)

Serpentine-Jarrahdale has a relatively lower proportion of its population holding postgraduate and bachelor's degrees than WA as a whole, having **2.5%** and **10%** less residents attaining these qualifications, respectively. Conversely, **11.3%** more residents have attained a Certificate III or IV qualification in Serpentine-Jarrahdale when compared to WA. The proportion of people with an educational qualification in the Shire is similar to that of the Peel region across all attainment levels.

2.3 Industry of Employment

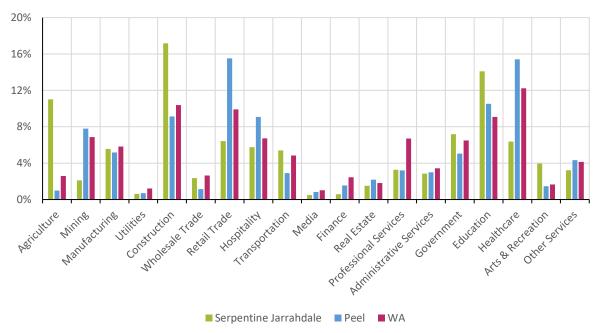
An area's employment profile can be assessed by counting those who usually reside in that area or counting those who work there. Assessing employment by place of usual residence will identify the workforce characteristics of residents, but not necessarily the jobs available within that particular area. 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.



Serpentine-Jarrahdale (S), Peel & WA Employment by Industry (PUR), 2016

Figure 23. Serpentine-Jarrahdale, Peel and WA Employment by Industry (Place of Usual Residence) 2016 (ABS, 2017h)

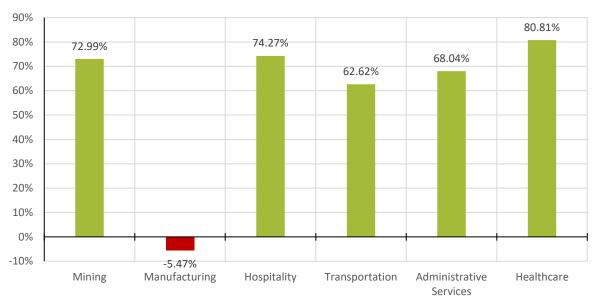
The top three employing sectors for Serpentine-Jarrahdale residents are Construction, Retail Trade and Healthcare, providing a respective **13.8%**, **9.75%** and **10.1%** of residents with jobs. These are identical to the top three employing sectors for Peel and WA, however both Peel and WA employ relatively more people in healthcare and less in construction than Serpentine-Jarrahdale. The prevalence of residents employed in construction can be attributed to the expansion of housing construction within the LGA, whilst the number of residents working in Healthcare may be due to the Shire's proximity to Armadale Health Service and Fiona Stanley Hospital.



Serpentine-Jarrahdale (S), Peel & WA Employment by Industry (POW), 2016

Figure 24. Serpentine-Jarrahdale, Peel and WA Employment by Industry (Place of Work) 2016 (ABS, 2017i)

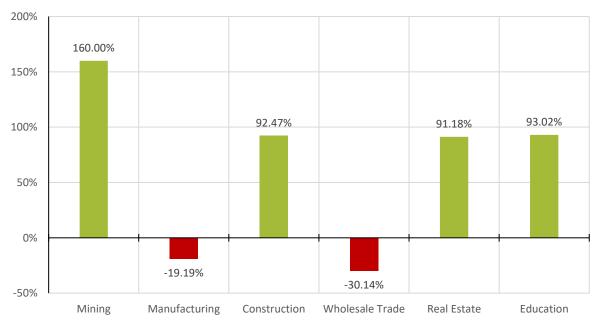
When assessing employment based on those who work in Serpentine-Jarrahdale, Agriculture, Construction and Education are the largest employing sectors, employing a respective **11%**, **17.2%** and **14.1%** of the LGA's workers. A significantly higher proportion of Serpentine Jarrahdale workers are employed in Agriculture and Construction compared to Peel and WA, and a significantly lower proportion employed in Retail Trade and Healthcare. Local employment in agriculture may be attributed to a number of horticultural industries located around Mundijong and Serpentine, whilst the prevalence of local employment in education is likely in response to the increasing schooling needs of the Shire's youth population. The high proportion of both Serpentine-Jarrahdale residents and workers employed in construction would indicate most of these jobs are located locally.



Serpentine-Jarrahdale (S) Industry Growth and Decline (PUR), 2011-2016

Figure 25. Serpentine-Jarrahdale Industry Growth and Decline 2011-2016 (Place of Usual Residence) (ABS, 2017h)

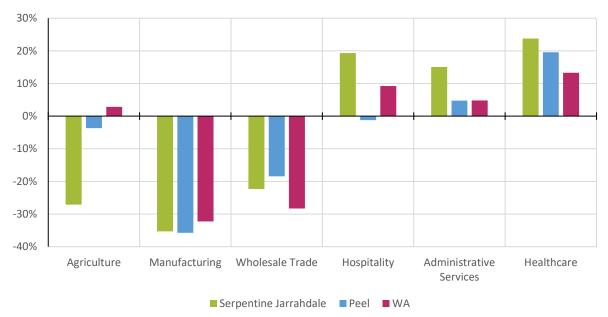
The number of Serpentine-Jarrahdale residents employed increased between 2011 and 2016 across all sectors except for manufacturing, which posted a **5.47%** decline in total employment. Mining, Hospitality and Healthcare posted the biggest increases over this period, seeing increases of **72.9%**, **74.27%** and **80.81%**, respectively. Increases in employment in the Mining sector may have been due to an increase in the uptake of Fly In, Fly Out (FIFO) work, whilst increases in the Healthcare sector may be attributed to major expansions at Armadale Health Service and the completion of Fiona Stanley Hospital during this period.



Serpentine-Jarrahdale (S) Industry Growth and Decline (POW), 2011-2016

Figure 26. Serpentine-Jarrahdale Industry Growth and Decline 2011-2016 (Place of Work) (ABS, 2017i)

The Mining, Construction, Education and Real Estate sectors saw the largest increases in jobs located within Serpentine-Jarrahdale between 2011 and 2016, posting respective increases in total employment of **160%**, **92.47%**, **93.02%** and **91.18%**. Conversely, local employment within the Shire's Manufacturing sector declined by **19.19%** and by **30.14%** in its Wholesale Trade sector. Total employment only increased by **56 jobs** in the Mining sector and **16 jobs** in the Media sector despite high proportional increases, whereas the Construction sector employed an additional **356 workers** in the LGA. Increases in Serpentine-Jarrahdale workers' employment in the Mining and Media sectors may be down to factors at the individual firm level, whilst increases in Construction are likely a result of continued greenfields expansion since 2011.

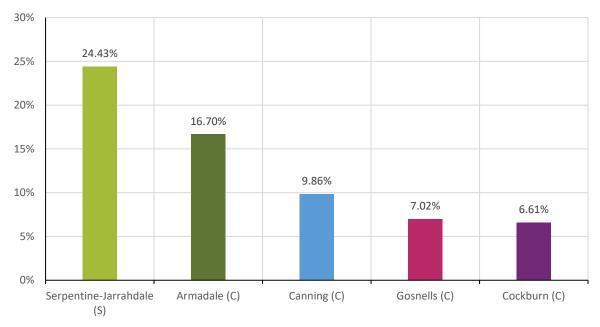


Serpentine-Jarrahdale (S), Peel & WA Industry Share of Employment Change, 2011-2016

Figure 27. Serpentine-Jarrahdale, Peel and WA Industry Share of Employment Change 2011-2016 (ABS, 2017h)

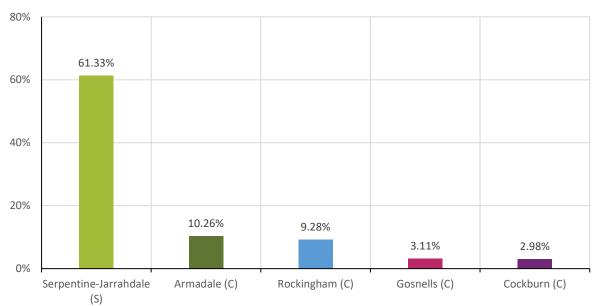
Over the period from 2011 to 2016, Serpentine-Jarrahdale saw considerable declines in the share of its residents employed in the Agriculture, Manufacturing and Wholesale Trade sectors, yet saw increases in the share employed in Mining, Hospitality and Healthcare. Declines in Agriculture were not consistent with employment trends for both Peel and WA, indicating this may have been due to localised factors. Such factors may include the decreasing availability of land for agriculture due to the conversion of rural land to residential subdivision projects as well as potential land fragmentation. Declines in Manufacturing and increases in Healthcare, however, were similar across Serpentine-Jarrahdale, Peel and WA.

2.4 Self-Containment



Serpentine-Jarrahdale (S) Resident's Place of Work

Only **24.43%** of Serpentine-Jarrahdale residents work within the LGA, with the majority of residents working in the neighbouring Perth metro LGAs of Armadale, Canning, Gosnells and Cockburn. Serpentine-Jarrahdale residents working in Armadale and Cockburn are likely to be employed in healthcare jobs, due to the location of Armadale Health Service and Fiona Stanley Hospital within these LGAs. Serpentine-Jarrahdale residents do not appear to interact with the broader Peel workforce, with only **2.04%** of the workforce working elsewhere in Peel, as opposed to the **31.1%** of residents in the Shire of Murray who work in other Peel LGAs.



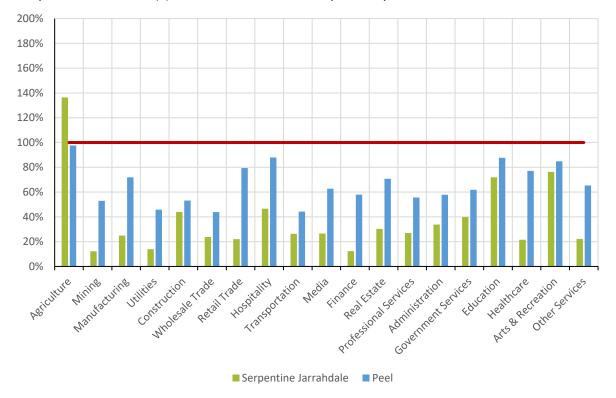
Serpentine-Jarrahdale (S) Worker's Place of Residence

Figure 29. Serpentine-Jarrahdale Workers' Place of Residence 2019 (REMPLAN, 2020a)

Figure 28. Serpentine-Jarrahdale Residents Place of Work 2019 (REMPLAN, 2020a)

Conversely, **61.33%** of Serpentine-Jarrahdale workers also lived in the Shire, whilst small proportions of workers came from the neighbouring LGAs of Armadale, Rockingham, Gosnells and Cockburn. Only **3.87%** of Serpentine-Jarrahdale workers come from elsewhere in Peel, compared to the **38.3%** of Shire of Murray workers that come from neighbouring Peel LGAs. Given the low proportion of residents working within the Shire yet high proportion of residents amongst Shire workers, it can be inferred Serpentine-Jarrahdale has significantly fewer employment opportunities than its population requires.

Self-containment is the proportion of residents working in an industry to the number of jobs available within that industry in a particular location. A self-containment level under 100% indicates there are not enough jobs available for all residents, and some must leave the area for work, whilst self-containment levels above 100% indicate a shortage of workers. Drastically low levels of self-containment indicate a low level of employment self-sufficiency in a particular location.



Serpentine-Jarrahdale (S) & Peel Self Containment by Industry, 2016

Figure 30. Serpentine-Jarrahdale and Peel Self Containment by Industry 2016 (ABS, 2017h; ABS, 2017i)

Across all industry sectors within Serpentine-Jarrahdale, only Agriculture has a self-containment level above 100% at **136.39%**, meaning it is the only industry where there is a relatively appropriate number of jobs for the number of people working in the sector. Eight other industry sectors, notably Healthcare and Manufacturing, have self-containment levels **below 25%**, highlighting the shortage of local jobs within the Shire. These low self-containment levels, as well as the fact only **24.43%** of residents work in Serpentine-Jarrahdale, are indicative of the Shire's status as a "dormitory suburb."

3.0 Economy

The local Construction industry produced approximately **one quarter** of Serpentine-Jarrahdale's gross regional product in 2019, with the Shire's economic contribution to the state valued at **\$2.07 billion**. Much of the remainder is provided by the Real Estate, Agricultural, Manufacturing and Education industries, generally in line with each sector's share of employment within the Shire. There is, however, a large disparity between Real Estate's share of employment and its total output, with much of this output derived from property services in the form of ownership of dwellings and rent imposition as opposed to being labour-based income. The Shire's top revenue and jobs generating industries generally reflect the demographics of the Shire, with heightened construction activity in response to Serpentine-Jarrahdale's rapidly growing population, and a high level of employment in Education in response to the needs of the growing share of young people living in the Shire.

Location Quotients identify the most specialised sectors within an area when compared to another, usually larger, economy, in this case comparing Serpentine-Jarrahdale to Western Australia as a whole. Since 2011, location quotient data indicates that the Shire has become relatively more specialised in Transport, and relatively less specialised in Agriculture, with the Wholesale and Healthcare industries also increasing their respective location quotients. This would indicate the comparative advantage of these sectors within Serpentine-Jarrahdale is growing, presenting the Shire with an opportunity to invest in building a sustainable employment base within these sectors to ensure the needs of its population are met. Agriculture and Construction have typically been economically dominant within the Shire and provide a combined annual value-added income of **\$302 million** in 2019. However, growth in the LGA's construction sector has been relatively flat, and its agricultural sector's relative share of employment has been in decline since 2011. The Transport and Healthcare sectors provide opportunities for the Shire to invest in emerging industries, given both provide a combined annual value-added income of **\$71 million**, have seen increases in their location quotient and their relative share of employment within the shire.

Opportunities for further economic development present themselves in the form of Cardup Business Park, the Byford METRONET precinct and in the long-term, the development of West Mundijong Industrial Area. Cardup Business Park provides ample land in the centre of the Shire for light industrial, construction and equine businesses to cluster, facilitating collaborative opportunities and improved networking potential between potential investment partners. The emergence of a town centre around the METRONET station precinct in Byford provides an opportunity to develop services that will act as anchors for ancillary businesses. Attracting anchor tenants in the professional services sector will stimulate demand for adjacent retail and hospitality businesses, concentrating economic activity in Byford with the benefits of clustering. The extension of Tonkin Highway and realignment of freight rail around West Mundijong, as well as the development of an intermodal freight facility at the site, will catalyse industrial development, particularly in logistics and warehousing, around the precinct in the long-term.

3.1 Revenue

Serpentine-Jarrahdale (S) Share of Revenue by Industry

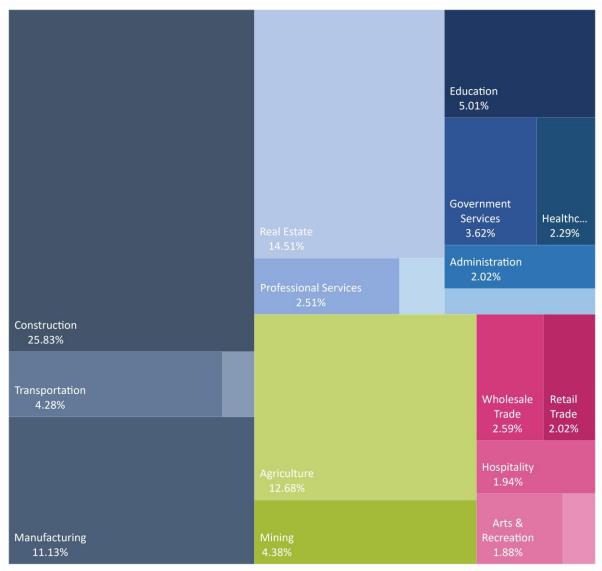


Figure 31. Serpentine-Jarrahdale Share of Output by Industry 2019 (REMPLAN, 2020b)

Construction provided **one quarter** of Serpentine-Jarrahdale's output in 2019, contributing **\$536 million** to the local economy. Most of this revenue is earned through construction services, which includes contracting for carpentry, electrical and plumbing services as well as land development and subdivision. Increased land development and building activity spurred by Federal and State COVID-19 recovery stimulus will likely see local construction firms' revenue increase into 2021. Real Estate contributed the second largest amount to the Shire's revenue at **\$301 million** per year, however much of this income is derived through the ownership of dwellings via the imputation of rents. The nextlargest revenue generating industries are Agriculture and Manufacturing, contributing **\$263 million** and **\$231 million** respectively, in line with the relative proportion of people working in Serpentine-Jarrahdale that are employed within these industries.

3.2 Jobs

Serpentine-Jarrahdale (S) Share of Jobs by Industry

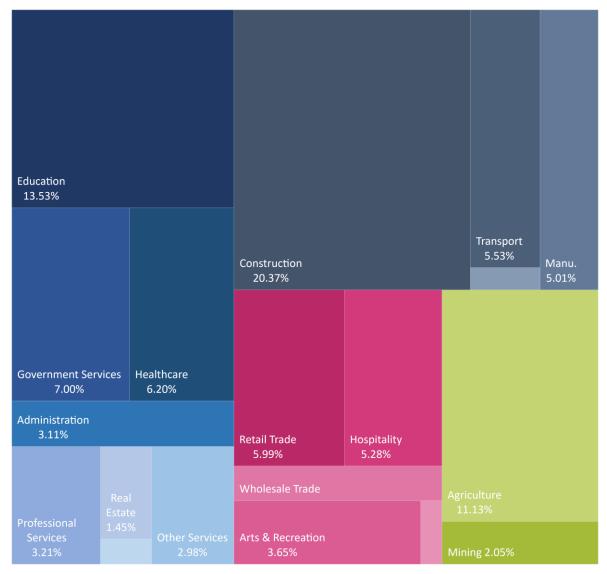
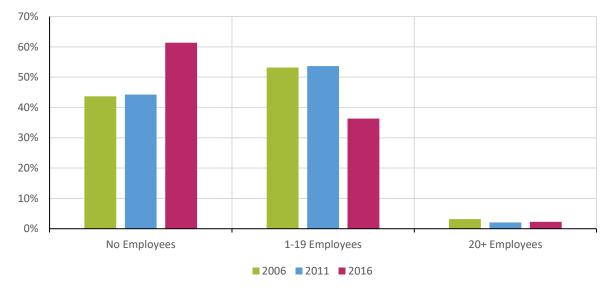


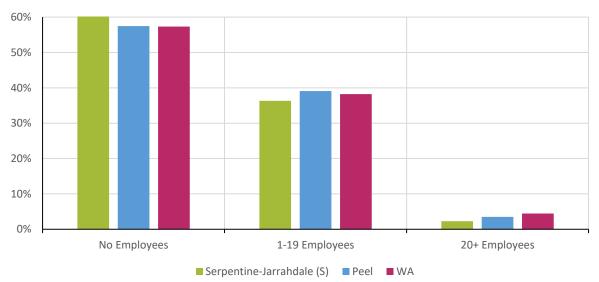
Figure 32. Serpentine-Jarrahdale Share of Jobs by Industry 2019 (REMPLAN, 2020c)

Serpentine-Jarrahdale's largest employing sector in 2019 was the Construction sector, providing **983 local jobs**, increasing its share of the Shire's employment by **18.4%** since 2016. This is synonymous with an increase in the number of building approvals in the Shire, likely due to development induced by the approval of the Byford Town Centre Structure Plan. The effects of the COVID-19 recovery stimulus on housing construction state-wide will likely cause further jobs growth in the local construction sector into 2021. Education provided **653 local jobs** to Serpentine-Jarrahdale in 2019 and is the second-largest employing sector in the shire. **572** of these jobs are in Pre-School, Primary, Secondary and Special Education, reflecting the high proportion of children living in the Shire who require these services. Agriculture accounts for the third largest number of jobs in Serpentine-Jarrahdale, with **210 jobs** provided by the local horticultural industry, **127 jobs** available on poultry farms and **126 jobs** created from livestock farming.



Serpentine-Jarrahdale (S) Proportion of Businesses by Number of Employees, 2006 - 2016

Figure 33. Serpentine-Jarrahdale Number of Employees by Business 2006-2016 (ABS, 2017j)



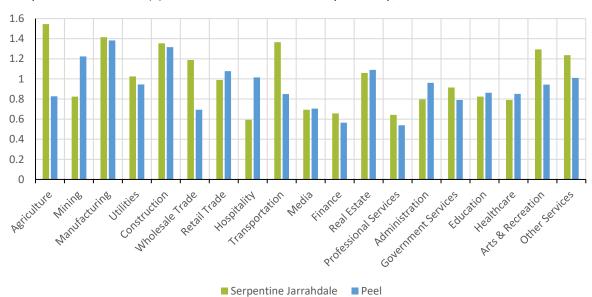
Serpentine-Jarrahdale (S), Peel & WA, Proportion of Businesses by Number of Employees, 2016

Figure 34. Serpentine-Jarrahdale, Peel and WA, Number of Employees by Business 2016 (ABS, 2017j)

The proportion of businesses by number of employees is relatively consistent across Serpentine-Jarrahdale, Peel and WA as a whole. Between 2011 and 2016, the proportion of businesses in Serpentine-Jarrahdale with no employees other than the owner(s) increased by **15.13%**, whilst the proportion of businesses with 1-19 employees fell by **13.33%** over the same period. The total number of businesses active in the Shire increased from **958** in 2011 to **1137** in 2016, however this represents decline of almost a third from 2006, where **1583** businesses were active in the Shire. The overall decline in the number of businesses and decline in the proportion of businesses with employees towards 2016 highlights the need for the Shire and local industry to foster a positive entrepreneurial and investment climate to ensure the success of start-up and existing businesses in the long-term.

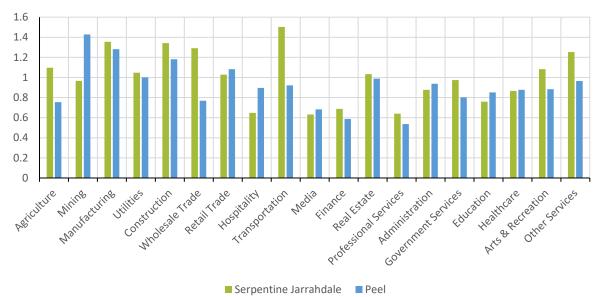
3.3 Location Quotient

An area's location quotient represents the proportional employment in the locality when compared to another, usually larger area. In this instance, both Peel and Serpentine-Jarrahdale have been compared to WA as a whole. The higher a location quotient is, the more relatively specialised an area is in a particular sector.



Serpentine-Jarrahdale (S) & Peel Location Quotients by Industry, 2011

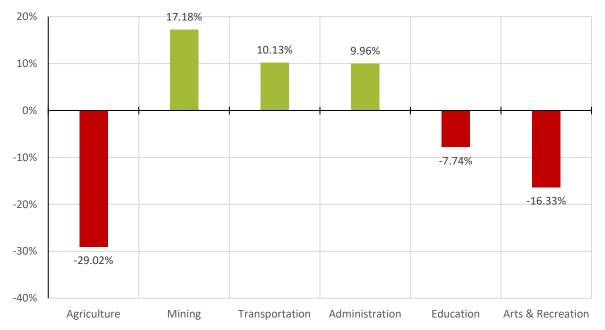
Figure 35. Serpentine-Jarrahdale and Peel Location Quotients by Industry 2011 (ABS, 2012)



Serpentine-Jarrahdale (S) & Peel Location Quotients by Industry, 2016

Figure 36. Serpentine-Jarrahdale and Peel Location Quotients by Industry 2016 (ABS, 2017i)

In 2016, Serpentine-Jarrahdale was most specialised in its Transportation sector, which had a location quotient of **1.5**. This represents a significant change from 2011, where Agriculture and Manufacturing were the Shire's most specialised sectors. Relative to the Peel region, the Shire has been consistently more specialised in Agriculture, Wholesale Trade and Transportation, whilst being less specialised in Mining, Hospitality and Retail Trade. Given this, the Shire may benefit from investment in local Agricultural, Wholesale Trade and Transportation hubs due to the competitive advantage the LGA has over its neighbours in the Peel region.



Serpentine-Jarrahdale (S) Change in Location Quotient, 2011-2016

Figure 37. Serpentine-Jarrahdale Change in Location Quotients by Industry 2011-2016 (ABS, 2012; ABS, 2017i)

Changes in location quotients can provide indications of industry sectors that are growing or declining within a locality. Sectors with a location quotient **over 1** that record increases over time may be considered strong performing industries, which would include the Transportation and Wholesale Trade sectors in Serpentine-Jarrahdale. Those with increasing location quotients that are **below 1** may be considered emerging industries and include the Shire's Mining and Healthcare sectors. Investment in these sectors by the Shire will ensure economic and employment growth potential is maximised, providing increasing returns to the LGA in the form of additional revenue and jobs. Conversely, contractions in the location quotients of Serpentine-Jarrahdale's Agriculture, Education and Arts & Recreation sectors were observed, indicating these sectors are in relative decline.

3.4 Key Industries

Growth Rate	Mining	Hospitality	Administration	Healthcare	Transportation
Increasing LQ	Mining	Wholesale Trade	Transportation	Administration	Healthcare
Backwards	Manufacturing	Construction	Media	Professional	Arts &
Linkages				Services	Recreation
Employment	Construction	Education	Agriculture	Government	Healthcare
				Services	
Exports	Agriculture	Construction	Manufacturing	Mining	Transportation
Value-Add	Real Estate	Construction	Agriculture	Education	Government
					Services

 Table 4. Serpentine-Jarrahdale Key Propulsive Sectors (REMPLAN, 2020d)

Agriculture and Construction are two industries that have historically contributed the most to the Shire of Serpentine-Jarrahdale. The local construction industry is the LGA's largest contributor to both revenue and employment, providing **\$168 million** in value added income to the Shire in 2019 and involving strong backward linkages that result in money being spent locally. Growth in the Construction industry and its location quotient have been relatively flat when compared to other sectors, however. Agriculture, whilst providing **\$134 million** in value added income in 2019, does not have strong backwards linkages that result in money being spent within the Shire and has both declining employment and a declining location quotient. Cardup Business Park provides ample industrial land, connected to major infrastructure, for the Shire to reinvigorate the activities of these industries through the creation of light industry and equine hubs to support future growth. In particular, the development of an equine hub will leverage the Shire's existing equine facilities, such as the Byford Trotting Complex and the Darling Downs Equestrian Park, to provide additional benefits to local tourism and agriculture.

Key Industries	Secondary Industries
Agriculture	Arts & Recreation
Construction	Healthcare
Manufacturing	Transportation

Table 5. Serpentine-Jarrahdale Key and Secondary Industries (REMPLAN, 2020d)

Both Healthcare and Transportation have posted growth in employment and location quotients within Serpentine-Jarrahdale. Transportation provided approximately **\$21.8 million** in export revenue for the Shire in 2019, and Healthcare provides **299 jobs**, that same year. Improvements in these sectors will increase the amount of money brought into the Shire in the form of value-added income. Clustering healthcare services in the emerging Byford town centre around a 'Health Hub,' with the possible inclusion of a research facility, will spur the future growth of this industry. The long-term development of West Mundijong Industrial Area, centred around a multi-modal freight hub, will provide future opportunities for logistics companies such as Toll to locate in the area with a direct connection to the proposed WestPort facility. The Shire's Arts and Recreation industry contains strong backwards linkages; however, the sector does not currently contribute significantly to Serpentine-Jarrahdale's overall revenue or jobs within the LGA. The Shire's focus on facilitating trails and equine tourism, in the form of a 'Trails Triangle' Between Mundijong, Jarrahdale and Serpentine, as well as its participation in the Perth Hills Tourism Marketing Strategy provides opportunities to grow this sector.

4.0 Infrastructure

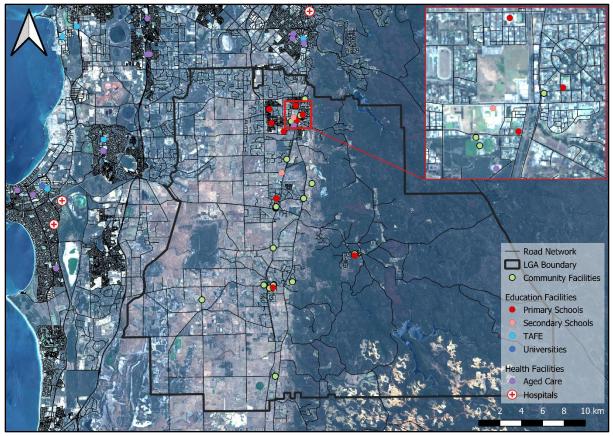
Given the rapidly growing population of the Shire, fast-paced infrastructure development in Serpentine-Jarrahdale is required to meet demand into the future. Whilst the provision of services in the Shire is adequate for the current population in certain areas, gaps are beginning to emerge, particularly in the education, healthcare and support services available to Shire residents. These gaps are expected to grow as the Shire's population continues to increase. Major infrastructure aimed at addressing these gaps, notably an 'Integrated Health Hub' and TAFE facilities in Byford Town Centre are proposed and intended to be completed within the next five years.

Whilst the Shire does have a significant number of recreation facilities available for community use, the majority of these are not developed to a standard that delivers amenity for residents, something the Shire has acknowledged and intends to address as part of its *Strategic Community Plan 2017-2027*. The Shire intends to upgrade facilities as required to adequately meet the needs of its growing population, developing facilities such as the Kiernan Park Recreation Precinct to fill shortfalls in the provision of recreational services.

The Shire has ample land available for both residential and industrial development, as outlined in the WAPC's *Perth and Peel @ 3.5 Million* planning strategy. This land is primarily centred on the Byford-Mundijong corridor adjacent to South Western Highway, with residential development currently focused on expansion in greenfields subdivisions rather than infill development within town centres. The planned METRONET station precinct around Byford Town Centre aims to serve as a catalyst for increased residential development, however. Industrial development is currently centred around Cardup Business Park, with the Shire intending to develop additional industrial land in West Mundijong in the long-term.

Due to the population growth of the Shire and expansion in greenfields subdivisions around Byford, *Perth and Peel @ 3.5 Million* provides for significant expansion of utilities infrastructure across Serpentine-Jarrahdale into the future. New power and water infrastructure is intended to catalyse further land development in the Shire, particularly surrounding Byford and Mundijong. Transportation infrastructure development in the Shire is centred around the Byford METRONET extension, future freight rail realignment and the extension of Tonkin Highway, initially to South Western Highway.

4.1 Services



Map 2. Serpentine-Jarrahdale Community, Education and Healthcare Facilities

Education

Facility (Type)	Service	Regional Administration
Byford John Calvin School	K – Year 6	Free Reformed School's
		Association
Byford Kindergarten	К	South Metropolitan
Byford Primary School	Pre-Primary – Year 6	South Metropolitan
Byford Secondary College	Year 7 – Year 12	South Metropolitan
Court Grammar School	K – Year 12	Association of Independent
		Schools WA
Jarrahdale Primary School	K – Year 6	South Metropolitan
Marri Grove Primary School	K – Year 6	South Metropolitan
Mundijong Primary School	K – Year 6	South Metropolitan
Salvado Catholic College	Pre-K – Year 6	Catholic Education WA
Serpentine Primary School	K – Year 6	South Metropolitan
West Byford Primary School	K – Year 6	South Metropolitan

Table 6. Education Facilities in Serpentine-Jarrahdale (S)

Serpentine-Jarrahdale contains six public primary schools and three private primary schools, as shown in Map 2. Secondary schooling options are limited in comparison, with high school students being able to attend Byford Secondary College or Court Grammar School. Given this, several Shire residents attend public and independent secondary schools in Armadale, or private schools in Perth. The Shire's rapidly growing population is likely to place further pressure on local schools in the long term, with the Shire identifying a need to provide at least one additional public primary school and one additional public secondary school in the Byford area to relieve pressure on existing schools, many of which are already at capacity. Such an outcome will require the identification of additional land for these sites as well as an amendment to the existing Byford District Structure Plan.

The Shire has identified gaps in tertiary education opportunities within its boundaries as being a key issue for its future economic development, with a TAFE campus proposed to be developed in Byford Town Centre to this end. There are no major university campuses located within the Shire or within close proximity to the LGA, although Murdoch University does run veterinary courses at Whitby Farm. Facilitating connections to public transportation to nearby TAFE campuses in Armadale, Kwinana and Rockingham and university campuses in the wider Perth Metro, as well as improving remote learning access and facilities within Serpentine-Jarrahdale will expand the post-secondary education opportunities available to Shire residents.

Healthcare

Facility	Services Provided
Byford Health	General Practitioner Services, Family Medicine,
	Immunisations, Vaccinations
Byford Medical Centre	Chronic Illness Care, Day Surgery (minor), General
	Practitioner Services, Pathology Services, Mental
	Health Services
Mundijong and Serpentine Medical Centre	Diagnostic Services, General Practitioner Services,
	Immunisations, Family Medicine, Pathology
	Services, Vaccinations

Table 7. Healthcare Services in Serpentine-Jarrahdale (S)

Serpentine-Jarrahdale is not served by a district hospital, with the closest hospitals located in Armadale, Murdoch and Rockingham, identified in Map 2. Facilitating access to these hospitals for both patients and visitors via on-demand and public transportation options is thus a necessity for the Shire. Private medical providers cover some of the services typically offered by district hospitals, with these including Byford Health, Byford Medical Centre and Mundijong and Serpentine Medical Centre. The Shire has expressed an interest in expanding Byford Medical Centre and clustering healthcare services around this facility to develop an 'Integrated Health Hub' in Byford Town Centre.

Aged Care

Service
At-Home Care, Residential Aged Care
At-Home Care, Retirement Living

Table 8. Aged Care Services in Serpentine-Jarrahdale (S)

Two aged-care providers are currently located within the Shire, with additional providers such as Juniper and Silver Chain located nearby in Armadale and operating at-home care services within Serpentine-Jarrahdale. The only residential aged care facility within the Shire, BaptistCare Graceford Village, is located south of the proposed Byford Town Centre. BaptistCare is building a new **6.7ha** aged care and independent living facility in Byford, involving the construction of community purpose facilities. It is expected BaptistCare's existing Graceford facility will be repurposed to support alternative aged care opportunities. Long-term contingencies for the integration of this and future aged care facilities with the proposed Byford Health Hub should be considered in order to maximise the co-location of services as the Shire's population ages.

Sport and Recreation

Facility	Service
Bruno Gianatti Hall	Badminton Courts, Concert Venue, Event
	Support, Fitness Classes, Volleyball Courts
Byford Hall	Catering Facilities, Fitness Classes, Meeting
	Rooms, Social Activities, Workshops
Eric Senior Pavilion & Reserve	Catering Facilities, Conference Venue,
	Equestrian Grounds, Fitness Classes,
	Workshops
Jarrahdale Pavilion	Childcare, Playgroups, Social Activities, Tennis
	Courts, Workshops
Keysbrook Community Hall	Catering Facilities, Conference Venue, Fitness
	Classes, Social Activities, Workshops
Mundijong Pavilion & Reserve	AFL Ground, Catering Facilities, Clubrooms,
	Concert Venue, Fitness Classes, Social Activities
Oakford Community Centre	Catering Facilities, Childcare, Playgroups, Social
	Activities, Workshops
Serpentine Jarrahdale Community Recreation	Basketball Courts, Creche, Extreme Sports Area,
Centre	Fitness Classes, Function Room, Gymnasium
Serpentine Jarrahdale Library	Library Facilities, Social Activities, Tech Support

Table 9. Community Facilities in Serpentine-Jarrahdale (S)

The Shire of Serpentine-Jarrahdale operates several facilities designed to provide leisure and recreational opportunities for both Shire residents and visitors, with these identified in Map 2. The Shire will soon begin construction of a multi-purpose sport and recreation precinct at Kiernan Park, featuring a wide variety of sports grounds with supporting facilities. Existing community facilities in the Shire have a heavy focus on the facilitation of sporting opportunities and events. Most are maintained and run directly by the Shire, with hire opportunities available for large and small events including concerts and conferences. However, no public swimming pool currently exists in the Shire.

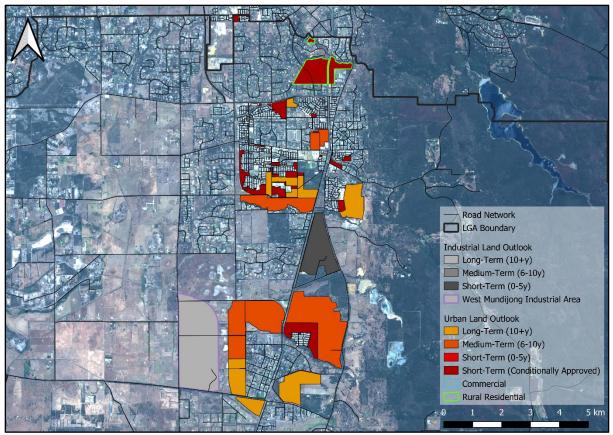
Social Service	Provision Status
Child and Adolescent Health	Lacking
Department of Human Services	Phone/Online
Family Support Service	Phone/Online
Peel Youth Services	Phone/Online
Victim Support Unit	Lacking

Family and Domestic Support

Table 10. Family and Domestic Support Services in Serpentine-Jarrahdale (S)

Few family and domestic services are located within the Shire, with most only available to residents via phone/online access. Services not based in the Shire are located nearby in Armadale, hence the importance of developing transportation linkages between the Shire and its surrounding regions. During the 2020 COVID-19 pandemic, the Shire has been working with service providers in Mandurah, Rockingham and Armadale to encourage place-based service provision in the Shire on a regular basis. It is expected these services will remain in the short-term and base themselves permanently as the Shire's population grows.

4.2 Land Use



Map 3. Serpentine-Jarrahdale Urban Land Development Outlook.

Residential Development

Serpentine-Jarrahdale's Draft Local Planning Scheme (Draft LPS 3) identifies ample land for residential development around the Byford and Mundijong Town Centres, creating a 'spine' along South-Western Highway, shown in Map 3. Draft LPS 3 is currently under consideration for final approval by the WA Planning Commission. The Byford Town Centre Structure Plan indicates a desire to increase residential densities around Byford Station, aligning with METRONET's 'station precinct' strategy to catalyse public transport demand and efficiency through density and mixed-use zoning. The Shire intends to retain the regional character of Mundijong and Serpentine despite increasing the level of development and economic activity in these two areas as indicated in the Mundijong District Structure Plan. Village-style development is intended to make up the predominant portion of residential development in this area, with mixed-use and medium density construction restricted to main streets.

Industrial Development

Opportunities for light industrial development currently exist at Cardup Business Park, with a structure plan completed for the area in 2019, outlining site conditions and constraints, management strategies for infrastructure and appropriate land uses and lot sizes in alignment with relevant planning frameworks, including the Shire's new Draft LPS 3. Cardup Business Park offers **137ha** of industrially zoned land in direct proximity to major freight routes, as well as Byford and Mundijong town centres, shown in Map 3. The area provides opportunities for the clustering of construction and light industrial businesses, with the headquarters of major civil construction firms Colli Timber, Permacast, Permapole and Wormall already located in the precinct. There are also opportunities to develop an equine business park in the rural areas surrounding the precinct, focused on providing ancillary

services, such as supplement manufacture and veterinarian facilities that serve the existing equine infrastructure in Serpentine-Jarrahdale.

The long-term centre for industrial development within the Shire of Serpentine-Jarrahdale is the West Mundijong Industrial Area, shown in Map 3. The land is currently owned by several private landholders, presenting a challenge in the form of acquisition. No State government level support is currently committed to develop the **440ha** intended for this site, however the Shire has expressed a desire to secure state funding support for the site's initial infrastructure headworks. Attracting long-term anchor tenants to this land presents a challenge for the Shire in being able to compete with the nearby Peel Business Park and Latitude32 industrial areas. Given DevelopmentWA already owns land at these competitor sites that remains undeveloped, it is unlikely West Mundijong will receive the same level of state support in the short and medium term.

However, there are some opportunities for the Shire to proceed with smaller-scale dry-lot subdivision in the short-term to catalyse initial industry development at the site independently of State government investment. As a result, the Shire is currently working to proactively attract businesses to the area. Longer-term, given the future infrastructure committed to the site in the form of the proposed Tonkin Highway extension and freight rail realignment, as well as the fact most industrial areas in the Southern Perth Metropolitan Area are constrained by surrounding residential development, West Mundijong contains a unique ability in the long term to offer strategically located and greenfield planned industrial landholdings anchored by an intermodal freight facility.

4.3 Utilities

Power

Power is supplied to the Shire via a terminal at Byford. Additional power terminals are to be constructed east of Nicholson Road in Oakford and north of Karnup Road in Hopeland to meet future demand, with additional sub-stations to be constructed at the Nicholson Road site and near Mundijong town centre, as indicated in *Perth and Peel @ 3.5 Million*. New 132kV overhead transmission lines are to connect the proposed terminals to Kwinana, Pinjarra and Rockingham.

Water

The Shire's water supply is largely derived from reservoirs at Serpentine and Wungong Dams, as well as groundwater extraction. Existing reservoir and pump infrastructure exist in Mundijong, at the base of Serpentine Dam, and south of Byford, at the base of Wungong Dam. There is currently no wastewater treatment facility within the Shire, with the nearest treatment plant located at Kwinana Outer Harbour. *Perth and Peel @ 3.5 million* indicates an additional wastewater treatment main is to be constructed connecting this plant with Byford and Mundijong town centres.

Given the high degree of land fragmentation around Mundijong town centres, there is a risk that failure to deliver infill sewer infrastructure may reduce the development potential of the current town. Resultingly, the Shire has identified a need to consult with the Water Corporation to deliver back haul sewer infrastructure to the town. The Shire has recognised that failure to deliver this infrastructure will restrict the potential of the Mundijong Townsite for both economic and residential development.

Longer-term contingencies for water supply have been investigated as part of the Serpentine-Jarrahdale Integrated Water Management Initiative. The initiative indicates groundwater extraction and storage facilities may be constructed at four locations; Barriga Main Drain, Manjedal Brook, Punrack Drain and Gooralong Brook. The construction of surface runoff and groundwater extraction facilities in these locations could alleviate a future water demand deficit of up to **3 GL per annum**. In addition to the Integrated Water Management Initiative, *Perth and Peel @ 3.5 Million* proposes two new storage reservoir facilities to be constructed at Byford and Mundijong, with additional water mains to connect Serpentine-Jarrahdale to water sources in the Perth Hills and Shire of Murray.

Transportation

The Shire has major connections to Perth via Tonkin and South-Western Highways, as well as to Mandurah, Kwinana and Perth via Thomas and Mundijong Road's connection to the Kwinana Freeway. Thomas Road provides Serpentine-Jarrahdale with a connection to freight ports at Kwinana and Fremantle, with expansion of this route to improve its capacity to serve as the Shire's main road freight link with the proposed Westport Facility at Kwinana. Narrow Gauge rail connects the Shire to industrial estates in Forrestfield and Kewdale, as well as to Fremantle and Kwinana. An intermodal freight facility is proposed to be included as part of the West Mundijong Industrial Area under the *Perth and Peel @ 3.5 Million* planning strategy, together with the realignment freight rail in the Shire.



Map 4. Proposed Tonkin Highway Extension and Freight Rail Realignment

Tonkin Highway is proposed to be extended down to South-Western Highway as a major road connection for both freight and passenger traffic, with an extension to West Mundijong scheduled that will allow freight to bypass the Mundijong Town centre as shown in Map 4. This extension will also facilitate industrial development at the West Mundijong Industrial Area. The Transperth Armadale passenger line is to be extended to Byford as part of stage one of the State government's METRONET project. A 'station precinct' is to be developed around the station site, involving civic, commercial and high-density residential uses. *Perth and Peel @ 3.5 Million* provides for a high-frequency transit corridor down South-Western Highway to connect this station precinct to Mundijong town centre.

5.0 Case Studies

Three case studies of Australian and International towns that have pursued economic diversification projects like those proposed for the Shire of Serpentine-Jarrahdale are presented below. Each has a similar economic profile to Serpentine-Jarrahdale, featuring rapid growth in recent years, complemented by an abundance of opportunity within local agricultural, industrial and tourism sectors. The projects carried out within these towns provide a guide as to how diversification measures may be followed within the Shire to ensure a successful result.

Waroona, WA

The technological-based expansion pursued by agricultural firms in Waroona, particularly that of Capogreco Farms and Fruitico, provides a roadmap for similarly innovative agricultural intensification projects within the Shire of Serpentine-Jarrahdale.

Capogreco Farms received a \$210,000 Regional Economic Development (RED) grant from the State government in 2020 to construct a rapid cooling system at its Hamel property. This rapid cooling facility will help prolong the shelf life and quality of fruit grown for export to the Asian market. In addition, this facility has enabled:

- Improved storage capacity of produce sourced from regional suppliers in Broome and Kununurra;
- The doubling of grower input, representing around 1,700 tonnes of fruit annually; and
- The creation of four full-time equivalent positions, including two quality control inspectors and two warehouse operators.

The use of similar grant opportunities, such as existing State government RED grant process, will enable farmers located within the Shire to develop technologies that facilitate enhanced production, increased export capacity and greater employment opportunities. Co-location of logistical and wholesale facilities with the proposed West Mundijong Industrial Area and intermodal freight facility will improve the collaborative and export capacity of local firms.

Fruitico's partnership with Fresh Produce Group in 2016 has enabled the firm to develop key international linkages that have allowed business to expand dramatically. The partnership has given Fruitico access to leading grape breeders to cultivate premium table grape genetics, providing the firm with a unique value proposition that has supported its expansion within the Chinese market. Due to demand from its newly cultivated export markets, Fruitico intends to expand its vineyards on an additional 42 hectares of land, supporting over 300 additional jobs.

In addition, Fruitico has also partnered with SWAN Systems to improve water management at its Hamel vineyards. SWAN Systems collects ongoing data regarding soil moisture status, tracking and budgeting water usage at the Fruitico vineyards in the process. Collecting this and meteorological data guides the timing of vineyard irrigation for more efficient water management. This has led to both improved nutrient health, higher yield and a reduction in overall water cost for the farm's Hamel operations.

Developing similar partnerships in Serpentine-Jarrahdale, potentially with the Serpentine-Jarrahdale Food and Farm Alliance or Peel Growers' Group established by Southern Dirt, may enhance the ability of local firms to deliver niche food products, as well as share employment resources and technological capabilities in a manner that will boost economic activity and jobs within the Shire.

Bell Bay, TAS

Bell Bay Advanced Manufacturing Zone (BBAMZ), situated on the northern coast of Tasmania directly adjacent to the settlement of Georgetown, covers 2,500 hectares of industrial land separated into four distinct zones for heavy industry, general industry, light industry and agri-tech. This zone initially expanded from the operations of Bell Bay Aluminium, driven by the local government's desire to connect and cluster industry, and now represents 59% of Tasmania's manufacturing exports. To manage investment, land sales and employee development, 17 businesses within the BBAMZ have partnered with 8 state and local government agency representatives to create an Economic Development Group overseeing the operations of the zone.

The BBAMZ Economic Development Group partnered with KEEN as an employment services and training provider for all 17 businesses within the zone in order to streamline the administrative and regulatory aspects of workforce training, improve efficiency and lower cost. KEEN runs all trainee and apprenticeships for the businesses within the BBAMZ and operates a short-term relief staffing system that minimises the impact to income caused by the cyclical and seasonal nature of some industrial work. Employees are contracted to businesses during seasonal periods and/or times of high-demand on an as-needs basis, then employed by KEEN in off-peak times. This allows businesses to retain a continual roster of well-trained staff, eliminating expenses associated with seasonal labour hire and training, as well as allows workers to retain their income year-round.

The purpose of the BBAMZ Economic Development Group is to develop an ecosystem that supports growth, investment and business diversification within Bell Bay, giving back to the local community in the form of value-add and profits. The Economic Development Group is industry-led, yet supported by government, acting as a singular point of contact for the entire industrial zone between businesses, communities, individuals as well as local and State government agencies. This 'one voice' has streamlined the land acquisition, approvals and construction processes for new businesses at BBAMZ, as well as provided a greater amount of assistance for operators, recruitment and training. By pooling leadership and resources, the Economic Development group is better able to provide access to opportunities for collaboration and investment as well as access to export markets. The group also acts as a 'safety net' in times of reduced economic activity, improving business confidence.

For the purpose of attracting future investment and networking with potential export partners, the BBAMZ Economic Development Group created a branding strategy to drive the growth of the industrial area. This branding strategy acts as a tool to market the entre Bell Bay region as a place to live, work and play, with the strategy being credited as being a major factor in driving the region's population growth over the last three years. The strategy has had buy-in from both local and State government, with the Georgetown council committed to implementing the strategy through its own services and strategies, and the Tasmanian Department of Population providing a grant for the strategy's implementation through to 2022.

Bell Bay Advanced Manufacturing Zone and the Economic Development Group that supports it serve as an example for the intensification of equine and industrial activity at Cardup Business Park in Serpentine-Jarrahdale. The Shire of Serpentine-Jarrahdale, together with possible partner agencies such as DPIRD and DevelopmentWA, may facilitate the creation of a similar economic development group to drive land subdivision at and business relocation to Cardup. Labour organisations similar to KEEN may be contracted to utilise the vast labour pool within Serpentine-Jarrahdale that currently works outside the Shire, and branding strategies may be created to market Cardup to future tenants, investors and employees. This model may also be applicable to the future development of West Mundijong Industrial Area in the longer-term.

Camden, NSW

Camden, located on the western outskirts of Sydney, is one of the fastest growing LGAs in Australia, with its population expected to triple from 80,250 to 307,750 by 2041. This population growth, similarly, to Serpentine-Jarrahdale, is primarily driven by an influx of young families and migrants moving into the area from elsewhere in New South Wales. In the immediate term, the LGA requires urgent upgrades to existing secondary school infrastructure as well as the construction of a new K-12 primary and secondary school. The Camden Council has also highlighted a need for expansion in the LGA's public transport network, with a rapid bus network required to transport commuters to rail in the town's centre, and further rail expansion to connect the area to the new Western Sydney Airport. Within the context of this rapid development, Camden faces a similar challenge to Serpentine-Jarrahdale in that its residents overwhelmingly desire the retention of the existing rural lifestyle and character.

The Camden Council's Economic Development Strategy identified six key industry sectors to develop the region's human capital and diversify its economy into the future. These are:

- 1. **Education.** The LGA identified a need to expand education offerings within its boundaries, developing school-work pathways and linking available courses to target industry sectors in the process. The development of an education 'cluster' within the LGA was identified as having potential flow through effects for the wider economy as educators relocate to Camden.
- 2. **Professional Services.** Camden Council identified a significant gap between the level of services required and those available in the Accounting, Consulting and Legal fields. The creation of a 'precinct' for these services and the development of school-work pathways specifically focused on this sector were identified as methods to expand this sector.
- 3. **Healthcare.** Given the rapid expansion of Camden's population, the level of health services required is expected to be greater. The LGA has identified the possibility of connecting growth in healthcare to the education industry, developing a 'research hub.' The expansion of existing facilities and development of new services, such as a new children's hospital, has been proposed.
- 4. **Tourism.** Camden is ideally located as a daytrip and weekend getaway destination on Sydney's doorstep. Camden Council wishes to develop Aboriginal cultural links in collaboration with traditional owners to provide a unique tourist offering. The LGA intends to facilitate the development of gastro-tourism to leverage the local agricultural industry.
- 5. **Agriculture.** In conjunction with the desire to expand Camden's education industry, the LGA has expressed a desire to position itself as a research and innovation hub. Camden Council is in the process of strengthening relationships with existing agricultural institutions and aims to get domestic and international partners to locate in the LGA.
- 6. **Construction.** Camden Council has identified this sector as integral to the future population growth of the LGA and aims to maximise jobs growth in this sector in the immediate term in order to provide a buffer against future downturns. The LGA intends to identify ways of leveraging construction skills to be applicable to civil works or general industry in the long-term.

Camden's Economic Development Strategy provides a framework for Serpentine-Jarrahdale to identify the key economic sectors that will drive its economy into the future and highlight opportunities for collaboration that will maximise benefit for the community. Whilst the development of healthcare services in the Shire is unlikely to the same extent as in Camden, potential alternatives may include the development a professional services hub around the Byford METRONET station precinct, or the creation of a logistics hub at West Mundijong Industrial Area in the long-term.

6.0 Regional Priorities & Future Opportunities

Six regional priorities have been considered as part of this report to guide the future development of the Shire of Serpentine-Jarrahdale. Five of these priorities directly address the five key themes of the *Peel Regional Investment Framework*, these being Agricultural Innovation, Strong and Resilient Communities, Capable People, Thriving Industry and Tourism Excellence. A sixth 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 Shire 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 themes, most notably the development of vibrant town centres in Byford and Mundijong to strengthen the Shire's sense of place. The development of a METRONET precinct in Byford will facilitate a form of higher density living and mixed-use functionality that cluster services, recreation opportunities and infrastructure, directly addressing the framework's first theme, strong and resilient communities. The emergence of town centres in Byford and Mundijong will allow the Shire to expand its service offering to include niche gastro-tourism and accommodation facilities, improving its capacity to deliver tourism excellence. Improved town centres will provide greater transportation opportunities for residents through the Byford rail extension and Byford-Mundijong high-frequency public transport corridor, providing connectivity to education and job opportunities to increase the capability of the local workforce.

Further priorities recognise the need for the Shire to develop local industry, particularly around Cardup Business Park and West Mundijong Industrial Area. Facilitating the intensification of industry in Cardup Business Park is a priority for Serpentine-Jarrahdale and will provide the Shire with a base from which to strengthen local equine and light industrial employment. Clustering equine businesses around this area will support the Shire's business case for the development of a significant equestrian centre within Serpentine-Jarrahdale and anchor equine activity as part of a 'hub' in the north of Peel, per the *Peel Equine Strategy*. Developing the area's light industrial capacity will support the Shire's construction sector, enabling collaborative investment opportunities that enhance the capabilities of local firms as well as improve employment outcomes for residents. In the longer-term, the development of the West Mundijong Industrial Area is a priority for the Shire. Connecting major industrial producers to facilities such as the proposed Westport and Kewdale across the wider Perth and Peel, the proposed development of an intermodal freight facility at West Mundijong will support the emergence of a locally based logistics hub, improving value-add opportunities for local industries to grow and thrive.

An understanding of the key issues and opportunities that catalyse the need for action within each of these six 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 six priorities summarised in the tables below. Assessing local, regional and state strategies, as well as discussions with Shire 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.

Thriving Industry

Goal: To diversify Serpentine-Jarrahdale's economic structure in a manner that connects the Shire to domestic and productive capacity.	d international market opportunities, building upon the existing comparative advantages to maximise the Shire's
Achieved By:	
 Catalysing general industrial activity via infrastructure development. 	 Enhancing transportation linkages to Kwinana, the wider Peel and the Perth Metro.
 Clustering skills and knowledge-oriented industries to maximise backward linkages. 	 Expanding the capabilities of local companies to deliver specialist trade services.
• Fostering the development of specialist trade skills with local education providers.	 Securing land for future community, commercial and industrial precinct development.
Key Issues:	Key Opportunities:
• Fragmented land ownership presents challenges for industrial development and key infrastructure	Availability of land and connecting infrastructure at Cardup Business Park presents an immediate opportuni
construction, increasing the risk of private and state investment.	for the Shire to develop a construction, light-industry and equine hub.
Initial service infrastructure costs for West Mundijong will inhibit the growth of this precinct, reducing its	• COVID stimulus spending provides a pathway to secure long-term funding for major infrastructure projects.
competitiveness with Kewdale, Latitude32 and Peel Business Park in the absence of initial seed capital.	Intensification of business activity at Cardup may be catalysed by the adoption of a new Draft Local Planning
Lack of business cases detailing development stages, projected demand and potential land uses for Cardup	Scheme and the adoption of Developer Contribution Schemes for this area.
Business Park and West Mundijong reduces attractiveness to potential tenants and investors.	Major infrastructure works could enable the expansion of the local construction industry (business size and
 Neighbouring industrial estates at Latitude32, Kewdale and Peel Business Park already perform functions 	capability) and strengthen their ability to undertake more complex contracts.
intended for West Mundijong and are not yet at capacity.	WestPort, Tonkin Highway, and freight rail realignment to network the Shire with industrial areas in Perth as
Overreliance on population-driven housing construction as an employer and revenue-generating industry.	well as improve the attractiveness of private and public investment in local industry development.
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.	developed in conjunction with key stakeholders.
Quick Wins (Less Than 1Yr):	Short Term (1-2Yr):
Shire to identify long-term strategic opportunities for Cardup Business Park as a construction, light-industry	Encourage local construction, trades and service industries to cluster and relocate to Cardup Business Park, with a satisfies the chine summary including rate concessions.
and equine support services cluster and West Mundijong Industrial Area as a logistics and warehousing hub,	with possible Shire support including rate concessions.
developing an investment prospectus for public release.	Develop a branding strategy to market West Mundijong Industrial Area and Cardup Business Park to potenti investors and leader and attract investment support for fitture lead calca, subdivision and development
 Shire to consider future opportunities for Byford Trotting Complex and investigate the development potential for this complex to host a significant equestrian control 	investors and landowners and attract investment support for future land sales, subdivision and developmen
for this complex to host a significant equestrian centre.	Participate in existing local content and mine servicing projects to facilitate contractor arrangements between local companies and mine operators.
 Shire to begin development of design guidelines for both Cardup Business Park and West Mundijong Industrial Area as part of investment attraction initiatives for both precincts. 	
Short Term (1-2Yr):	 Progress equine initiatives such as the SJ Equine Festival and Equine Business Network (peer-to-peer) to support the emergence of an equine business precinct in the Shire.
 Approve MRS Amendments to transfer reserves 21500, 30867, 4486 and 4330 to freehold for commercial and 	
civic development opportunities around Byford and Cardup.	 Develop strategies to support private sector expansion through establishment of a civil infrastructure works
 Develop and implement land planning policies specifically designed to support the local equine industry and 	pipeline.
relevant ancillary services (e.g. equine supplements, veterinarians).	 Facilitate the creation of, and provide operational support to, local industry steering groups representing
 Investigate opportunities for small scale, dry-lot subdivision to occur at West Mundijong with alternate 	growth industries such as equine and Construction.
headworks, in order to catalyse initial industrial land uses.	 Work with private operators to create an innovation ecosystem involving common-user technologies and
• Shire to enable the further subdivision of service commercial and light industrial lots at Cardup Business Park	digital infrastructure available to light-industry in Cardup.
to facilitate intensification.	Long Term (5+Yr):
Medium Term (2-5Yr):	 Local steering groups, in collaboration with the Shire, to formalise co-operative relationships as part of an
• Complete the West Mundijong Industrial Area Structure Plan and identify long-term strategic opportunities	economic development group to guide the growth of industrial estates in Serpentine-Jarrahdale.
for the area as a logistics and warehousing cluster.	 Identify opportunities for early investors in West Mundijong to participate in existing economic development
• Shire to identify potential strategies for land acquisition and infrastructure development at West Mundijong	and industry steering group arrangements.
as part of a business case for the precinct, subject to the recommendations of a final Structure Plan.	
Long Term (5+Yr):	
Shire to continue consultation with the WestPort Taskforce Reference Group to seek to include West	
Mundijong as an integrated industrial services node to support both the Australian Marine Complex in	
Henderson and proposed Kwinana Freight Terminal via existing and proposed heavy haulage links.	
• Shire to develop a business case in consultation with Department of Transport/Public Transport Authority,	
Economic Regulation Authority and Arc Infrastructure (parties privy to the Rail Freight System Act 2000) and	
determine land requirements for the construction of an intermodal freight facility at West Mundijong	
Industrial Area, per the needs of the Perth and Peel @ 3.5 Million planning frameworks.	

strial Area and Cardup Business Park to potential future land sales, subdivision and development. ts to facilitate contractor arrangements between Agriculture & Food Innovation

Goal: To diversify the agricultural offerings of the Shire and intensify the level of production amongst Serpentine-Jarrahdale agri-businesses, developing linkages to local consumers and network opportunities to increase exports and value-add.

value-add.	
Achieved By:	
 Cluster and intensify food production to minimise land footprint. 	Developing local technological capacity for on-farm food proce
 Improving the operational capacity of agribusiness to deliver end-to-end production. 	 Networking businesses with export, wholesale and local market
 Protecting high-value agricultural land from residential and industrial development. 	Supporting agri-business to minimise production and transport
Key Issues:	Key Opportunities:
Agriculture in the Shire has been dominated by 'traditional' broad acre and livestock farming which has	Collaboration to support local food producers with partners su
become more difficult to sustain.	Fruitico and Capogreco's expansion in Waroona provides an in
• Conflicts between residential and rural land requirements in the Shire due to population growth and urban	investment for Shire agri-business to follow.
sprawl have limited agricultural land availability.	Location of the Shire enables easy access to the Perth market a
Environmental constraints on the production value of remaining agricultural land limits the productive	proposed Westport in Kwinana.
capacity of local farms.	Market City in Canning Vale offers a case study in agricultural v
• Limited capability and mindset of local farmers to intensify agricultural production limits sectorial expansion	Resumption of Shire-run farmer's markets in Nov. 2020 to prov
and increases the chance of path-dependent industry decline.	develop a local 'food brand.'
• Production costs currently limit the earnings capacity of local farmers due to low product volume and value.	West Mundijong provides a location for large-scale agricultura
The sector is exhibiting productivity, industry share and location quotient declines.	connecting local producers to export markets.
Currently Proposed Initiatives:	Future Potential Initiatives:
Planned and funded actions outlined in existing State, regional and local strategies, to be delivered as per relevant	t Potential actions suggested by this report based on economic tren
plans by key stakeholders.	developed in conjunction with key stakeholders.
Quick Wins (Less Than 1Yr):	Short Term (1-2Yr):
 Work with agri-business to identify opportunities for intensification and food processing. 	Identify opportunities to support or facilitate further equine su
• Explore opportunities to hold community farmers markets on a regular basis in Byford, Jarrahdale, Mundijong	g wider equine industry.
and Serpentine town centres.	Engage Perth Market Group and City of Canning to conceptual
Short Term (1-2Yr):	market and distribution centre.
• Shire to develop and approve a local planning policy for roadside/wayside stalls to facilitate the provision of enterprise stacking and cellar door opportunities.	 Support SJ FFA and Southern Dirt grower's group to create pot and webinars to support local enterprise stacking initiatives.
• Examine opportunities to commence on-farm food production with local farmers, undertaking a feasibility	Medium Term (2-5Yr):
study into possible outcomes.	Consolidate and protect unfragmented high quality agricultura
• Investigate feasibility and opportunities for a permanent farm-produce market to be established by private	changes.
operators or grower's groups near Byford or Mundijong town centres.	Create an agricultural development strategy to identify opport
Medium Term (2-5Yr):	balance land use requirements with residential development.
• Liaise with DWER to investigate the feasibility of Managed Aquifer Recharge systems for irrigation and water mains per the Shire's Integrated Water Initiative.	 Undertake feasibility studies into the development of aqua and agricultural land the Shire intends to retain as rurally zoned.
 Provide opportunities for local farmers to participate in research programs associated with a Future Food CRC 	
at WA Food Innovation Precinct and Peel Grower's Hub.	Consider expansion of Murdoch's Whitby Farm facility and ide
Long Term (5+Yr):	horticultural training, research and high-tech demonstration si
• Shire to create an investment framework to promote on farm value-add processing of agricultural produce	Develop strategies and funding models for private sector-led e
within the shife and investigating the reasibility of co-location between agn-processing and logistics facilities	
within the Shire and investigating the feasibility of co-location between agri-processing and logistics facilities at West Mundijong in the long term to minimise supply chain impacts.	and planning support.
at West Mundijong in the long term to minimise supply chain impacts.	

ocessing. rket opportunities. ortation costs.

such as SJ FFA and Southern Dirt grower's group. intensification model enabled by private

t and future export opportunities via the

warehousing and wholesale opportunities. rovide a platform to catalyse value-add and

ral warehousing and wholesale facilities

nds and expansion of existing actions, to be

supplement production to support the Shire's and

alise the development of large-scale farmer's

otential education tools, such as masterclasses

Iral land with relevant zoning and reservation

ortunities for future production activities and

and horticultural opportunities on lower quality

dentify opportunities to refocus its use for site.

expansion in local agriculture, including grants

Tourism Excellence

Goal: To increase long-term and repeat tourist visitation to the Shire, supporting a diverse array of competitive businesses in delivering high-value products and services, as well as the sustainable upkeep of the Shire's heritage and natural assets. Achieved By:

Achieved By:	
 Capitalising on the brand developed as part of the Perth Hills Marketing Strategy. 	Creating a consistent sense of place in line with the Shire's herit
 Developing tourist 'trails' that connect assets and businesses across the Shire. 	Investing in enabling infrastructure, such as accommodation and
 Privately developing tourism services to fill gaps in accommodation and hospitality. 	 Securing land for major tourism infrastructure, such as accomm
Key Issues:	Key Opportunities:
• Fragmented land ownership presents a challenge to developing integrated, Shire-wide tourist infrastructure,	Collaboration between Perth Hills LGAs on the Perth Hills Market
e.g., equipment hires, shuttle bus services.	Draft Local Planning Scheme No. 3 and Draft Local Planning Poli
• Lack of accommodation services located within the Shire limits ability of visitors to lengthen stays and reduces	s investment in tourist accommodation and enterprise stacking in
the area's attractiveness as a destination overall.	• Events such as the Opera at the Mill and WA Show Jumping Cha
• The Shire has limited resources to develop tourist marketing strategies and initiatives on its own, requiring	Support for initiatives from Tourism WA and Destination Perth
significant buy-in from private operators.	business capabilities and networking.
• Tourism is currently reliant on a 'day-trip' market, limiting opportunities to increase visitor spend and value-	SJ FFA is a strong local advocate for rural smallholdings develop
add, also inhibiting competitiveness with areas such as the Swan Valley.	entrepreneurs.
 Proximity to similar trails and adventure tourism offerings in Mundaring and Murray require the LGA to 	Natural and Heritage assets located within the Shire provide a p
differentiate branding and available experiences to attract tourists.	create unique tourism experiences.
Currently Proposed Initiatives:	Future Potential Initiatives:
Planned and funded actions outlined in existing State, regional and local strategies, to be delivered as per relevant	Potential actions suggested by this report based on economic trend
plans by key stakeholders.	developed in conjunction with key stakeholders.
Quick Wins (Less Than 1Yr):	Short Term (1-2Yr):
Shire to approve Draft Local Planning Policy for short-stay accommodation and develop an investment	Conduct feasibility studies into the establishment of a walking to
prospectus to attract operators.	facilities in Dwellingup.
Perth Hills Tourism Alliance to approve Perth Hills Destination Marketing Plan, Shire to develop marketing and	
branding strategies.	local tourism operators to encourage increased tourism product
 Engage potential tourism partners (e.g. RAC Resorts) to develop an eco-tourism accommodation hub and 	Establish a social media marketing program to promote local att
wellness retreat in Jarrahdale, develop a business case as an investment attraction tool.	word of mouth via high reach platforms.
Short Term (1-2Yr):	Medium Term (2-5Yr):
• Shire to partner with stakeholders (e.g. AirBnB, Farm Stay) to expand small-scale accommodation services in the Shire.	 Undertake concept and feasibility investigations into significant development opportunities.
• Explore opportunities to bring large-scale equine events to the Shire on a permanent basis, such as the WA State Show Jumping Championships.	 Establish relationships with relevant stakeholder groups to attra such as school camps and conferences.
Secure funding for the Shire's Stage 1 Trails Development Business Case, commence construction of trail	Identify operators to establish and expand day trip and weeken
infrastructure at Jarrahdale Trails Head.	potentially connecting with the new Byford METRONET precinct
Medium Term (2-5Yr):	Long Term (5+Yr):
• Establish Nettleton Road as a tourist drive involving 'cellar door' opportunities facilitated through enterprise stacking initiatives, with possible future intensification.	 Develop a conservation management plan in collaboration with heritage assets around Jarrahdale as a cultural landscape.
Progress Keysbrook Moto Park. Shire to conduct feasibility studies for additional adventure tourism facilities	 Explore opportunities to supplement proposed accommodation
such as 4WD or BMX to be developed west of Mundijong.	managed facilities including camping grounds and caravan parks
 Shire to implement a tourist wayfinding system reflecting intended branding and local sense of place across 	camps to be held on-site.
the LGA, focused on a 'trails triangle' between Jarrahdale and Mundijong.	Facilitate expansion of the Nettleton Road tourist drive concept
Long Term (5+Yr):	and Karnup Roads as well as South-Western Highway, intensifyi
• Encourage the development of an accommodation hub and wellness retreat on Shire-owned land (Lot No.	tours and farm to table through potential grants and/or develop
814) in Jarrahdale, creating an investment prospectus to attract suitably qualified private operators to develop	
the site per the Shire's Tourism Strategy	
• Shire to facilitate funding for the additional development of walking and equine trails as well as supporting	
infrastructure such as equipment hire, shuttle transport and visitors centres around Jarrahdale, focused on	
gaining accreditation for Jarrahdale as a 'Trails Town.'	

eritage and natural assets. and transportation. modation and trails.

rketing Strategy for tourism development. olicy for short-stay accommodation to stimulate initiatives.

hampionships raise the Shire's tourism profile. h will allow the Shire to facilitate improved

ppment, may provide educative workshops for

point of difference that can be leveraged to

ids and expansion of existing actions, to be

trails centre at Jarrahdale Trails Head akin to

rants, rate subsidies and development support to uct.

attractions, businesses and content, focusing on

nt large scale potential tourism product

tract potential business and educational tourism

end tours in the Shire in collaboration with DBCA, nct.

th DPLH and the National Trust to protect

on services at Jarrahdale Trails Head with Shirerks, with the potential for school and business

ept across the Shire to include locations on King fying cellar door activities to include tastings, lopment assistance.

Capable People

Goal: To develop a diversified and skills-oriented employment base within the Shire in order to improve Serpentine-Jarrahdale's economic productivity and retain residents, jobs and investment in the long-term, raising the human capital profile of the Shire in the process.

Developing attractive and self-sustaining town centres in Byfo
Partnering with local stakeholders to develop school-to-work
• Promoting the development of knowledge clusters in Byford a
Key Opportunities:
• \$1.5m investment from the Shire to placemaking initiatives in
commercial and professional service hubs in conjunction with
Co-location of a TAFE and Health-Hub within the Byford METR
and potential for industry linkages.
Development of a TAFE in Byford will allow for collaborative e
• Funding, reskilling and upskilling of local workers through the
Remote working to reduce distance barriers to employment a
collaboration potential available to educators and business gr
Future Potential Initiatives:
Potential actions suggested by this report based on economic tren
developed in conjunction with key stakeholders.
Short Term (1-2Yr):
 Identify strategies to ensure the development of a professional
METRONET station precinct site.
• Develop activity centre and placemaking plans for the Byford
commercial activity to encourage high and medium density de
 Promote commercial land development opportunities that pro
response to greater local employment and skills matching for S
 Support the introduction of focused VET in Schools courses at
pathways to entry into the equine and other Shire growth ind
Medium Term (2-5Yr):
Develop a business activation strategy to stimulate entreprene
development of Byford TAFE, Health Hub and METRONET stat
professional services sector.
 Existing employers to deepen relationships with educational in
and graduate program opportunities.
 Lobby for the inclusion of equine facilities and promote the in
at the proposed Byford TAFE.
 Attract commercial anchor tenants and service providers to log
station precinct.
Long Term (5+Yr):
Formalise relationships between service providers in town cer
professional services steering group or committee.
 Investigate the establishment of specialist construction course
-
 Formalise industry relationships with Byford TAFE and other examples and the second sec
networks for specialist trades in-Shire.
 Work with stakeholders (e.g. SpaceCubed, WeWork) to establ
entrepreneurs within Byford town centre, with the Shire to ide
in opened s with Dyrota town centre, with the Shire to la
leasing arrangements.

ford and Mundijong. k pathways. and Mundijong town centres.

in Byford and Mundijong town centres to develop th the Byford METRONET extension. TRONET precinct enables knowledge-clustering

education and workforce development initiatives,

ne Federal 'Local Jobs Program.' and education as well as enhance the groups.

ends and expansion of existing actions, to be

onal service 'hub' in Byford around the planned

- d and Mundijong town centres, clustering development.
- rovide non-food based retailing, as an immediate Shire residents.
- at local secondary institutions that provide ndustries.

eneurship opportunities in tandem with the tation precinct policies, with a focus on the

institutions, expand locally available scholarship

implementation of relevant qualification programs

locate in and around the Byford METRONET

centres and local government as part of a

- rses (e.g. heritage restoration, structural E to broaden local skills base.
- educational institutions to establish professional

ablish coworking and incubator spaces for local identify suitable land or premises and facilitate

Strong & Resilient Communities	
Goal: To ensure that community infrastructure is delivered to keep up with the rapid population growth of Serpen	tine-Jarrahdale, meeting community service needs through participa
within the Shire.	
Achieved By:	
 Developing public and community-focused transport options for youths and seniors. 	 Diversifying housing stock to better cater for youths, young fa
Encouraging critical service providers to develop place-based infrastructure locally.	 Enhancing the community and professional services offering a logical services of the service of the services of t
Expanding local secondary and tertiary education opportunities.	Implementing developer contribution schemes for community
Key Issues:	Key Opportunities:
• Existing community infrastructure is at capacity due to the rapid population growth of the Shire, with locally	Byford METRONET precinct to deliver improved public transpo COVID stimulus and diagonal deliver interventions and deliver interventions
led development currently unable to keep pace without additional funding or private investment.	 COVID stimulus spending provides pathways to secure investments
Lack of accessible transportation options for youths and seniors leads to a sense of social isolation and limits resident's ability to participate in the least segments	such as allied health, mental health and domestic violence pro
resident's ability to participate in the local economy.	Expansion of BaptistCare aged care facilities to include constru-
 Low population density and size of Shire increases the cost-of-service provision to cover a greater land area and reach isolated residents. 	provides a model for public-private community infrastructure
	 Introduction of place-based services on a semi-regular basis de normanant as the Shire's nanulation groups
Developer contribution plans have only recently gained approval, limiting the availability of funds for public infrastructure such as reads in the short term until funds have approval, sufficiently	permanent as the Shire's population grows.
infrastructure such as roads in the short-term until funds have accrued sufficiently.	Proposed Health Hub and TAFE in Byford to fill servicing gaps and ancillant industrian
 The education system in the Shire is at capacity, requiring an additional high school and tertiary opportunities. Currently Proposed Initiatives: 	and ancillary industries. 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.	developed in conjunction with key stakeholders.
Quick Wins (Less Than 1Yr):	Short Term (1-2Yr):
• Approval and gazettal of the Shire's Draft LPS 3, associated Local Planning Strategy and amendments 208 and	 Identify long-term strategies for social service and aged care p
209, enabling developer contributions to be levied for community infrastructure development.	facilitate opportunities for public-private partnership.
 Commence Kiernan Park Recreation Precinct Stage 1 works. 	 Continue to develop relationships with DevelopmentWA to ide
 Shire to complete feasibility studies for the Byford Health Hub in collaboration with PDC, CAHS and East 	town centre.
Metropolitan Health Service.	 Create and implement placemaking strategies for Byford and I
Short Term (1-2Yr):	Medium Term (2-5Yr):
 Shire to secure funding for the development of a planning framework for the proposed Byford Health Hub, 	 Conduct gap analysis to identify potential future service needs
identifying preferred operating proponents as well as appropriate land (1800m ² or greater) within the	providers to deliver currently unavailable services, such as a V
METRONET station precinct.	 Develop an investment prospectus to attract commercial anch
 Shire to develop a 'Youth Strategy' to identify the service and infrastructure needs of younger residents. 	and around the Byford METRONET station precinct, pending o
 Commence construction of BaptistCare 'ageing in place' hub and incorporated community facilities in Byford. 	 Secure state and federal funding for large-scale community fa
Medium Term (2-5Yr):	centres as well as performing arts spaces.
Complete METRONET Byford passenger rail extension and commence construction of Byford transport-	Long Term (5+Yr):
oriented-development precinct with DevelopmentWA support.	Facilitate development of alternative/multi-generational house
 Develop the Byford Nature Play Splash Park within the METRONET Station Precinct. 	Byford METRONET station precinct, investigate the potential f
 Shire to develop and implement an updated public art strategy, focused on local content and reflecting the 	aligning with State Planning Policy 3.6 on Shire-owned land to
LGA's sense of place, in alignment with METRONET's Public Art Strategy.	Identify opportunities to establish community wellness infrast
 Shire to implement structure plans for Byford and Mundijong per the new LPS 3 once approved, identifying a 	to a commercial proponent.
requirement for diversity in housing stock as well as social and community housing to appropriately meet	Work with community service providers to expand semi-regul
demographic needs.	permanently in the Shire.
Long Term (5+Yr):	
Complete construction of Byford Health Hub facilities in Byford METRONET precinct, negotiating leasing	
agreements between the Shire, potential private operators, CAHS, East Metropolitan Health Service and the	
Mental Health Commission.	
• Shire to liaise with PTA to ensure existing community facilities and sporting spaces are located within 400m of	
existing and expanded public transportation stops, work with DoT to expand pedestrian and cyclist	
infrastructure to complement accessibility to public transportation per the Shire's Community Infrastructure	
and Bublic Once Create Chartery	

and Public Open Space Strategy.

atory processes that enhance social cohesion

families and older residents. available to residents locally. ty infrastructure funding.

port infrastructure within the Shire, tment in community infrastructure and services, rotection.

ruction of public-purpose community centre e development.

during the COVID-19 pandemic may be made

and support the development of a town centre

nds and expansion of existing actions, to be

provision, working with aged care providers to

identify opportunities for redevelopment in Byford

Mundijong town centres.

ds for the local population and identify potential Victim Support Unit and Lotteries House. chor tenants and service providers to locate in outcomes of relevant placemaking strategies. facilities, including indoor recreation and aquatic

using in new subdivisions and infill sites near the for the imposition of value capture methods to fund town centre infrastructure. structure, including hydrotherapy pools, to lease

ular place-based and outreach services to locate

 Co-operating with neighbouring local governments and state go Prioritising infrastructure that leverages the Shire's strategic loc Key Opportunities: Development of the proposed WestPort Container Terminal at P proximity via the development of strong East-West freight linka METRONET's Byford passenger rail extension will allow the Shire connect residents to services. Perth and Peel @ 3.5 Million provides a roadmap for major tran the Shire, identifying purpose of use, intended capacities and point the future development of WestPort. Shire has been proactive in planning future infrastructure provise and the Integrated Water Management Strategy. Future Potential Initiatives: Potential actions suggested by this report based on economic trend developed in conjunction with key stakeholders.
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Potential actions suggested by this report based on economic trends developed in conjunction with key stakeholders.
developed in conjunction with key stakeholders.
Short Term (1-2Yr):
Advocate for the delivery of freight rail realignment projects alo
Tonkin Highway extension.
• Develop or refine business cases for top 5-10 priority infrastruct
and direction for the future funding requests (Internal / State / I
Engage with MainRoads WA to conduct medium term traffic imp
and industrial zoned land to identify staged implementation of k
Investigate the delivery of back haul sewer infrastructure in Mui
implement proposed solutions as part of updated planning strat
• Liaise with PTA to undertake route planning and feasibility studi
between the Shire and Kwinana, Naval Base and Rockingham.
Review existing Transport Impact Assessment Volume 2 in assoc
Town Centre and at Cardup Business Park.
• Undertake or review a Shire wide social infrastructure strategy a
maintain a pipeline of infrastructure projects.
Medium Term (2-5Yr):
Identify contingencies for service infrastructure connecting futu
to provide connectivity to West Mundijong Industrial Estate for
• Develop water-sensitive urban design guidelines to supplement
greywater recycling initiatives.
 Investigate the potential for renewable energy generation at Ca
facilities.
Long Term (5+Yr):
Conduct feasibility studies with Public Transport Authority to inv
rail extension to Mundijong along the existing Australind Rail ro
construction of through rail at the future Byford Station.
 Develop infrastructure to support Managed Aquifer Recharge, w
infrastructure locally pending the results of DWER feasibility stu

as the gateway to Perth's south-east.

ial development. government agencies. ocation.

- t Kwinana will allow the Shire to leverage its kages.
- ire to overhaul public transportation and better
- ansportation infrastructure development within potential regional connections.
- mprove the ability of local industry to capitalise

vision through plans such as Hypergrowth Roads

nds and expansion of existing actions, to be

- longside the construction of future stages of the
- cture projects to provide investment certainty / Federal).
- mpact assessments for residential, commercial f key road infrastructure upgrades.
- lundijong with the Water Corporation,
- ategies for the area.
- dies for east-west public transportation links
- ociation with proposed development in Byford
- and develop a project prioritisation tool to
- ture residential land releases west of Mundijong or power, water and gas.
- nt existing water supply with runoff capture and
- Cardup Business Park and to connect Shire-run
- investigate the possibility of future passenger route, involving rail duplication and the
- , wastewater recycling and water trading tudies.

7.0 Conclusion

Leveraging information highlighted in this Sub-Regional Economic Analysis, case study examples from across Australia as well as internationally, and the goals of local, regional and State strategies has allowed for the identification of currently proposed and future potential initiatives for the Shire of Serpentine-Jarrahdale 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, Shire of Serpentine-Jarrahdale and State government.

These opportunities represent proactive steps that may be taken within the Shire 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 the Shire can respond to the challenges it faces. Addressing these challenges using carefully researched and exhibited measures that have been carefully adapted for use in Serpentine-Jarrahdale 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 the Shire of Serpentine-Jarrahdale 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 the Shire and Commission align. Ongoing co-operation between the Commission and the Shire 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.

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