

FACTBase

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Sizing Ageing in Western Australia

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Introduction

One of the great achievements of human kind has been a dramatic rise in life expectancy over the past century. Yet, while living longer is a positive trend that is delivering new opportunities for individuals and society, there is also concern that longer life expectancies combined with declining birth rates, will have a negative impact on future economic output, on society, and on government expenditure.

This Bulletin has been prepared as part of the Committee for Perth's *Bigger & Better Beyond the Boom* project. The Bulletin provides an overview of ageing in Australia, Western Australia (WA) and the Perth and Peel regions. Specifically, it outlines the age structure of the population, ageing trends, and the impact that this is having on the ratio of the working population to dependent population (dependency ratio) and working population to the population over 65 (older dependency ratio). It also considers the geography of ageing in Perth and Peel.

The Bulletin articulates the broad, predicted impacts of ageing on the economy, including the workforce, public spending and society. It also provides an

The key findings of this Bulletin are:

- The populations of Australia and Western Australia are ageing. Population ageing is not unique to Australia. The populations of all OECD member countries are ageing, albeit at differing rates. The fastest pace of ageing has been recorded in Japan, where over 65s made up 25% of the population in 2014.
- In 2016, there were 49 dependents for every 100 people of working age in Australia. This includes 20.6 adults aged over 65 for every 100 adults of working age; and 28.2 children aged under 15 to every 100 adults of working age. By contrast, in 1901 there were 57.9 children for every 100 people of working age in Australia and just 6.6 people aged 65 or older for every 100 people of working age.
- Ageing in WA is occurring at a similar pace to that of the rest of the nation. In 2016, the age structure of WA's population almost mirrored the structure of the population nationally, with 50% of West Australians being of working age; 29 children for every 100 people of working age; and 21 adults aged 65 for every 100 people of working age.
- Looking forward, Australia's ageing trend is predicted to continue and is likely to lead Australia "into a demographic environment entirely unfamiliar to us" (PC, 2013, pp. 54). By 2060, it is predicted that 1 in 4 Australians will be aged over 65. There is also projected to be very high growth rates among Australia's 'oldest old' and by 2060 there are projected to be 25 centenarians for every 100 children aged under 1.
- By 2100, the total number of 'dependents' in the population is projected to increase from 49 per 100 people of working age to 79.5 per 100 people of working age.
- Literature indicates that in countries where the growth rate of the working population is slower than the growth rate of the total population, the share of the population that is of working age starts to decline and this has a negative impact on the economy.
- In Australia, ageing is projected to impact on the economy by influencing: **People**: reductions in the proportion of people of working age and size of the labour force; **Participation**: increase in the proportion of the population over 65 who have lower rates of labour force participation; **Productivity**: increased role of less productive industries combined with an expected fall in hours worked per capita is projected to lead to a fall in GDP; **Consumption**: expenditure among households containing adults over 65 is lower than 'working age' households and the types of products and services consumed by these households differ; **Public expenditure**: the combined impacts of ageing and new health care technologies are predicted to place major pressure on the budgets of Australian governments.

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overview of strategies identified in recent published literature to address potential negative impacts and take advantage of opportunities associated with longer life expectancy.

Population Ageing Worldwide

Population ageing is an international phenomenon and one to which Western Australia is not immune. The trend has been confirmed by a wide spectrum of published statistical research, which paints a picture of steady growth in the proportion of people aged over 65 worldwide, but most notably in developed nations. This is the combined result of increased longevity and declining fertility rates (OECD, 2017). OECD data indicates that from 1970 to 2014, all OECD member countries experienced an increase in adults aged over 65 as a proportion of the population, although the spectrum of increases varied widely (OECD, 2017).

Japan has experienced the most substantial growth in the proportion of adults aged over 65 years during this period – swelling from just 7.07% in 1970 to 25.06% in 2014 (OECD, 2017). By contrast, 6.68% of Mexicans were aged over 65 in 2014, up from 4.58% in 1970 (OECD, 2017). This indicates that while the populations of all OECD countries are ageing, some countries are ageing faster than others and there may be potential for Australia to learn from the experiences and policy initiatives of countries like Japan and from European nations.

- Populations in all local authorities in Perth and Peel aged structurally and numerically from 2011-16. In 2016, local authorities with the highest proportion of people aged over 65 were the Town of Claremont and the City of Mandurah, and the highest densities of people aged 65 or over were found in local authorities in central locations, including the Town of Claremont and City of Subiaco.
- Highest rates of numeric ageing are evident in peripheral local authorities in the Peel region and in local authorities in the north-west, such as Joondalup.
- Research has determined that most older people in Perth and Peel 'age in place' and, when they do move, they are most likely to remain within their local area. Therefore, as peripheral suburban locations become more established, so their populations will age. This has been identified as a significant issue moving forward because urban design, transport systems and access to services in peripheral locations tend to be less suitable for older Australians.
- Strategies for ageing populations are focused towards two primary aims: 1) to realise the potential economic benefits of an ageing population; and 2) to minimise the economic impacts of an ageing population. To date, most policies have primarily focused on reducing the negative economic impacts of population ageing, rather than seizing economic opportunities associated with this trend. Key strategies to mitigate the economic impacts of ageing include, increasing labour force participation among over 65s and all working age Australians, most notably working age females.
- Moving forward, there will need to be increased emphasis on maximising economic and societal benefits associated with living longer. Key strategies aimed at realising the potential benefits of an ageing population include developing new and innovative businesses associated with health care products and services; encouraging entrepreneurship among older Australians; and increasing and recognising volunteering and philanthropy among older Australians.

Structural Ageing – Dependency Ratios in Australia and WA

Literature examining population ageing focuses on changes to the demographic structure of the population. Internationally, this is most commonly measured by the total dependency ratio, a simple calculation which identifies the ratio of the working population, defined as adults aged from 15 to 64 years, to the dependent population, aged 0-14 and over 65 years. The youth dependency ratio and the older or aged dependency ratio are also commonly applied to compare the proportion of people in the under 15 and the 65 and over age-groups, to those in the working-age population.

Changes to the total youth and aged dependency ratios in Australia and WA over the past century are depicted in Figures 1 and 2. Figure 1 shows that in 2016 there were 49 dependents for every 100 people of working age in Australia. This includes 20.6 adults aged over 65 for every 100 adults of working age; and 28.2 children aged under 15 to every 100 adults of working age.

Figure 1 also illustrates the changes that have occurred in the age structure of Australia's population over the past century. Australia's population in 2016 is very different to that of the early twentieth century, when there were 57.9 children for every 100 people of working age and only 6.6 people aged 65 or older for every 100 people of working age.

Figure 2 depicts the changing structure of WA's population over the same period. It indicates that by 2016 the age structure of WA's population almost mirrored the structure of the population nationally, with 50% of West Australians being of working age; 29 children for every 100 people of working age; and 21 adults aged 65 or over or every 100 people of working age.

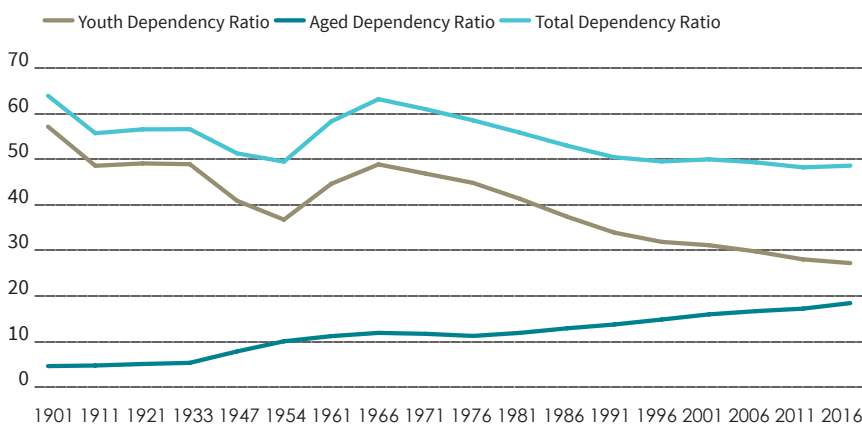
Figures 1 and 2 clearly show that the 'dependent population' in Australia and WA has been getting larger and older over the past five decades – with a declining proportion of under 15's in the population, combined with an increasing proportion of over 65s.

Future Ageing Projections

Looking forward, Australia's ageing trend is predicted to continue and is likely to lead Australia "into a demographic environment entirely unfamiliar to us" (PC, 2013, pp. 54). The Productivity Commission's 2013 'An Ageing Australia: Preparing for the Future' and Treasury's 2015 'Intergenerational Report: Australia at 2055' projects that this demographic environment will be characterised by:

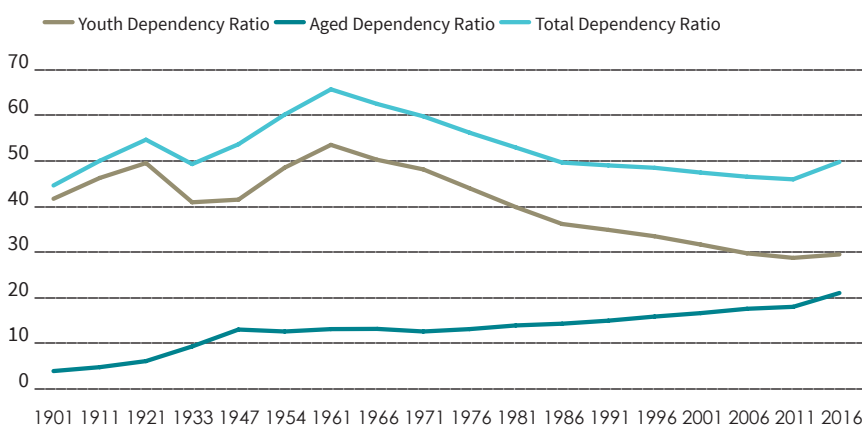
- A higher proportion of adults aged 65 years or older. This is expected to increase from around one in seven Australians in 2012; to one in four Australians by 2060; and 1 in 3.5 by 2100 (PC, 2013; Treasury, 2015). This is important because people aged over 65 have been found to have relatively low labour force participation rates and rely on either their own savings or financial support from the government to fund their retirement (PC, 2013).
- Faster rates of growth among the 'oldest old'. The number of people aged over 75 years in Australia is projected to increase by about 4 million between 2012 and 2060. This is important because people in older age brackets tend to be major users of government services — such as health care, aged care and public housing (PC, 2013).
- An increase in the proportion of the 'oldest old' compared to 'youngest young'. In 2012, there was roughly one person aged 100 years or more to every 100 children aged less than 1-year old. By 2060, the Productivity Commission projects this ratio to be 25 to

Figure 1: Australia Dependency Ratios 1901-2016



Source: Adapted from ABS, 2014; and ABS 2016

Figure 2: Western Australia Dependency Ratios 1901-2016



Source: Adapted from ABS, 2014; and ABS, 2016

100 and, with continued small increases in longevity by the year 2100, there is expected to be more centenarians than babies in Australia (PC, 2013).

- Rapidly increasing growth rates among the 75+ and 85+ age groups within the next decade (PC, 2013).
- A median age of 46 years in 2100, changing from 33.7 years in 2012 and 42.2 by 2060 (Treasury, 2015).

Growth in population numbers by age group are illustrated in Figure 3, while Figure 4 shows the proportional increase in population numbers by age group. This indicates that while population growth will occur across all age groups, predicted growth rates among people aged over 65, and particularly among adults aged 100+, are expected to far outstrip growth rates for youth and working age adults.

When expressed as dependency ratios, it is evident that if current predictions are accurate, the demographic structure of Australia's population will fundamentally change over the next 80 years, with substantial growth in dependent older Australians, compared to young dependents and people of working age. As a result, the total number of 'dependents' in Australia per 100 people of working age is projected to increase from 49 in 2012 to 79.5 in 2100, as illustrated in Figure 5 (PC, 2013).

Figure 3: Projected population Growth by Age Group 2012-2060 (Millions)

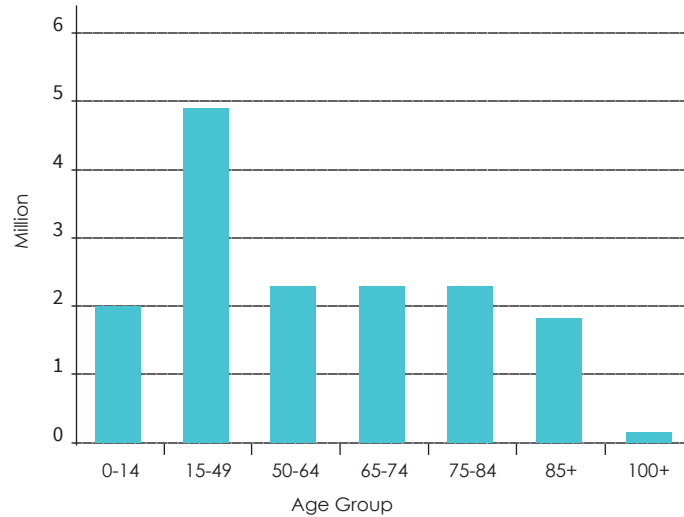
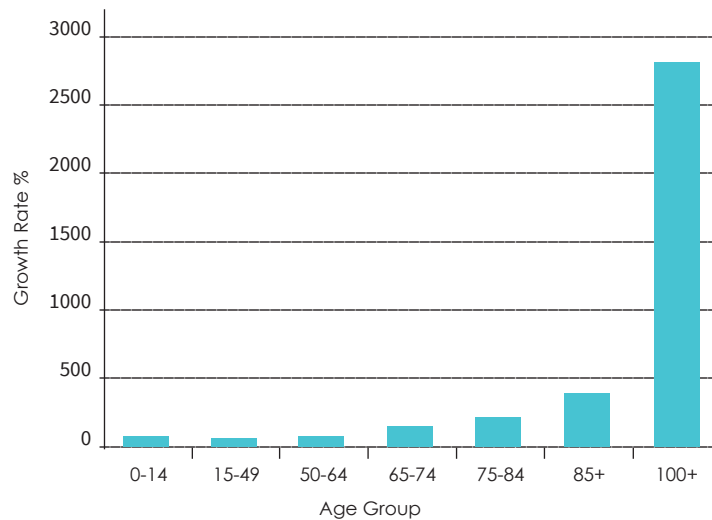


Figure 4: Projected Population Growth Rates by Age Group 2012-2060



*The 85+ age group includes all projected persons aged 85 and over.
Source: Productivity Commission, 2013

Economic Impacts of Ageing

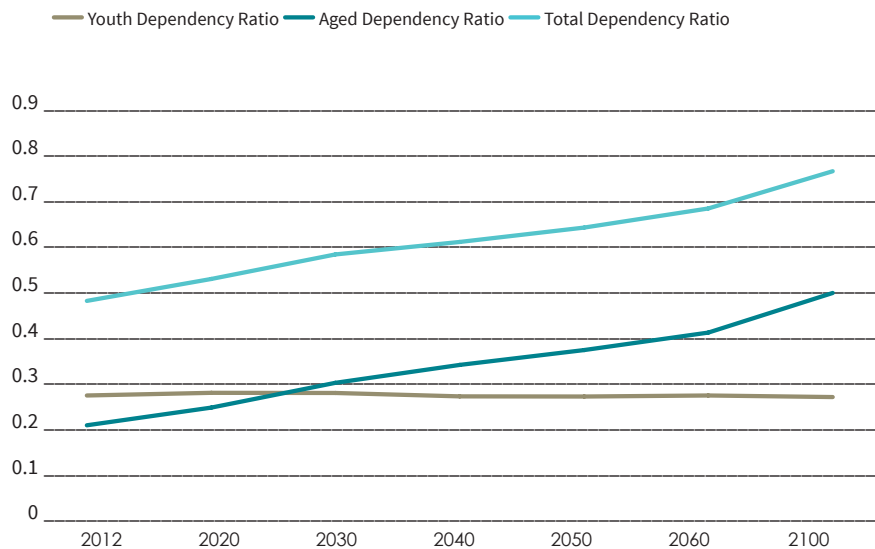
The ageing of the population will deliver both opportunities and challenges for society, governments and the economy. Living longer and enjoying better health provides opportunities for people to actively participate in society and in the workforce for longer (Atkins, 2017). Then again, a growing proportion of older, dependent adults in the population is expected to significantly impact on economic growth and the cost of providing infrastructure and services.

Populations in which the growth of the working age population is faster than growth of the dependent population, combined with a properly functioning labour market, have been found to profit from factors such as a strong labour supply, as well as maximised capacity for savings, human capital formation and investment (Van Der Gaag and De Beer, 2014). This is known as a demographic dividend (Van Der Gaag and De Beer, 2014; Headey and Hodge, 2009; Lee et al, 2011).

Yet in ageing societies, where the growth rate of the working population is slower than the growth rate of the total population, the share of the population that is of working age starts to decline. There is general agreement among scholars that this has a negative impact on economic growth, generating a demographic burden (Nagarajan et al, 2013, Van Der Gaag and De Beer, 2014).

In Australia, the Productivity Commission has identified that a 'working age gap', or gap between the growth rate of the total population and growth of

Figure 5: Dependency Ratio Projections 2012-2100



Data source: Productivity Commission, 2013

age groups that make up most workers, those aged between 20 and 59 years, will occur from 2012 to 2060 and will be most pronounced in the early 2020s. This is expected to slow economic growth per capita (PC, 2013).

International and national research indicates that population ageing impacts on economic output through three primary mechanisms: labour force (people, participation and productivity); consumption and savings patterns; and public social expenditure. Reverse causality is also evident between these phenomena – i.e. population ageing impacts on economic growth, and economic growth may also influence the determinants of population ageing (Nagarajan et al, 2013; PC, 2013).

Literature also indicates that population ageing will impact on political decision making with higher proportions of older voters leading to "political resistance to policies that shift

any funding responsibilities for age related social transfers from younger to older people" (PC, 2013, pp. 54). In Australia, 55% of voters are expected to be over 50 by 2100, and a need has therefore been identified to initiate policy change before this shift in political influence occurs (PC, 2013).

In Australia, the Productivity Commission (PC) examined the impacts of ageing on the economy in research undertaken in 2005 and 2013. This indicates that population ageing will impact on the economy through:

- **People:** The share of the population that is of traditional 'working age' will be significantly reduced. This is expected to be reflected in decreased access to labour, meaning that hours worked per capita will fall.
- **Participation:** Population ageing shifts more people into the age groups where labour participation rates are lower, depressing the aggregate labour force

participation rate. In Australia, labour participation rates are expected to fall from around 65% to 60% from 2012 to 2060, and overall labour supply per capita to contract by 5% (PC, 2013).

- **Productivity:** Population ageing facilitates a shift towards labour intensive industries such as health care and aged care, which tend to have lower than average productivity growth. Together with a projected 4.5% fall in hours worked per capita from 2012-13 to 2059-60, the Productivity Commission predicts an equivalent reduction in GDP, compared with the case of no change in age-specific trends and ageing.
- **Consumption and Savings:** Average weekly incomes and expenditure are lower among households containing adults over 65 and is more focused on leisure and health care (PC, 2013; AIHW, 2007). Many older Australians are also 'asset rich but cash poor' with a large proportion of their wealth/savings tied up in their homes (PC, 2013). Therefore, as the population ages and a higher proportion of wealth is spent on health care, rates of consumption on other goods and services are expected to fall (PC, 2005).
- **Public Social Expenditure:** The combined impacts of ageing and new health care technologies are predicted to place major pressures on Australian governments' budgets. By 2059-60, total governments' spending is expected to rise by 5.8 percentage points of GDP, which given existing policy settings, will not be offset

by additional revenue. The areas of expenditure projected to be most affected by ageing are health, age related pensions and aged care (PC, 2013). There is also evidence that additional expenditure will be needed to support the delivery of appropriate housing and mobility choices, particularly in traditionally low-density, car dependent locations, such as peripheral suburban locations in Perth and Peel, which are experiencing an accumulation of adults aged over 65 years (Atkins, 2017).

Geography of Ageing in the Perth and Peel Region

The impacts of ageing are not distributed evenly (Atkins and Tonts, 2016). There are geographical discrepancies in the age structure of populations across WA, as well as vast differences in the ageing experience of different groups within the community (Atkins and Tonts, 2016).

Atkins and Tonts (2016) examined the interplay between numeric and structural ageing in locations across the Perth and Peel region. The researchers identified existing concentrations of older populations in the suburbs within the central sub-region and the south-west, as established populations within these suburbs age in place. In 2011, the highest numeric concentrations of people aged over 65 were identified in SA2's in the central sub-region including Perth City, Claremont, Subiaco-Shenton Park, Bentley-Wilson-St James and Fremantle. Areas with the highest proportion of people

aged over 65 in 2011 were within the Peel region and the central and south-west sub-regions, with the highest proportions in Mandurah-South, Mandurah, Greenfields, Mandurah-East and Rockingham (Atkins and Tonts, 2016).

However, as illustrated in Figures 6 and 7, the research also found that from 2001 to 2011, three-quarters of the Perth and Peel region experienced an accumulation of people aged over 65. The numeric accumulation of people aged over 65 was most apparent in outer metropolitan locations in the north-west and south-west sub-regions. Increases in the proportion of people aged over 65 were also primarily found in the south-west and north-west. By contrast, declines in both numeric and structural ageing were primarily observed in locations within the central sub-region (Atkins and Tonts, 2016).

Figure 6: Numeric Ageing in Perth and Peel 2001-2011 (Source: Atkins and Tonts, 2016, p. 79)

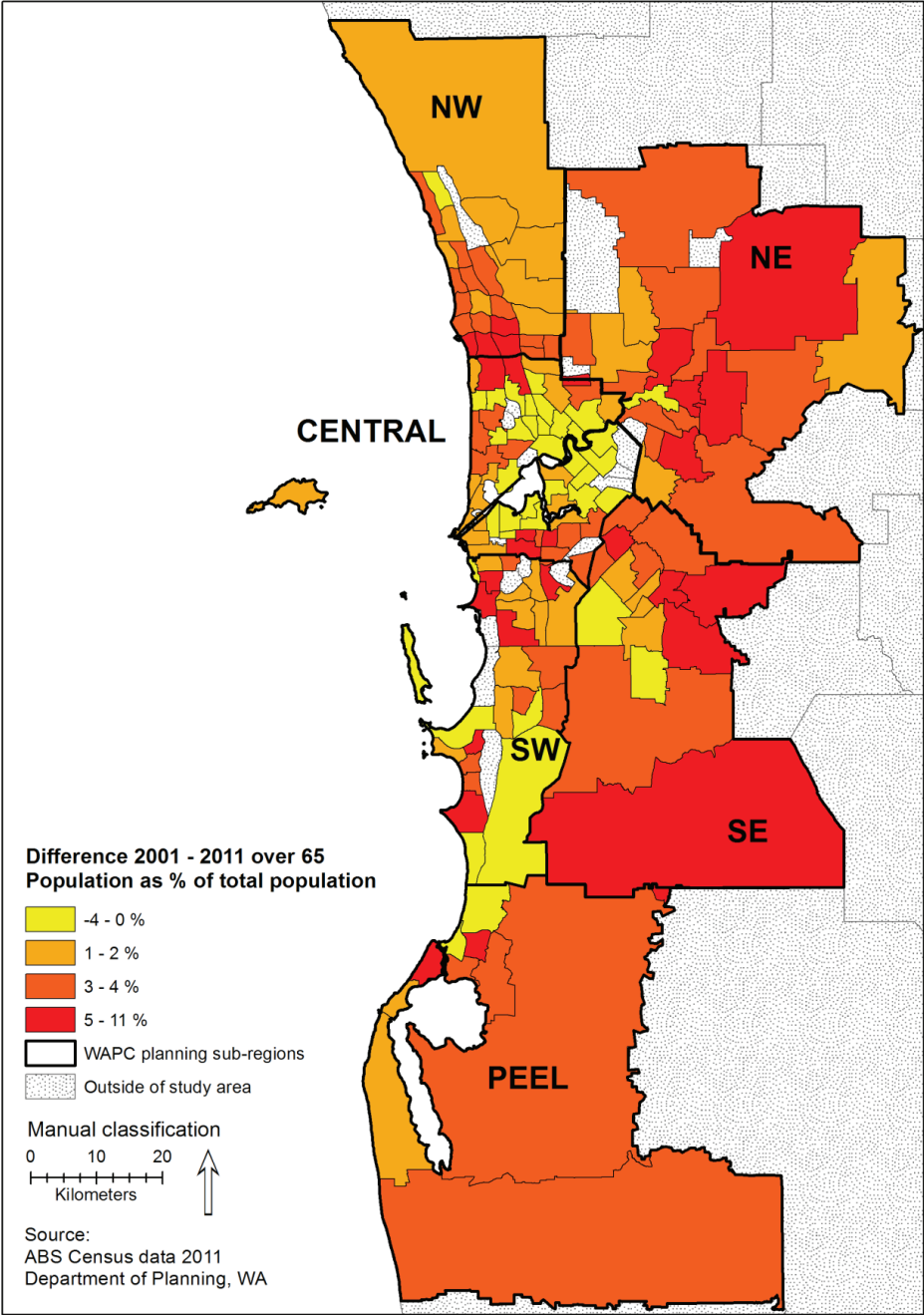
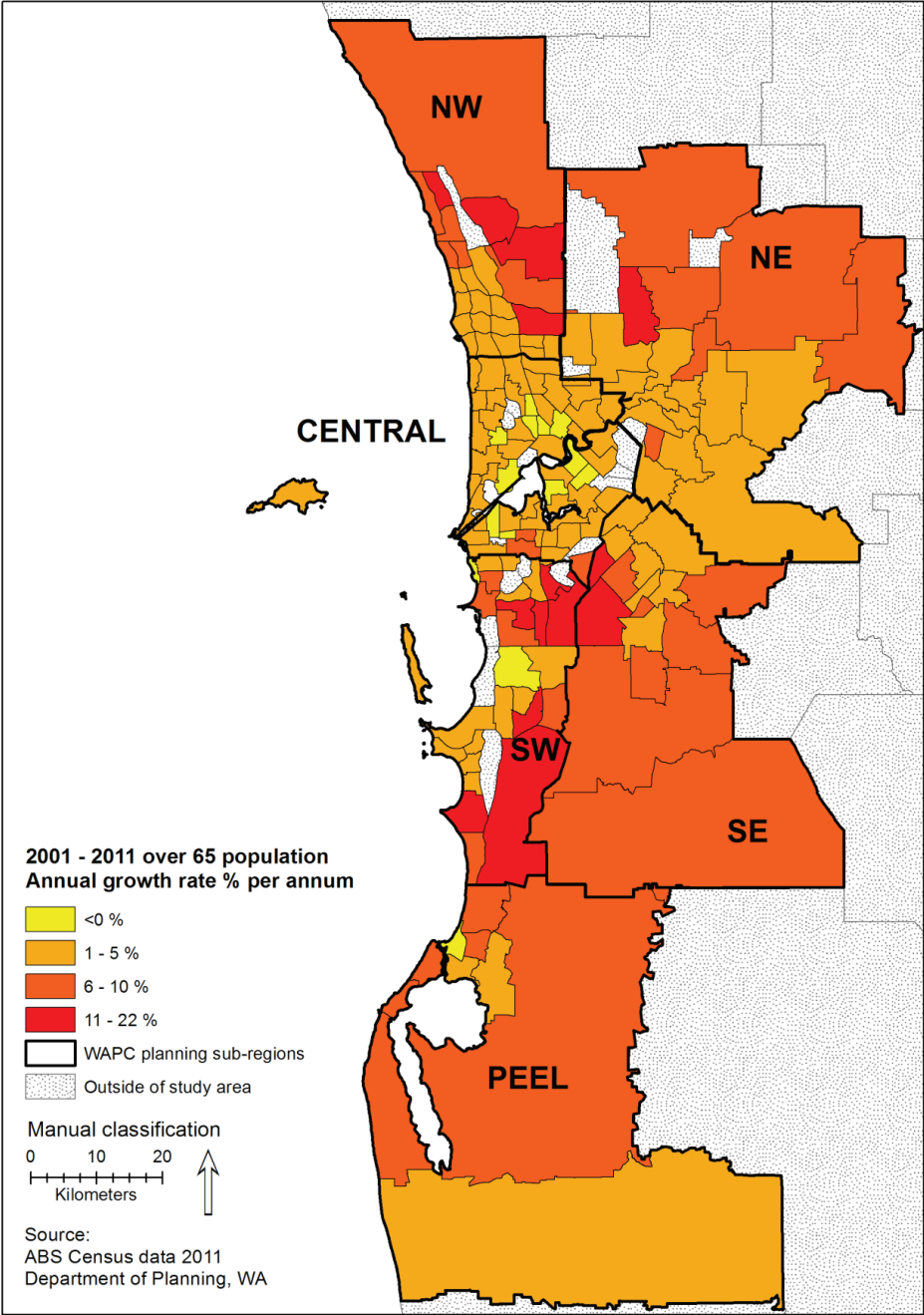


Figure 7: Structural Ageing in Perth and Peel 2001-2011 (Source: Atkins and Tonts, 2016, p. 77)



Additional research by Atkins (2017b) indicated that patterns of ageing in the Perth and Peel regions are influenced by population mobility. The research found that most older people in Perth and Peel are likely to age in place and, when they do move, they commonly remain within their local area (Atkins, 2017b). Therefore, as peripheral suburbs mature, so do their populations.

An examination of ABS Census data indicates that all local authorities in the Perth and Peel regions aged numerically and structurally from 2011-16. Consistent with the findings of Atkins and Tonts (2016), this examination has identified that the highest proportions of older people per total and working age populations in 2016 were within established local authority areas in the central sub-region and Peel, most notably within the Town of Claremont and the City of Mandurah, where over 65s make up more than 20% of the population. As a result, these local authorities exhibited the highest dependency and aged dependency ratios in the Perth and Peel region, with more than 37 people aged over 65 for every 100 people of traditional working age. The highest densities of people aged over 65 were also identified in central locations including the Town of Claremont and City of Subiaco where, in 2016, there were more than 400 people aged over 65 per square kilometre.

Yet the most significant growth in the number and proportion of people aged over 65 from 2011-16 occurred in outer and peripheral local authorities in the Peel region and north-west sub-region. This includes the City of Joondalup, which exhibited a 33% increase in the number of people aged over 65 years from 2011-16, while the proportion of people aged over 65 within the local population increased from 10.82% to 16.39%, as outlined in Table 1.

As outlined on the next page, the preference of older people in Perth and Peel to age in place means that proportions of over 65s living in most middle, outer and peripheral suburban locations is likely to increase over time. However, growth in the number and proportion of people aged 65 and over in peripheral metropolitan locations has been identified as a significant societal issue, given that urban and housing design and transport systems in these locations tend to be less suitable for older Australians who benefit from housing choice and from being able to walk or use public transport to access local and regional services (Atkins, 2017b; Atkins and Tonts, 2016; Per Capita, 2014). Distance from major employment centres also adds an additional barrier for older people who would like to remain in the workforce.

Strategies

Population ageing impacts on all facets of the community and the economy. As a result, strategies to address the impacts of ageing are complex and multi-faceted. This Bulletin provides an overview of strategic responses to address the projected economic impacts of an ageing population as identified in current published literature. These often interrelated strategies focus on achieving two primary aims: 1) to realise the potential economic benefits of an ageing population; and 2) to minimise the economic impacts of an ageing population. To date, most policies have primarily focused on reducing the negative economic impacts of population ageing rather than seizing economic opportunities associated with this trend.

Table 1: Numeric and Structural Ageing by Local Authority 2011-16 (Source ABS Census 2011; 2016)

LGA	2011 Depend- ency Ratio	2016 Depend- ency Ratio	2011 Aged Depend- ency Ratio	2016 Aged Depend- ency	2011 Pro- portion Aged Over 65	2016 Pro- portion Aged Over 65	Number Aged Over 65 2016	Growth in Num- ber aged Over 65 2011- 2016	Over 65s Per Square Kilome- tre 2016
Armadale (C)	47.94	50.72	16.19	17.16	10.94	11.38	9,062	33%	16
Bassendean (T)	47.07	50.73	20.90	23.75	14.20	15.76	2,378	16%	238
Bayswater (C)	43.46	45.50	20.73	22.57	14.44	15.51	10,031	13%	304
Belmont (C)	43.41	41.87	19.75	19.05	13.77	13.43	5,329	10%	133
Boddington (S)	33.61	53.20	10.92	19.67	8.17	12.84	237	30%	0
Cambridge (T)	55.56	58.69	23.47	25.26	15.09	15.92	4,263	13%	194
Canning (C)	40.60	44.17	16.40	18.84	11.66	13.07	11,787	18%	181
Claremont (T)	57.19	63.44	32.42	37.45	20.65	22.91	2,304	20%	461
Cockburn (C)	45.17	46.19	14.81	16.95	10.20	11.60	12,114	32%	72
Cottesloe (T)	49.35	56.16	23.26	28.52	15.61	18.26	1,387	17%	347
East Fremantle (T)	49.81	52.82	21.75	24.84	14.53	16.26	1,199	19%	400
Fremantle (C)	45.55	47.55	23.93	26.64	16.44	18.05	5,216	19%	275
Gosnells (C)	45.76	46.70	14.86	7.54	10.19	5.14	13,829	27%	109
Joondalup (C)	43.15	55.86	15.48	25.55	10.82	16.39	21,894	33%	221
Kalamunda (S)	50.79	42.70	20.98	9.94	13.91	6.96	9,419	26%	29
Kwinana (T)	47.71	46.00	13.85	13.44	9.37	9.21	3,584	31%	30
Mandurah (C)	64.52	68.56	33.58	38.20	20.41	22.66	18,314	28%	105
Melville (C)	49.28	55.64	24.03	28.99	16.10	18.63	18,267	19%	345
Mosman Park (T)	48.67	53.70	23.07	27.28	15.50	17.75	1,554	17%	389
Mundaring (S)	47.71	51.57	19.54	25.23	13.23	16.64	6,351	31%	10
Murray (S)	63.33	67.87	30.96	36.28	18.96	21.61	3,608	34%	2
Nedlands (C)	55.12	61.05	24.69	29.15	15.92	18.10	3,821	17%	191
Peppermint Grove (S)	55.67	57.40	26.21	27.50	16.96	17.47	286	10%	286
Perth (C)	15.81	17.59	9.84	11.40	8.50	9.70	2,114	49%	264
Rockingham (C)	52.18	52.98	17.55	18.85	11.53	12.32	15,416	28%	60
Serpentine-Jarrahdale (S)	48.30	49.24	13.37	13.65	9.01	9.15	2,454	53%	3
South Perth (C)	38.57	43.49	18.69	22.64	13.49	15.78	6,626	21%	331
Stirling (C)	45.94	47.67	21.31	22.81	14.60	15.44	32,464	14%	309
Subiaco (C)	37.80	45.75	18.88	24.25	13.70	16.63	3,221	34%	460
Swan (C)	46.93	47.01	13.81	15.17	9.40	10.32	13,808	35%	13
Victoria Park (T)	35.61	37.07	17.76	18.55	13.09	13.54	4,736	12%	263
Vincent (T)	32.21	33.30	13.97	14.43	10.57	10.83	3,649	9%	332
Wanneroo (C)	49.78	48.98	13.23	14.78	8.83	9.92	18,671	39%	27
Waroon (S)	57.51	65.87	25.18	34.77	16.00	20.96	870	52%	1

Data Source: TEA 2017e

Table 2: Strategies to Realise the Benefits of an Ageing Population

Strategic Goals	Strategies Identified through Literature	
<p>Introduce new business opportunities through innovation in health care products and services.</p>	<p>Invest in research and development associated with the creation of new products and services for older people.</p> <p>National campaign highlighting business opportunities for older markets.</p> <p>Austrade campaign to assist corporate Australia to export goods, services and investments in the ageing market worldwide in cooperation with national business organisations.</p>	<p>Older Australians have been identified as a substantial and growing group of consumers who hold a significant proportion of Australia's wealth (Healy, 2004). Research by Per Capita (2014) also highlights the substantial potential of older Australians as consumers of products and services as they age, indicating that:</p> <p>People aged between 55 and 74 had the fastest growing household wealth of any age group between 1994 and 2012.</p> <p>In 2011, the 55-75 age bracket held the greatest assets and had the greatest average net worth.</p>
<p>Encourage entrepreneurship among older Australians.</p>	<p>Develop enterprise programs to support older entrepreneurs.</p> <p>Provide tax incentives to encourage entrepreneurship.</p> <p>Utilise the experience of older entrepreneurs through mentoring programs.</p> <p>Develop education programs targeted towards older entrepreneurs.</p>	<p>Willingness to work, combined with high average net household wealth provide potential for older Australians to become entrepreneurs, with particular potential to start new business providing products and services targeted towards older consumers (Per Capita, 2014).</p>
<p>Increase philanthropy and volunteering among older Australians.</p>	<p>Develop a campaign to encourage philanthropy among older Australians.</p> <p>Provide incentives for volunteers and carers.</p>	<p>Older Australians have been identified as holding a substantial proportion of Australia's wealth. As a result, some older Australians have the capacity to contribute to the nation's social, cultural and economic development through philanthropy (Per Capita, 2014). They are also numerically the largest group of volunteers and carers in the nation (Per Capita, 2014).</p> <p>The Productivity Commission projects that the value of unpaid volunteering and caring to the economy will increase as the population ages (PC, 2005).</p>

Table 3: Strategies to Minimise the Impacts of an Ageing Population

Strategic Goals	Strategies Identified through Literature	Supporting Evidence and Commentary
<p>Increase the proportion of the population that is of working age by increasing skilled migration.</p>	<p>Skilled migration. Increasing fertility rates.</p>	<p>While attracting skilled migrants is known to have economic benefits, research indicates that increased migration will not prevent Australia's population from ageing. This is because migrants who come to Australia will age along with the rest of the population. Therefore, maintaining Australia's existing age structure through immigration would require increases in immigration every year — with the increases becoming progressively larger to take account of the ageing of the migrants themselves.</p> <p>Productivity Commission research suggests that increasing fertility rates will have a more substantial impact on population ageing than increased migration, however fertility rates are less responsive to policy change than migration and are therefore difficult to influence (Productivity Commission, 2013).</p> <p>Alternatively, research by Kudrna, Chan and Woodland (2015) found that the main driving force behind the increased fiscal costs is the increase in survival rates rather than the decline in fertility rates and, as a result they determined that higher fertility and increased immigration are not effective solutions to deal with the increasing fiscal burden of old-age related government spending programs (Kudrna, Chan & Woodland, 2015; Kudrna, Chan & Woodland, 2015b).</p>
<p>Increase labour force participation among over 65s.</p>	<p>Introduce tax and financial incentives to encourage older people to remain in the workforce.</p> <p>Remove regulatory barriers to workforce participation by older workers.</p> <p>Provide financial incentives for employers to employ and retain older workers.</p> <p>Address ageism in the workplace through anti-discrimination policies and provisions.</p> <p>Develop targeted education and training programs for older workers.</p> <p>Maximise access to employment hubs.</p>	<p>Research has established that a substantial proportion of retirees in Australia would like to be in the workforce in some capacity (PC, 2013; G0SA, 2014). The results of a survey by Ipsos and the Committee for Perth (2017) support this finding, with 35% of retirees surveyed expressing a desire to participate in the workforce in some format; 24% of retirees indicating that they retired before they were ready; and 34% stating that they were forced to retire (Ipsos, 2017).</p> <p>Despite improvements in recent decades, Australia has been reported to have relatively low levels of mature age employment when compared to many other OECD countries, including the USA, UK, Canada and New Zealand. This indicates that there is potential to increase participation among older age groups (Per Capita, 2014).</p>
<p>Increase workforce participation among all working age people.</p>	<p>Increase female labour force participation.</p> <p>Ensure appropriate industrial relations systems.</p> <p>Address gender bias/discrimination in the workplace.</p> <p>Increase childcare availability.</p> <p>Training and education schemes to encourage unemployed Australians to re-enter the workforce.</p>	<p>Increasing workforce participation is identified as a pivotal strategy to minimise the impact of a declining proportion of working age adults in the population. This means reducing unemployment; underemployment; and increasing participation rates among key groups, most notably working age females.</p> <p>A substantial part of this equation is increasing workforce participation among females. While growth in the participation of women in the workforce has been recognised as the biggest transformation to occur in Australia's labour markets in modern history, increases in labour participation among women aged between 29-49 years has slowed in recent years and participation rates among Australian females in this age bracket sit well below that of leading OECD nations. This indicates that Australia has the potential for significant additional growth in female participation in the labour force and that this could assist to counter-act the negative impacts of an ageing population (PC, 2013).</p>

Strategic Goals	Strategies Identified through Literature	Supporting Evidence and Commentary
<p>Maximise human capital</p>	<p>Increase investment in education and training.</p>	<p>There is a strong and recognised connection between educational attainment and labour force participation, including higher rates of participation among people aged over 65.</p> <p>According to the Productivity Commission, this reflects that wage rates rise with education, full-time work is more readily available to people with higher educational attainment, and unemployment probabilities are low. As a result, the financial and non-financial costs of exiting the labour market are higher. Moreover, jobs that require higher qualifications tend to involve fewer risks of acquiring a disability or physical impairment, enabling people to remain in the workforce for longer.</p> <p>Higher rates of human capital within a population are also associated with higher per capita productivity.</p>
<p>Increase productivity, with a particular focus on multifactor productivity.</p>	<p>Encourage entrepreneurship, innovation and technological adoption and development.</p> <p>Legislative reform to reduce red and green tape and encourage start-up businesses in new and emerging markets.</p> <p>Facilitate trade with other countries and improving physical and human capital investment.</p> <p>Ensure economic settings are conducive to capital investment.</p> <p>Invest in infrastructure particularly transportation infrastructure.</p>	<p>The Australian Productivity Commission has identified productivity growth as the key determinant of economic growth over the next 50 years.</p> <p>Multifactor productivity growth (MFP), i.e. efficiency of producers in producing output using both labour and capita, has been identified as of particular importance because additional MFP growth has bigger effects on the real net disposable income of Australians than increases in the capital to labour ratio (PC, 2016).</p> <p>Statistics indicate that Australia's MFP growth has slowed since 2008 (PC, 2016) and while the Productivity Commission anticipates that some revival can be achieved, structural changes in the economy will make it difficult to return to the higher growth rates experienced in the 1990s.</p> <p>These structural changes include population ageing and an associated shift to labour intensive service industry sectors such as aged care and health care. These sectors tend to have lower than average measured productivity growth (PC, 2013).</p> <p>The Productivity Commission has therefore highlighted the importance of stimulating productivity growth with a particular focus on increasing MFP growth through innovation and economic reform.</p> <p>Treasury's 2015 Intergenerational Report also highlights the importance of infrastructure investment to maintain productivity growth, particularly investment in effective transportation infrastructure which brings consumers closer to more businesses; brings workers in contact with more opportunities; promotes competition; increases specialisation; and promotes innovation and a more dynamic economy (Treasury, 2015). By contrast, poor transportation is recognised as impeding the competitiveness of businesses and reducing their ability to provide services efficiently to their customers – impacting on national productivity (Treasury, 2015).</p>
<p>Enable older people to contribute towards health and aged care without impacting on consumption.</p>	<p>Make it easier for older Australians and households to access housing equity, such as a government equity release scheme, enabling more people to meet the cost of age related expenses including health and aged care, without impacting on consumption of other goods and services.</p>	<p>The Australian Productivity Commission (2013) established that enabling individuals to contribute even half the annual real increase in their home value towards aged care services is conservatively estimated to have the capacity to reduce government expenditure by around 30 per cent.</p>

Strategic Goals	Strategies Identified through Literature	Supporting Evidence and Commentary
Increase revenue and reduce reliance on income and company tax.	Reform the tax system to reduce reliance on income and company tax.	<p>Since income and company taxes are the predominant source of public financing, ageing will not only increase spending, but simultaneously exert pressure on revenues (Ekaradt, 2014).</p> <p>According to Treasury's Intergenerational Report 2015, Australia is currently over reliant on income and company tax.</p> <p>Research by Kudrna, Chan and Woodland (2015) indicates that the mix of pension cuts and labour income tax hikes will provide some advantages by 2030. However, the mix of pension cuts and consumption tax hikes is a dominant policy option beyond 2030.</p>
Reduce government spending on aged pension.	Reform the aged pension.	Reducing the availability of the aged pension has been identified by multiple sources as having the potential to partially reduce fiscal pressure on future budgets (Kudrna, Chan and Woodland, 2015).
Increase health care productivity to relieve fiscal pressures.	Maximise efficiency in the health care sector through reforms such as: reforming government regulation and funding structures; increasing organisational efficiency; reducing over-diagnosis and treatment; the cost-effective use of technology and pharmaceuticals; efficient procurement processes; and preventative health measures (PC, 2013).	<p>The Productivity Commission (2013) estimates that a 5 per cent improvement in health sector productivity could reduce the projected fiscal pressure from rising health costs by 0.5 percentage points of GDP in 2059-60 (PC, 2013).</p> <p>It is noted, however that while there is potential for innovation and technological improvements to increase health sector efficiency, technological innovation is costly and therefore may not deliver adequate efficiency benefits to relieve fiscal pressure (PC, 2013).</p>
Reduce the cost of public service delivery.	<p>Maximise efficiency in service delivery by making better use of technology.</p> <p>Examine and restructure the roles and responsibilities of the Australian Government and state governments to reduce duplication and increase accountability.</p> <p>Identify opportunities for efficient delivery of services through the private sector.</p>	<p>Reducing the cost of government service delivery has been identified by the Australian Government (2015) and the Productivity Commission (2013) as having potential to relieve future fiscal pressure.</p> <p>Minimising duplication of roles and responsibilities between state and federal governments has been identified as important to improving the delivery of public services to an ageing population, as well as reducing service costs (Atkins, 2017; Australian Government, 2015).</p>

Conclusion

The populations of Australia and the Perth and Peel region are ageing at a relatively rapid rate and this will impact on the national and regional economy in coming decades. It is critical for the region to have strategies and actions in place today to minimise the impacts of ageing on the economy tomorrow, and in developing these strategies the state and region has an opportunity to learn from societies ageing at a faster pace than our own.

It is evident that in Perth and Peel this includes ensuring that infrastructure and services are in place to enable older people living in dispersed and peripheral locations to access the services they require.

It is also evident that a central tenant of delivering positive economic outcomes in the context of an ageing population will be enabling older people to remain active and valued members of the workforce and the

community. Also crucial, will be the capacity for the nation, state and region to innovate, adapt, maximise public sector efficiencies and take advantage of technology to both mitigate the impacts of ageing and capitalise on the opportunities offered by living longer, healthier lives.

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About FACTBase

FACTBase is a collaborative research project between the Committee for Perth and The University of Western Australia to benchmark the liveability of Perth and its global connectedness through an examination of Perth's economic, social, demographic and political character.

The FACTBase team of academics and researchers condense a plethora of existing information and databases on the major themes, map what is happening in Perth in pictures as well as words, and examine how Perth compares with, and connects to, other cities around the world.

The Committee for Perth is a member-funded organisation and we acknowledge our Gold Members:



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