

Mareeba Shire: Demographic and Socioeconomic Profile 2018

Selected socioeconomic characteristics

This report has been prepared for Mareeba Shire Council by Anne Cunningham-Reid, MPIA, Social Planning Consultant

May 2018

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This report has been prepared for:

Mareeba Shire Council

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Mareeba Shire: Demographic and Socioeconomic Profile

Executive Summary

Mareeba Shire's population, estimated at 22,157 residents in 2016, grew at an annual average rate of 1.8% over the ten years to 2016, a relatively strong rate of growth compared with other Outer Regional and Remote areas of Queensland, some of which have had declining population (ABS Cat.3218.0). Mareeba Shire has attracted new migrants, especially families with young children, although it loses many of these children as they become young adults and move away to pursue further education and career opportunities in the cities. This continual loss of young people aged 15 to 24 years, whilst a sign of a successful educational environment encouraging the drive to seek further advancement, has a significant impact on the demographic profile of Mareeba Shire creating an "indent" in the age structure of the population at ages 15 to 39 years, pushing up the median age of the population (43 years in 2016), and reducing the potential number of women of child-bearing age, making the community more reliant on migration to replace the out-going population.

The lack of people aged 15 to 39 years combined with the ageing of the population, the result of longer life-expectancy and lower fertility levels than previous generations, has a great impact on the socioeconomic profile of Mareeba Shire. It reduces the potential size of the working age population in comparison with "younger" populations, such as whole of Queensland, with subsequent loss of economic capacity. In 2016 Mareeba Shire had a higher proportion of workers aged 45-64 years (48.6%) than workers aged 25-44 years (38.6%), which suggests that in future years, unless there is high migration into Mareeba Shire, the workforce will start contracting significantly as those in older ages retire. This is starting to be evident. While the population aged 15 years and over grew by 10.5% between 2011 and 2016, the labour force only increased by 2.7%, compared with the previous 5 year period when population aged 15 years and over grew by 11.0% and the labour force grew by 11.7% (ABS Census 2016). This downturn in growth of the labour force, while partly due to less favourable economic conditions, coincides with the first of the large cohort of "baby boomers" (born 1946-61) reaching retirement age of 65-69 years in the period 2011-16. This could signal an opportunity for Mareeba Shire as large numbers of jobs become vacant due to retirement which could attract more young migrants into the Shire, revitalizing the age structure and economy. However, it could also reduce demand for goods and services as a large sector of the population becomes reliant on the age pension and shifts to a lower income and consumer spending level.

While Mareeba Shire demonstrates competitiveness in the agricultural industry, and in some years mining, and it is showing emerging specialization in air transport support services, with investment in Mareeba Airport and associated industries, and some other innovative ventures, it is less competitive in most other industry sectors in terms of employment growth when compared with Queensland as a whole and Australia, as shown in this report. Its relatively small population, its rural and remote location, the skill levels of the workforce and its age profile interact to create a competitive disadvantage when compared with larger and more urban regions. This report will explore further the interactions in Mareeba Shire's demographic and its socioeconomic profile which lead to the following strengths and disadvantages:

Strengths:

- Population growth of 18.1% over ten years 2006-2016 (1.8% average per annum) not far below Queensland's growth of 20.9% (2.1% p.a.) in the same period (ABS 3218.0 2016)
- More births than deaths leading to natural increase (estimated 700 more births than deaths 2006-2011, 515 more births than deaths 2011-2016, (based on ABS data)
- Attraction of families with young children, contributing to positive net migration (estimated 1,292 persons 2006-2011, 897 persons 2011-2016) (ABS ERP)
- Higher percentage of 10-14 year olds (6.7%) compared with Queensland (6.4%) and Australia (6.1%) (ABS 2016 Census)
- Higher percentage of households with incomes in the top household income quartile for Queensland (\$2,349 or over per week) at 15% of all households in 2016 compared with 14% in 2011 (when top household income quartile was \$1,647 per week) (economy.id)
- Mareeba Shire's Gross Regional Product (GRP) has increased from \$851m in 2005/06 to \$991m in 2015/16 (NIEIR, economy.id)
- Total output of all industry sectors generates \$1,769m in revenue, of which \$794m is value add, contributing 6.1% of all value add in the Far North Queensland region and 4.1% of exports (\$412.7m) in 2015/16 (NIEIR, economy.id)
- Mareeba Shire's agricultural industry contributes 15.7% of total agricultural output in the FNQ region, 15.7% of total value add and 18% of all agricultural exports in the FNQ region in 2015/16 (NIEIR, economy.id)
- Employment in Agriculture, Forestry and Fishing increased in Mareeba (S) by 18.1% in the ten years 2006-2016, whereas in Queensland it decreased by -1.8% and in Australia by -5.0% in the same period (ABS 2016 Census, TSP, T34) showing resistance to the national downward trend of employment in this industry

Weaknesses/Disadvantages

- Low proportion of population in 15-39 year age groups in Mareeba (S) compared with Queensland and Australia: 27.3% in Mareeba (S), 33.3% in Queensland and 33.8% in Australia (ABS 2016 Census)
- The low percentage of 15-39 year olds (27.3%) in the Mareeba (S) population lowers the earning capacity of the community, although this is compensated for somewhat by the higher percentage at 40-64 years (35.5%) in Mareeba (S) than in Queensland (32.1%) and Australia (31.8%)
- It also lowers the potential number of young couples with children, which is not compensated for fully by migration into Mareeba Shire by young families, contributing to the lower percentage of couple families with children (37.4% of all families) in Mareeba (S) than in Queensland (42.5%) and Australia (44.7%)
- The higher percentage of people aged 65 years and over in the Mareeba (S) population at the 2016 Census (19.2%) compared with Queensland (15.3%) and Australia (15.7%) contributes to:
 - More couple without children families in Mareeba (S) (44.1% of all families) than in Queensland (39.4%) and Australia (37.8%) at the 2016 Census
 - More lone person households (26.9% of all households) in Mareeba (S) compared with 23.5% in Queensland and 24.4% in Australia at the 2016 Census

- brings down Mareeba Shire's labour force participation rate (51.1%) compared with Queensland's (61.0%) at the 2016 Census
- The higher unemployment rate in Mareeba (S) at the 2016 Census (8.3%) compared with Queensland (7.6%), combined with the high percentage not in the labour force, brings down the employment to population (aged 15+ years) rate in Mareeba (S) (46.8%) compared with Queensland (56.4%)
- All the above demographic factors contribute to a range of socioeconomic disadvantages in the Mareeba Shire compared with Queensland and Australia which include:
 - A lower median personal weekly income in Mareeba (S) (\$541) compared with Queensland (\$660) and Australia (\$662)
 - A lower median family weekly income in Mareeba (S) (\$1,274) compared with Queensland (\$1,661) and Australia (\$1,734)
 - A lower median household weekly income in Mareeba (S) (\$1,045) compared with Queensland (\$1,402) and Australia (1,438) (ABS 2016 Census)
- However, Mareeba (S) does have a higher rate of home ownership (39.3% of all occupied private dwellings owned outright) than Queensland (28.5%) and Australia (31.0%) which improves percentage of disposable income for these households (ABS 2016 Census)
- Some of the above features of Mareeba Shire's society and demography contribute to its placement in the 30th decile on the ABS SEIFA Index of Relative Socio-economic Disadvantage (IRSD) 2016, i.e. Mareeba Shire is in the third most socio-economically disadvantaged 10% of LGAs in Australia based on the summary measure of disadvantage in the IRSD (ABS SEIFA 2016)

Mareeba Shire: Demographic Profile

This Demographic Profile is based on the Australian Bureau of Statistics (ABS) 2016 Census of Population and Housing, other ABS statistics, such as the Estimated Resident Population, and information from various other sources. The ABS statistical unit that best matches the Mareeba Shire Local Government Area (LGA) is Mareeba (S) (LGA34880) which is based on the ABS Australian Statistical Geography Standard (ASGS), July 2016.

Population Size and Distribution

Mareeba Shire Local Government Area (LGA) covers 53,502 km² to the west of Cairns in Far North Queensland. The ABS releases an annually updated mid-year estimate of the Australian population and its regions. The latest available mid-year estimate of Mareeba Shire's population is:

Mareeba (S) LGA Estimated Resident Population (ERP): 22,311 as at 30 June 2017p (ABS Cat.3218.0, 2018)

This is a net increase of 154 persons (0.7%) over the year from 22,157 persons as at 30 June 2016pr (ABS Cat.3218.0, 2017).

Most of the population (96%) lives in the eastern side of the Shire in towns and rural areas considered Outer Regional Australia, while the vast area to the west is classified as Remote and Very Remote and holds only 4% of Mareeba Shire's population (ABS Remoteness Area Classification, 2011).

Based on the ERP 2016, of the 22,157 usual residents, over half (11,186) live in the main towns of Mareeba, Kuranda and Dimbulah while the rest live (10,971) in small localities and rural areas.

Table 1: Estimated Resident Population, towns and rural balance, Mareeba Shire as at 30 June 2016pr

	ERP at 30 June 2012	% Total ERP 2012	ERP at 30 June 2016pr	% Total ERP 2016pr
Mareeba Urban Centre	7,607	36.4%	7,927	35.8%
Mareeba-South	544	2.6%	542	2.4%
Kuranda	2,311	11.0%	2,335	10.5%
Dimbulah	382	1.8%	382	1.7%
Rural balance	10,077	48.2%	10,971	49.5%
Total	20,921	100.0%	22,157	100.0%

Source: ABS 3218.0, *Regional Population Growth, Australia, 2016* and Queensland Treasury estimates
pr = preliminary rebased

In the period 2012-2016 the population increased proportionately more in the rural residential areas than in the towns.

Population Growth

Mareeba Shire increased its resident population by 154 persons in the year 2016-17, an annual growth of 0.7% (ABS 2018). There was natural increase of 98 persons, net internal migration loss of -50 persons and net overseas migration of 106 persons (ABS Cat.3218.0). Population growth in the year 2016-17 was therefore comprised of 64% natural increase and 36% net migration. This was a reversal of the situation over the years 2006-2016 when on average there was 36% natural increase and 64% net migration, although these components varied from year to year during this period (see p.11).

In the 25 years from 1991 to 2016, Mareeba Shire's population increased by 5,125 persons, a growth of 30.1%, at an average rate of 1.2% per year. There were 17,032 residents in 1991 and 22,157 in 2016, as shown in Table 2.

Table 2: Mid-year Estimated Resident Population, Mareeba (S), 5 year intervals, 1991 – 2016pr

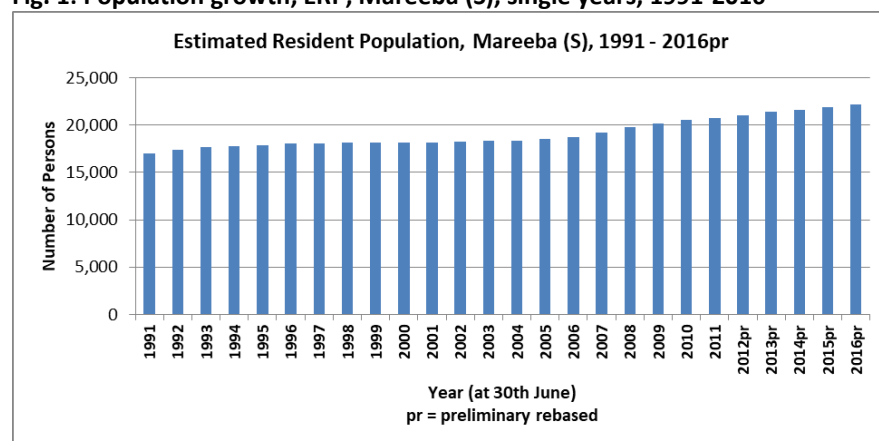
ERP at 30 June	1991	1996	2001	2006	2011	2016pr
Persons	17,032	18,065	18,125	18,753	20,745	22,157
Average annual % growth, 5 yr periods		1.2%	0.1%	0.7%	2.1%	1.4%

Source: ABS 3218.0, *Regional Population Growth, Australia, 2016* and Queensland Treasury estimates
Geographies are based on the 2016 edition of the Australian Statistical Geography Standard (ASGS).

However, when looking at 5 year periods, Mareeba Shire's population growth has been volatile. The population grew 6.1%, at an average annual rate of 1.2% in the five years to 1996, followed by a stagnant period until 2006, after which the population started growing more rapidly. Between 2006 and 2011 there was growth of 10.6%, at an average annual rate of 2.1%. Growth slowed slightly in the next five years, with an average annual rate of 1.4% from 2011 to 2016, as shown in Table 3 (ABS 3218.0, *Regional Population Growth, Australia, 2016* and Queensland Treasury estimates).

Over the ten year period 2006-2016 the Mareeba (S) population grew by 3,404 persons, or 18.1%, at an average annual rate of 1.8%.

Fig. 1: Population growth, ERP, Mareeba (S), single years, 1991-2016



Source: ABS 3218.0, *Regional Population Growth, Australia, 2016* and Queensland Treasury estimates.
Geographies are based on the 2016 edition of the Australian Statistical Geography Standard (ASGS)

Comparison with other regions

In comparison with surrounding LGAs, Mareeba Shire's growth was slower in the ten year period to 2001, especially compared with the Douglas Shire and Cairns. However, in the five years to 2011 Mareeba Shire experienced growth much higher than Cassowary Coast, Douglas, and the Tablelands, growing at 2.1% p.a. Whilst average annual growth dropped to 1.4% p.a. in the five years to 2016, this followed a trend across Queensland as a whole where average annual growth slowed from 2.3% p.a. in 2006-2011 to 1.7% p.a. in 2011-2016, as shown in Table 4.

Table 3: Average annual growth, ERP, 5 year intervals, Selected FNQ LGAs and Queensland

	1991-96	1996-2001	2001-06	2006-11	2011-16
Cassowary Coast (R)	1.6%	0.6%	-0.6%	0.0%	0.5%
Douglas (S)	5.0%	2.0%	0.5%	1.3%	1.5%
Mareeba (S)	1.2%	0.1%	0.7%	2.1%	1.4%
Tablelands (R)	1.7%	0.4%	1.2%	1.0%	0.8%
Cairns (R)	4.4%	0.9%	2.9%	2.9%	1.5%
Queensland	2.3%	1.6%	2.4%	2.3%	1.7%

Source: ABS 3218.0, *Regional Population Growth, Australia*, 2016 and Queensland Treasury estimates. Geographies are based on the 2016 edition of the Australian Statistical Geography Standard (ASGS)

Of the 78 LGAs in Queensland, Mareeba (S) is ranked 29th largest in size (ERP 2016pr, ABS 3218.0). Of these, 53 experienced population growth and 25 had population decline in the 25 years 1991 to 2016. Mareeba Shire was in the top 36 fastest growing LGAs in this period, growing 30.1%. The fastest growing were Gold Coast (127.7%), Sunshine Coast (121.7%) and Noosa (120.8%). LGAs with population decline include Burdekin (-10.1%) and Banana (-10.9%) (ABS Cat.3218.0, 2016).

Whilst the ERP is the latest and official population figure, most of the data in the rest of this report is based on the ABS 2016 Census of Population and Housing and therefore the census count, either based on place of enumeration or on place of usual residence will be used when referring to the total population of Mareeba Shire.

Population Composition

The composition of Mareeba Shire's population: its age structure, size and type of households and how these change with the movement of people into and out of the Shire, influence the socioeconomic characteristics of the Mareeba Shire community. Analysis of the ABS 2016 Census reveals the nature of Mareeba Shire's population composition, how it has changed from previous censuses and how it compares with other regions, such as Queensland as a whole.

Place of Enumeration Count

The total population counted in Mareeba Shire at the ABS 2016 Census was 22,022 persons. This is everyone recorded as being present in the LGA, including domestic visitors but excluding overseas visitors. 18,408 people were counted in private dwellings occupied by usual residents (including visitors) and 3,619 were counted in other dwellings including visitors only and non-classifiable households and non-private dwellings. 20,352 people were counted as being in their usual place of residence (private and non-private) in the Mareeba Shire and 1,670 were elsewhere (ABS 2016 Census, G01b).

Place of Usual Residence Count

21,557 people were recorded as having their usual address in Mareeba Shire on census night 2016. This is comprised of 20,352 residents who were present at their usual address in the Shire on census night and 1,205 who were not at home, including those completing the census in other regions of Australia. It includes people living in private and non-private dwellings (ABS 2016 Census, G01a).

Table 4: Population and Dwellings recorded at the 2016 Census in Mareeba (S)

	Mareeba Shire	Unit of measurement
Total population count, place of enumeration	22,022	Persons counted in Mareeba Shire on census night, including visitors
Total dwellings count, place of enumeration	9,661	Dwellings, private (9,635) and non-private (26)
Total population count, place of usual residence	21,577	Persons recording their usual address as in Mareeba Shire (private and non-private)
Total occupied private dwellings	7,402	Private dwellings occupied by usual residents of Mareeba Shire (excluding non-classifiable households)

ABS 2016 Census, General Community Profile, Mareeba (S) LGA

Dwelling Count

There were 9,661 dwellings counted by census officers in the Mareeba Shire at the 2016 census. Somewhere between 22 and 29 (to protect confidentiality) were non-private dwellings, such as prisons, nursing homes, staff quarters, hotels and motels and other non-private residential accommodation. The Lotus Glen Correctional Centre (a male only facility) and the Mareeba Garden Settlement and Mt Kooyong aged care homes would be included in this count. There were 1,432 people whose usual address was stated as in Mareeba (S), counted in non-private dwellings in Mareeba Shire, 1,199 male and 233 female (ABS Census 2016, Tablebuilder).

Aboriginal and Torres Strait Islander Peoples

At the 2016 ABS Census of Population and Housing 2,797 usual residents of Mareeba Shire identified themselves as Aboriginal and/or Torres Strait Islander (ATSI). This was 13.0% of the total resident population of Mareeba Shire, a much higher proportion identifying as ATSI than in Queensland as a whole (4.0%). There were 122 more persons identifying as ATSI at the 2016 Census than at the 2011 Census in Mareeba (S) LGA, an increase of 4.6%. The general population of usual residents in Mareeba (S) increased by 7.7% in the same period.

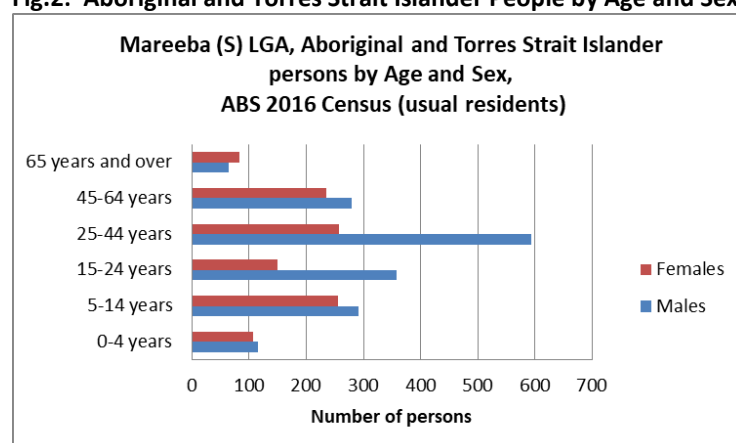
Table 5: Aboriginal and Torres Strait Islander Peoples, Mareeba (S) LGA, ABS Census, 2011 and 2016

	ATSI Peoples Number persons	Total Population Mareeba (S)	% ATSI Mareeba (S)	% ATSI Queensland
2011	2,675	20,019	13.4%	3.6%
2016	2,797	21,557	13.0%	4.0%
% Change 2011-2016	4.6%	7.7%		

Based on data sourced from: ABS 2016 Census, *Aboriginal and Torres Strait Islander Peoples Profile*, Mareeba (S) LGA and ABS Census Quickstats 2011 and 2016

The median age of the Indigenous ATSI population in Mareeba Shire at the 2016 Census was 27 years. This compares with a median age of 45 years for the non-Indigenous population of Mareeba (S). The younger median age of the Indigenous population brings the median age of the total usual resident population of Mareeba (S) down to 43 years (ABS, 2016 Census). However, the median age of Indigenous people in Mareeba (S) (27 years) is higher than that of Indigenous people in Queensland (22 years). This is a result of the high proportion of males aged 15-44 years in Mareeba (S), explained by the presence of the Lotus Glen Correctional Facility at which there were around 610 ATSI males aged between 18 and 59 who may have come from other areas of Queensland, distorting the age-sex structure of the Mareeba (S) population.

Fig.2: Aboriginal and Torres Strait Islander People by Age and Sex, Mareeba (S), 2016 Census



Based on data sourced from: ABS 2016 Census, *Aboriginal and Torres Strait Islander Peoples Profile*, Mareeba (S) LGA

Analysis of ABS Census time series data reveals a net loss of ATSI females aged 15-29 from the Shire in the 2011-16 intercensal period compared with a net gain in 2006-11, suggesting a migration pattern more aligned with the general Mareeba (S) population with youth leaving the region. This could explain the lower number of Indigenous infants aged 0-4 years in 2016 than in 2011 (ABS 2016 Census, TSP).

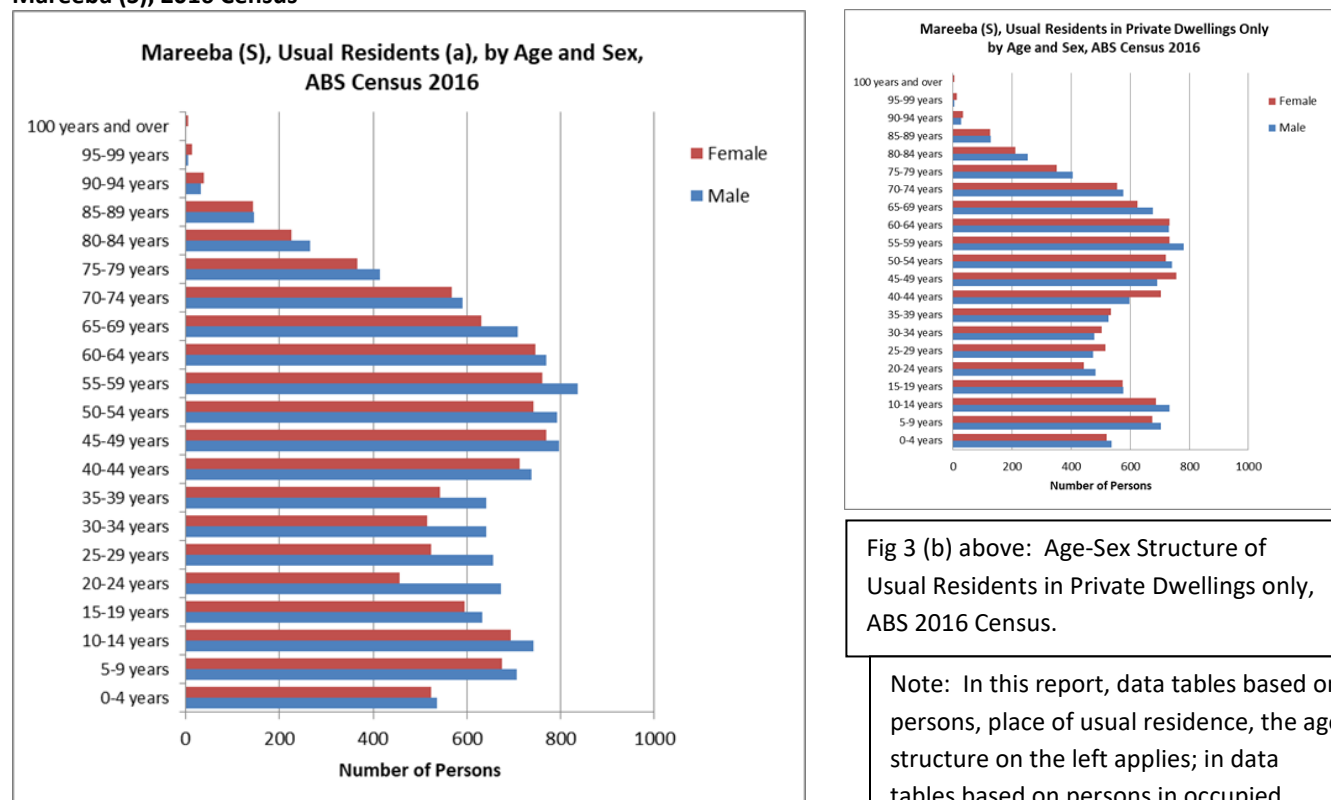
Age-Sex Structure

Mareeba Shire's population age-sex structure, when seen over several years, reveals patterns of past migration flows into and out of the shire, which together with births and deaths create the current age structure of the population. This structure has a big impact on such socioeconomic characteristics as the level of participation in the labour force, which underpins income levels. The rural and regional economy in turn influences migration patterns and thereby the age structure.

The ABS includes persons in private and non-private dwellings in the persons by place of usual residence count (21,577). Significant features of Mareeba (S) usual resident population age-sex structure are:

- 52.5% male: 47.5% female
- More males than females at every age except 85 years and above
- Between 20-24 years and 40-44 years much of the male imbalance can be accounted for by the presence of the Lotus Glen Correctional Centre, a male only facility in the Mareeba Shire with around 890 male inmates (including around 610 ATSI)
- Low percentage of people in the 15-19 years to 35-39 years age groups (which would be even lower if not for the Correctional Centre, as shown in the chart on the right, below)
- Predominance of age groups 5-9,10-14 years, 40-44 to 60-64 years
- A smaller proportion of people aged 0-4 years than 5-9 years

Fig.3: Usual Residents by Age and Sex, (a) in private and non-private dwellings and (b) in private dwellings only, Mareeba (S), 2016 Census



Based on ABS 2016 Census, General Community Profile, G04

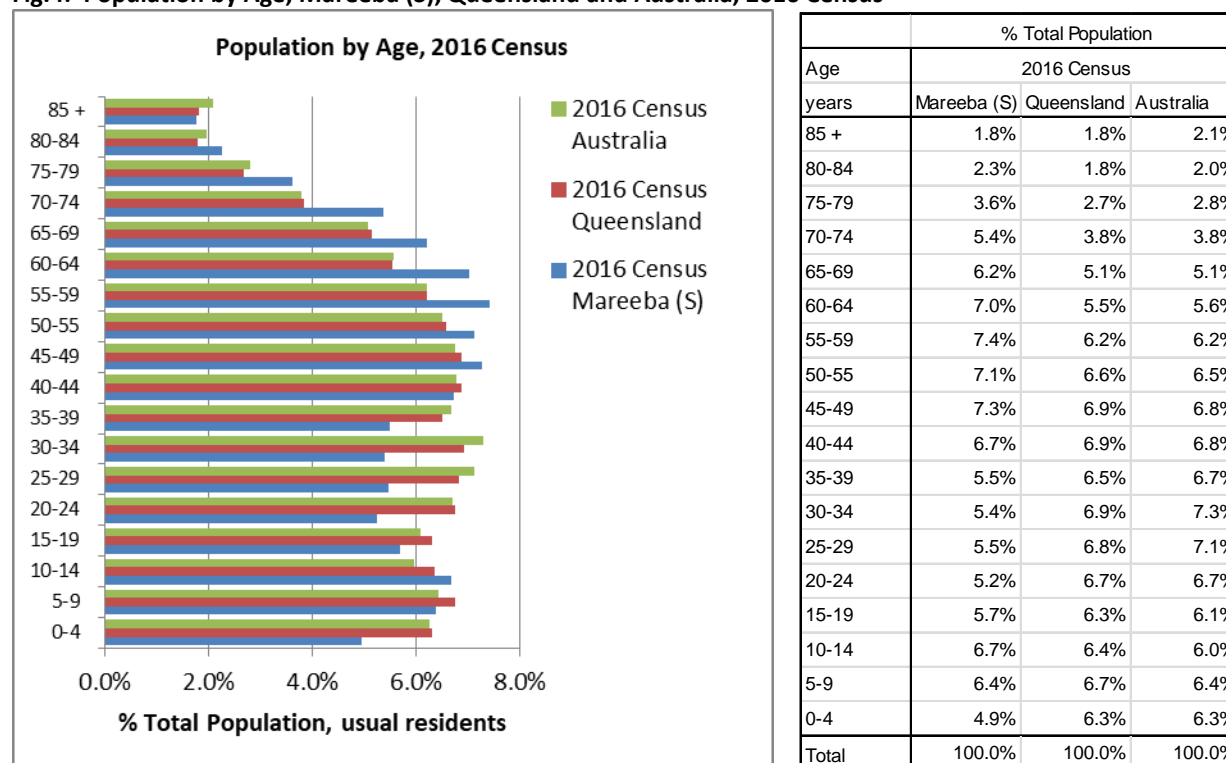
(a) Persons, place of usual residence (both private and non-private dwellings)

Fig 3 (b) above: Age-Sex Structure of Usual Residents in Private Dwellings only, ABS 2016 Census.

Note: In this report, data tables based on persons, place of usual residence, the age structure on the left applies; in data tables based on persons in occupied private dwellings the age structure on the right applies unless otherwise stated.

Comparison with the age structures of Queensland and Australia highlights the lower proportion of people in the Mareeba (S) population at ages 15 to 39 years and the higher proportion of people aged 45 to 79 years, as shown in the chart below.

Fig.4: Population by Age, Mareeba (S), Queensland and Australia, 2016 Census



Based on ABS 2016 Census, TSP, T03

Persons, place of usual residence (both private and non-private dwellings)

Table 6: Proportion of Population by Age, Mareeba (S), Queensland and Australia, 2016 Census

Age, years	0-14 yrs	15-39 yrs	40-64 yrs	65 yrs and over
Mareeba (S)	18.0%	27.3%	35.5%	19.2%
Queensland	19.4%	33.3%	32.1%	15.3%
Australia	18.7%	33.8%	31.8%	15.7%

Based on ABS 2016 Census, TSP, T03, Persons, place of usual residence (both private and non-private dwellings)

Percentages may differ from other tables presented owing to random adjustment by the ABS and rounding

In Mareeba (S) persons aged 15-39 years form 27.3% of the total usual resident population compared with 33.3% in Queensland and 33.8% in Australia. In Mareeba (S) persons aged 40-64 years form 35.5% of the usual resident population compared with 32.1% in Queensland and 31.8% in Australia. Despite the larger proportion of people aged 40-64 years in the Mareeba (S) population, this does not compensate for the lack of people aged 15-39 years and the percentage of working age people (aged 15-64 years) in Mareeba (S) is consequently lower (62.8%) than in Queensland (65.4%) and Australia (65.6%) at the 2016 Census.

The combination of a scarcity of young adults with an abundance of mature age and older age people pushes up the median age of the population in Mareeba (S) to 43 years, compared with 37 years in Queensland and 38 years in Australia (ABS 2016 Census).

Ageing of the Population

In 1981 Mareeba Shire's median age was 27 years, in 1991 it was 32, in 2001 it was 37, in 2011 it was 41 and in 2016 it was 43 years (ABS Census data, based on place of enumeration). This reflects a national trend of population ageing which is the result of lower fertility rates since the baby boom of the 1940s and 1950s, and of longer life expectancy. It is exacerbated in outer regional areas of Australia, such as Mareeba (S), which lose large sections of their young population (15 – 24 yrs) when they leave to pursue educational and career opportunities not available in rural areas. It can also be a reflection of previous migration patterns with earlier periods of high migration into the region by young families (e.g. the high migration into Mareeba (S) in the 1950s to build the Tinaroo Dam and work on farms irrigated by it) which was not sustained in later years and so these families move through the life cycle without being replaced by younger migrants to the same extent. The large baby boomer generation (born 1946-61) is evident in Mareeba(S), as shown in the chart below.

Fig 5: Population by Age at 2016 Census and Year of Birth, Mareeba (S)

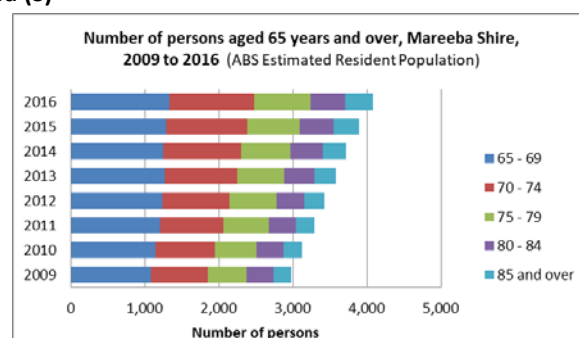
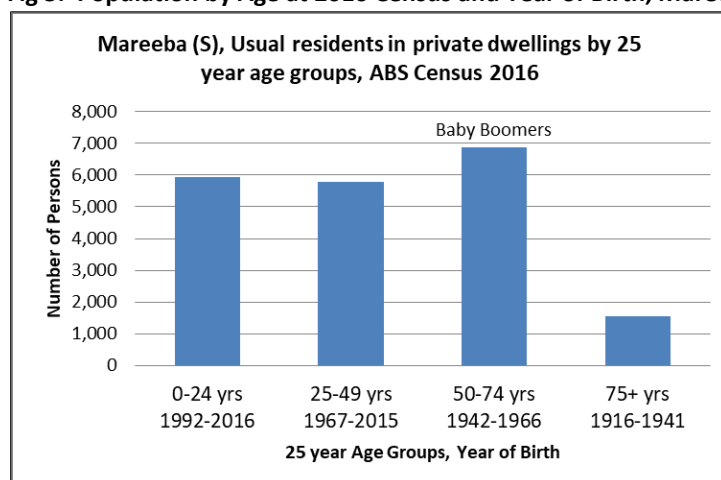


Fig.6 (above): Increase in size of Estimated Resident Population aged 65 years and over, Mareeba (S) 2009-2016
Based on ABS.Stat Dataset: ERP by LGA (ASGS 2016), by Age and Sex, 2001 to 2016

Based on ABS 2016 Census accessed using Tablebuilder, excludes usual residents in non-private dwellings and non-classifiable households

The older age structure of Mareeba Shire's population influences many characteristics of its socioeconomic profile, such as:

- more people on aged pension, lowering average income
- more couple without children households than couple with children households
- more lone person households as more people lose their partners with age
- lower labour force participation rate as larger numbers of workers retire without being replaced

The relative lack of young people aged 15 to 39 years in Mareeba Shire has an impact in:

- reducing the potential pool of young workers to replace those retiring

- reducing the size of the labour force compared with a younger population e.g. Queensland
- reducing total fertility compared with if those young people stayed – evidence of this is seen in the smaller percentage of 0-4 year olds (4.9%) in Mareeba (S) compared with Queensland and Australia (both 6.3%) which correlates with the smaller percentage of 15-39 year olds (27.3% in Mareeba (S) v. 33.3% in Queensland and 33.8% in Australia) at the 2016 Census

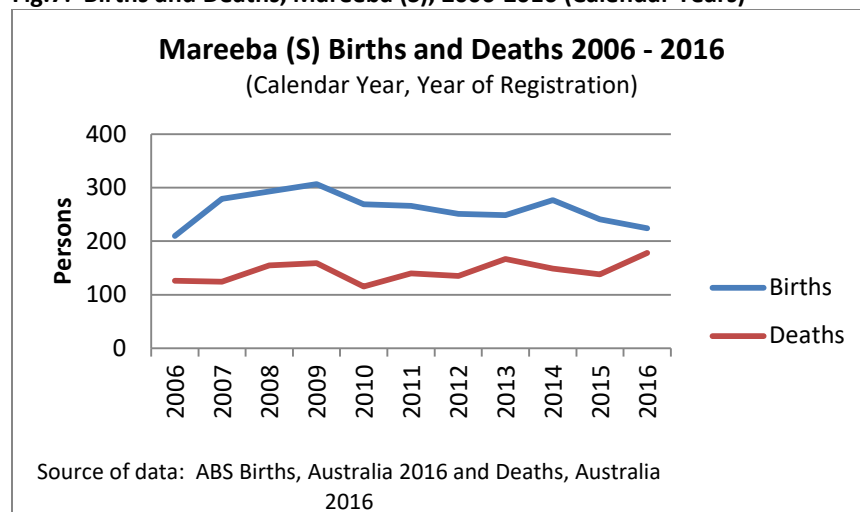
Components of Population Change

Prior to the release of its *Regional Population Growth Australia 2017* edition of its Cat.3218.0 in April 2018, the ABS did not publish the components of population change, natural increase and migration, for each LGA with the estimated resident population (ERP). Therefore, to estimate the relative contributions of natural increase (births - deaths) and net migration (in-migration – out-migration) to population change for Mareeba (S) LGA for the years 2006 to 2016 the author has made approximations based on calculations using ABS data on births, deaths and ERP (please see notes on methodology in Appendix).

Natural Increase

In Mareeba (S) the number of registered births has been greater than the number of registered deaths each year over the period 2006 to 2016, resulting in natural increase in the population. During this period the average number of births was 287 per year and the average number of deaths was 159 per year, giving an average level of natural increase of 128 persons per year in Mareeba Shire's population (based on ABS data on registered births and deaths, please see Appendix for more information).

Fig.7: Births and Deaths, Mareeba (S), 2006-2016 (Calendar Years)



Source of data: ABS Births Australia by LGA Cat.33010do003_2016 and Deaths Australia by LGA Cat. 33020do005_2016

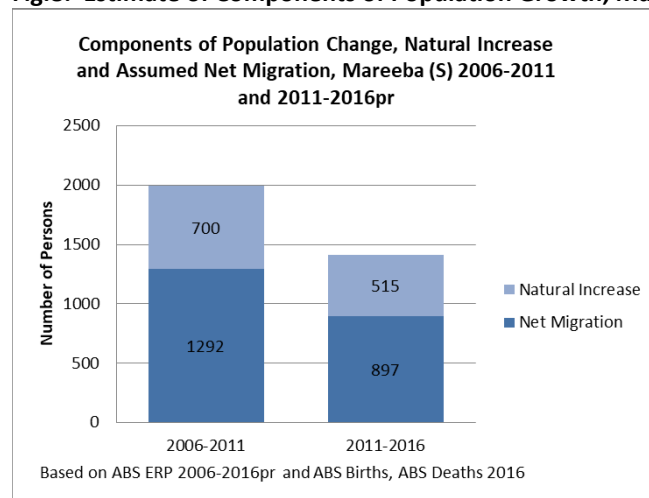
Calculations based on ABS data on births, deaths and the mid-year estimated resident population for Mareeba (S), estimate that during the period 2006-2016 natural increase accounted for around 36% of the growth in Mareeba Shire's population in this period, with assumed net migration making up the rest of the growth (64%) (author's calculations, please see Appendix).

Assumed Net Migration

Assumed net migration is one method of estimating the contribution that net migration (in-migration minus out-migration) makes to population growth in a specific population in a specific time frame. It is total population increase in any time period minus the amount of natural increase in the same time period in a particular population. For years 2011 to 2016 the ABS has not released figures on assumed net migration for Mareeba (S) as its dataset for net migration at LGA level is based on ASGS 2011 when Mareeba (S) was part of Tablelands (R) LGA. However, in order to get some idea of the relative contributions of natural increase and net migration to population growth in Mareeba (S), the author of this report has made calculations based on the ERP for Mareeba (S) (2016 boundary) and the figures for natural increase as above, with some adjustment for the fact that births and deaths data are based on calendar year whereas the ERP is based on a mid-year estimate (please see Appendix for notes and methodology). These figures are an approximation of true levels and in no way are they representative of any work carried out by either the ABS or Queensland Treasury.

The ERP as at 30th June 2006 for Mareeba (S) (2016 LGA boundary) was 18,753 persons. At 30th June 2016 it was 22,157 persons, an increase of 3,404 persons in this 10 year time period (ABS 3218.0, 2016). In this period, births outnumbered deaths by 1,215 persons (natural increase) and therefore the rest of the growth can be assumed to be net migration, which has been calculated as 2,189 persons. In the five years to 2011 Mareeba Shire's population increased by 1,992 persons, of which 1,292 (65%) could be attributed to assumed net migration and 700 (35%) to natural increase. In the five years to 2016 Mareeba Shire's population increased by 1,412 persons, of which 897 (64%) could be attributed to assumed net migration and 515 (36%) to natural increase. Over the 10 years, assumed net migration contributed 2,189 (64%) of total population growth and natural increase 1,215 (36%) of the growth (author's calculations, see Appendix).

Fig.8: Estimate of Components of Population Growth, Mareeba (S), 2006-2011 and 2011-2016pr



Based on ABS 33020DO004_2016 Deaths, Australia, 2016; 33010do003_2016 Births Australia, 2016; ABS 3218.0, *Regional Population Growth, Australia*, 2016 and Queensland Treasury estimates.

pr = preliminary revised

Please note these calculations are made by the author and are not representations of work carried out by the ABS or Queensland Treasury; they are approximations and should not be relied upon.

Migration into and out of Mareeba Shire

Internal migration within a country is a highly complex issue and hard to assess as movements across state and local government boundaries are not recorded officially, but can be cross-referenced between government records such as Medicare addresses, driving licence addresses and other official records. The ABS uses such records to calculate the estimated resident population of a local government area.

While assumed net migration estimates how much more (or less) migration into the Shire occurred over migration out of the Shire, it does not tell us anything about the volume of movement occurring in each direction. The mobility of the Mareeba Shire population can be estimated from census data responses to a question on the address of usual residents of Mareeba (S) five years ago, that is at the time of the previous census, and also from the number of people who live elsewhere recording Mareeba (S) as their address five years ago. The difference between these figures theoretically would be another estimation of net migration into the Shire, but at the 2016 census a large proportion of people did not state where they lived five years ago. However, it does give a sense of how large a section of the population is made up of completely different people from one census to the next in a given population, and what the characteristics of those people coming in and going out are. Please note that census figures given below can vary as they are aggregated from small areas and the ABS randomizes small numbers to protect identity, so sub-totals don't always add up to the total given by the ABS and the numbers given are therefore only approximate.

Migration into Mareeba Shire

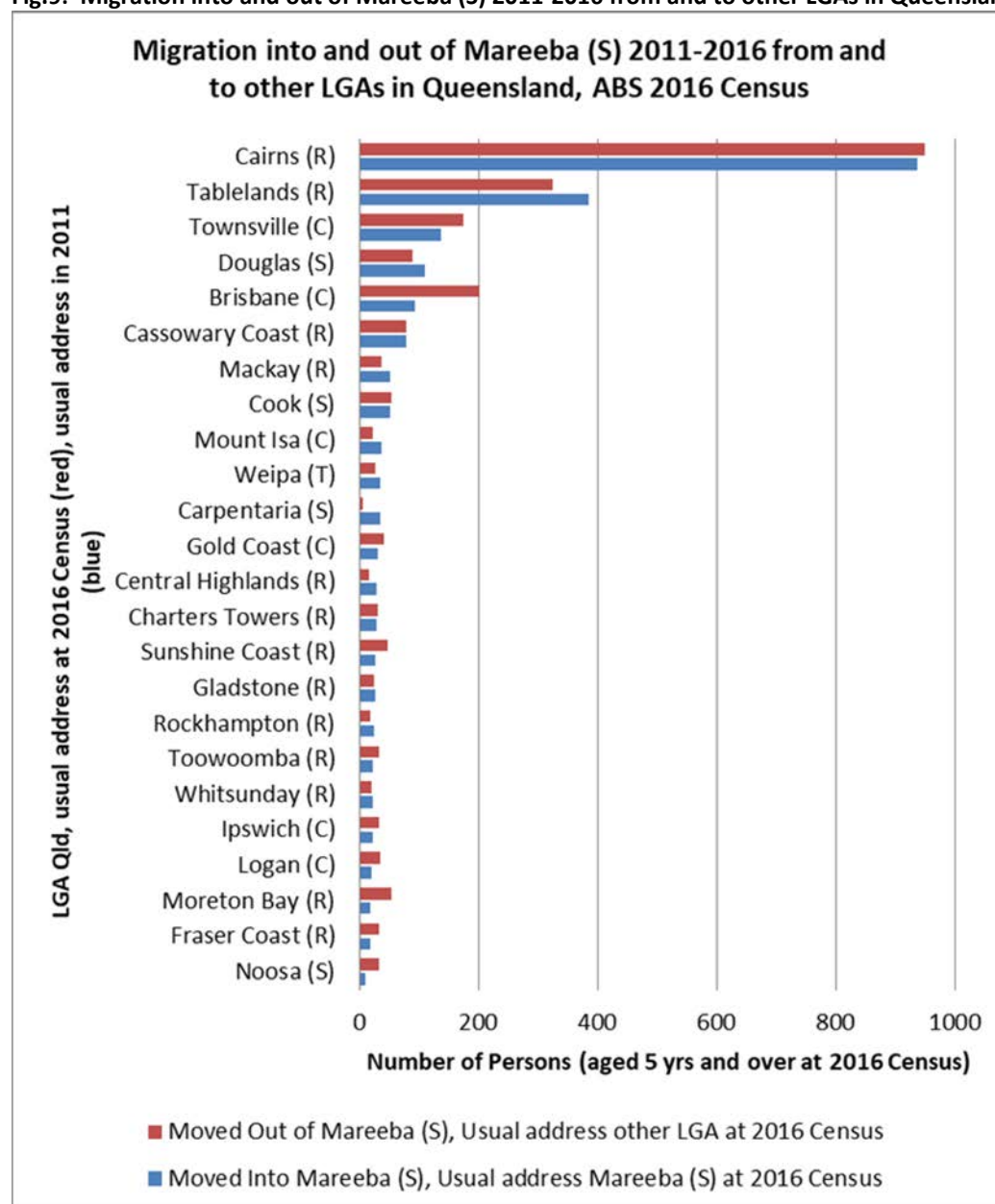
Of the 21,557 usual residents of Mareeba Shire counted at the 2016 census, 1,064 were aged 0-4yrs, i.e. they were born at some time between the previous census in 2011 and the one in 2016. Of the rest (20,513 aged 5 years and over), 10,852 stated they had the same address as five years previously, i.e. they lived in the Mareeba Shire at the same address at the 2011 census and 6,439 stated they had a different address five years previously. A large proportion (15%) of Mareeba (S) census respondents at the 2016 census did not state whether they lived at the same address or not, which makes assessment of migration difficult (ABS Census 2016, G42 and ABS Tablebuilder).

Of the 6,439 who stated they lived at a different address five years previously, 2,453 moved within Mareeba Shire and 3,896 moved into Mareeba Shire from other places, including 573 from overseas and 113 who did not state where they came from (ABS Census 2016, G42). Of the 3,210 who moved in from other areas of Australia, around 2,500 (78%) came from other LGAs in Queensland and around 700 (22%) came from other states in Australia.

Of the 700 or so who came from other states, 27% came from NSW, 22% from the Northern Territory, 20% from Victoria, 19% from WA, 9% from SA and 3% from Tasmania.

Of the 2,500 or so who came from other LGAs in Queensland, 36.5% lived in Cairns five years previously and 15% lived in Tablelands (R), with a wide spread of other places in Queensland being recorded, as shown in the chart below.

Fig.9: Migration into and out of Mareeba (S) 2011-2016 from and to other LGAs in Queensland, 2016 Census



Based on ABS Census 2016 data accessed using Tablebuilder

Usual address by LGA at the 2016 census of people who stated their usual address as Mareeba (S) five years previously

Migration out of Mareeba Shire

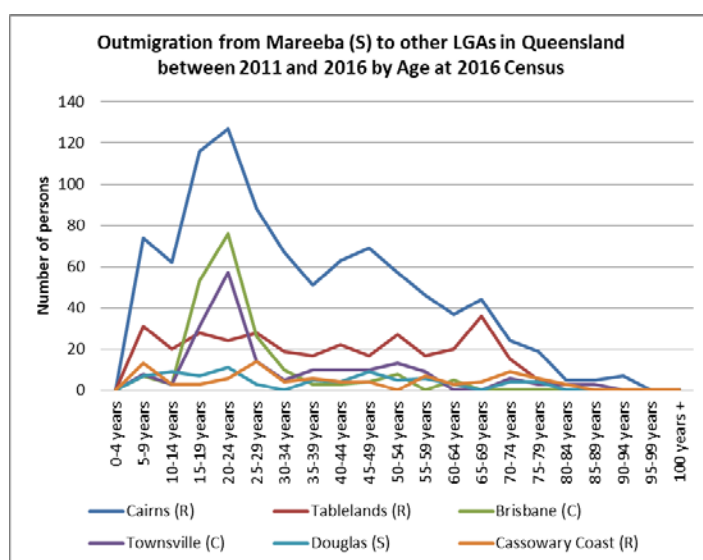
At the 2016 census, 16,590 people (aged 5 years and over) were recorded as having their usual address in the Mareeba Shire five years previously, with 13,306 still living in Mareeba (S) at the 2016 census and 3,284 living outside of Mareeba (S) at the 2016 census (ABS 2016 Census, Tablebuilder). This does not capture those who could be living anywhere in Australia who did not state where they lived five years ago and those who moved overseas.

Of the 3,284 or so people who moved from Mareeba (S) to other places in Australia, around 1,536 (47%) moved to neighbouring LGAs in Far North Queensland, around 1,079 (33%) moved to LGAs further away in Queensland and around 657 (20%) went to other states in Australia.

This data shows very high interchange of people between Mareeba (S) and Cairns (R), with around the same amount of people moving to Cairns from Mareeba (S), 949, as moved from Cairns (R) to Mareeba (S), 937, between 2011 and 2016.

Mobility between Mareeba (S) and the Tablelands (R) was also high, but with more people moving from the Tablelands into Mareeba (S), 385, than moved from Mareeba (S) to the Tablelands (R), 324.

There was greater migration to LGAs in south-east Queensland than there was migration the other way, especially to Brisbane (201 moving to Brisbane and 92 moving from Brisbane).



Analysis of migration out of Mareeba (S) by age shows the high number of people aged between 15 and 24 years leaving the Shire, most likely to go to university or jobs in Cairns, Brisbane and Townsville.

Fig.10: Outmigration from Mareeba (S) to other LGAs in Queensland 2011-2016 by Age at 2016 Census

Based on ABS Census 2016 data accessed using Tablebuilder. Usual address at the 2016 census of people who stated their usual address as Mareeba (S) five years previously by Age of person at the 2016 Census

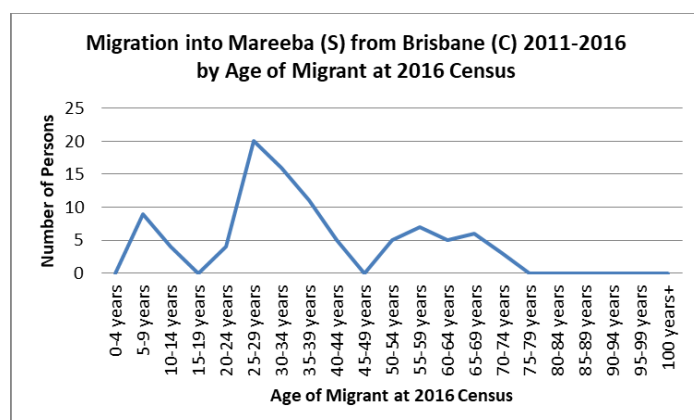


Fig.11: Migration into Mareeba (S) from Brisbane (C) 2011-16 by Age of Migrant at 2016 Census

Based on ABS Census 2016 data accessed using Tablebuilder
People who stated their usual address as Mareeba (S) at the 2016 Census who stated their usual address five years previously as Brisbane (C)

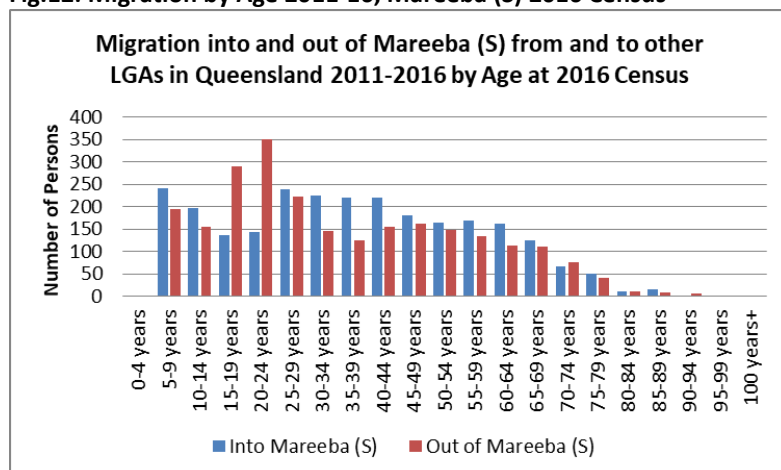
Analysis also suggests that some of those who went to Brisbane in their teens and early 20s might be returning in their mid-twenties when their studies are finished (Fig.11 above), although it is not possible

to tell from this data for sure. The migrants from Brisbane in their mid-twenties may be new to Mareeba (S), taking jobs at the start of their career.

Migration Cycle

Data showing migration into and out of Mareeba (S) from and to other LGAs in Queensland between 2011 and 2016 by age of migrant at the 2016 census suggests that there is a cycle of migration whereby families with young children aged 5-14 years and parents in their 30s and 40s move into Mareeba (S) and teenagers move out to go to further education or jobs in the cities, with some of their parents in their late 40s moving away too. At older ages (50-65 years) more people moved into Mareeba (S) from other LGAs in Queensland than moved out, as shown in the chart below.

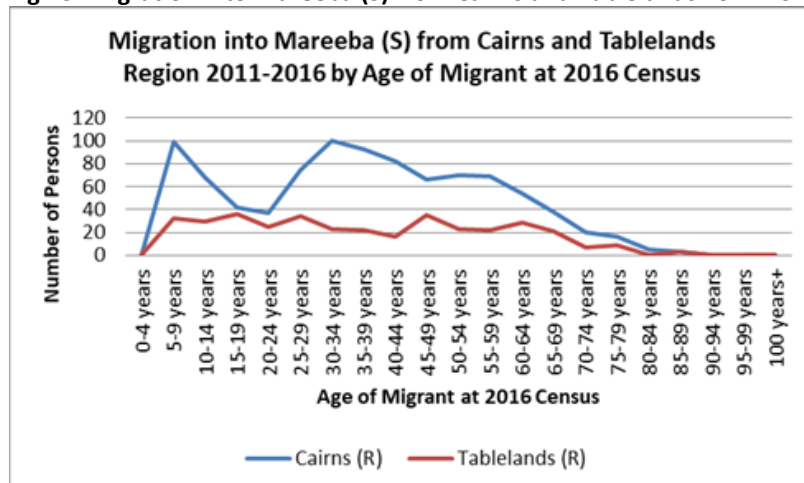
Fig.12: Migration by Age 2011-16, Mareeba (S) 2016 Census



Based on ABS Census 2016 data accessed using Tablebuilder: usual address by LGA at 2016 Census by Age at 2016 Census by usual address five years previously by LGA Queensland

Mareeba (S) seems to attract young families from Cairns, whereas there is a general movement of people at all ages from the Tablelands Region.

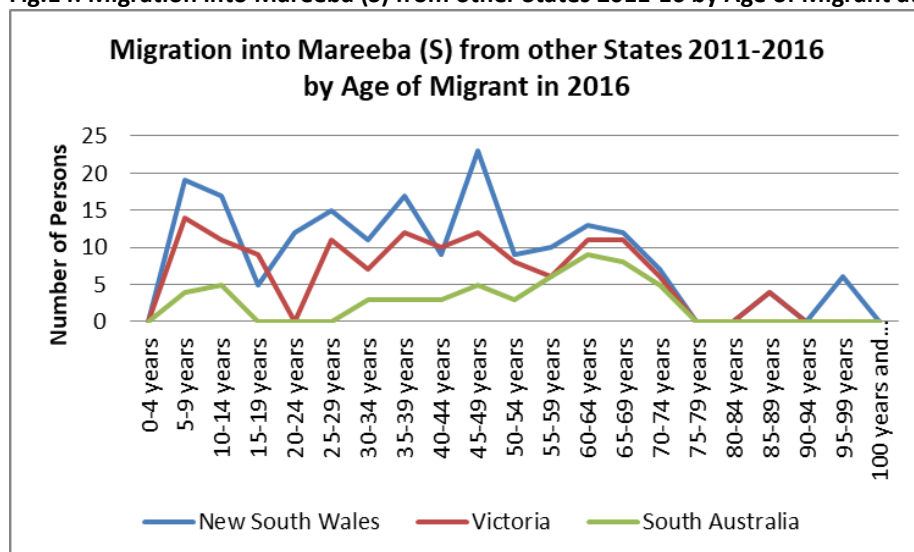
Fig.13: Migration into Mareeba (S) from Cairns and Tablelands 2011-16 by Age of Migrant, 2016 Census



Based on ABS Census 2016 data accessed using Tablebuilder: usual address by LGA at 2016 Census by Age at 2016 Census by usual address five years previously by LGA Queensland

Families with young children from other states in Australia also seem to be attracted to Mareeba (S), although caution of interpretation is needed with small numbers. People from interstate nearing retirement age also moved into the Shire.

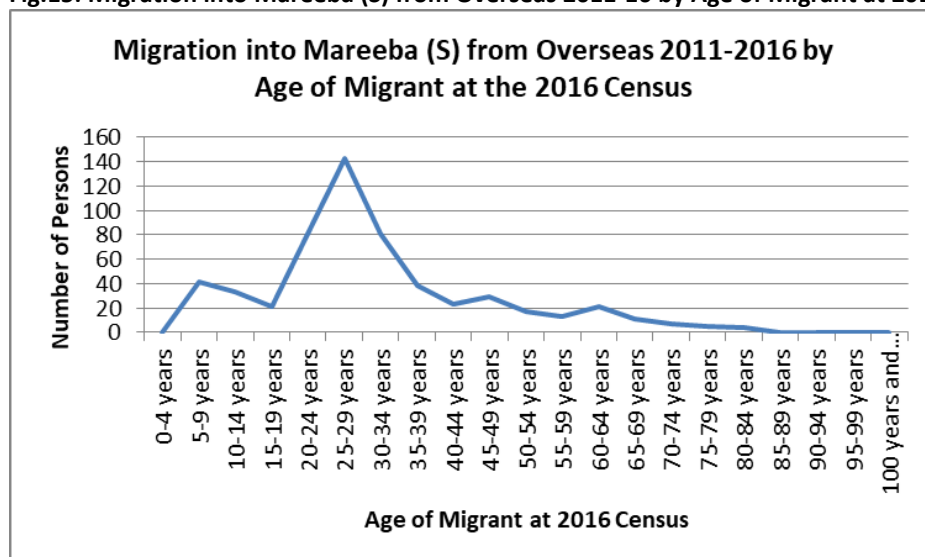
Fig.14: Migration into Mareeba (S) from other States 2011-16 by Age of Migrant at 2016 Census



Based on ABS Census 2016 data accessed using Tablebuilder: usual residents of Mareeba (S) at the 2016 census who lived in NSW, Victoria or South Australia five years previously, by age at the 2016 census.

Migration by usual residents of Mareeba (S) at the 2016 census who stated their address as overseas five years previously, however, were mainly in their mid-twenties, as shown in the chart below, most likely backpackers on working visas working on farms in the region.

Fig.15: Migration into Mareeba (S) from Overseas 2011-16 by Age of Migrant at 2016 Census



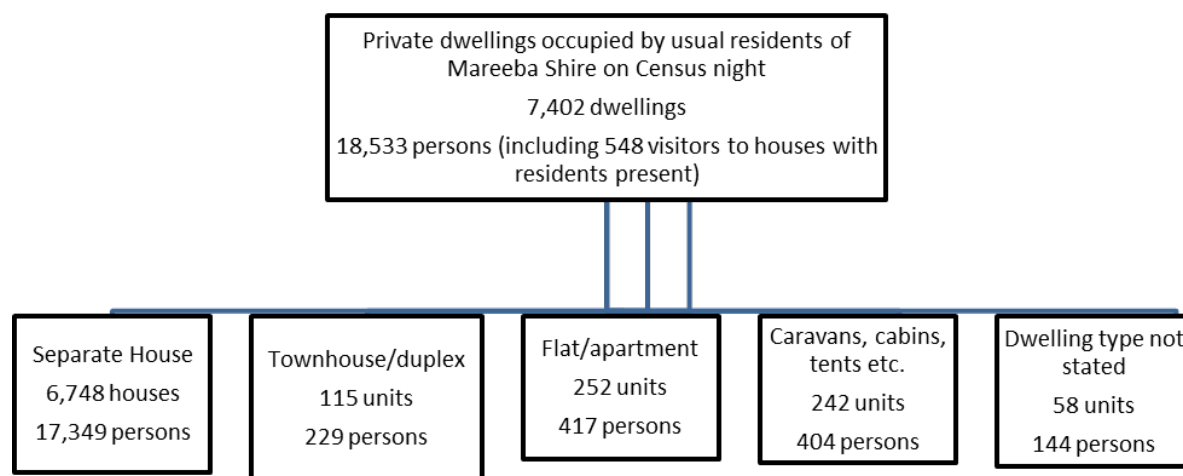
Based on ABS Census 2016 data accessed using Tablebuilder: usual residents of Mareeba (S) at the 2016 census who lived overseas five years previously, by age at the 2016 census.

Dwellings

Private Dwellings

There were 9,635 private dwellings recorded in Mareeba Shire at the 2016 census. Of these, 1,025 were unoccupied on the night of the census and 8,610 were occupied. Of the 8,610 occupied private dwellings, 454 had only visitors (Australian) present and in 754 dwellings the type of household was unable to be determined for various reasons. Visitor only and non-classifiable households are excluded from most of the data tables based on occupied private dwellings.

In the remaining 7,402 private dwellings 18,533 people were recorded as being present, of which 548 persons were visitors to the household. 242 dwellings were caravans, cabins, tents etc. occupied by 404 persons at least one of whom in the household gave the dwelling as their place of usual residence.



Based on ABS Census 2016, General Community Profile, Mareeba (S), G32, G39 Tables, based on place of enumeration, excludes visitor only households but includes visitors to residents' households. Does not include residents temporarily absent on census night. Random adjustments are made to data values therefore sub-totals may not add up to totals.

Table 7: Private dwellings occupied by usual residents, Mareeba (S) and Queensland, 2016 and 2011 Census

	Mareeba (S) 2011	Mareeba (S) 2016	Queensland 2011	Queensland 2016
Occupied private dwellings (OPD)	7,126	7,404	-	-
Owned outright % all OPD	39.1%	39.3%	29.0%	28.5%
Owned with mortgage % all OPD	28.3%	28.1%	34.5%	33.7%
Rented % all OPD	28.4%	28.0%	33.2%	34.2%
Median monthly mortgage repayments	\$1,484	\$1,517	\$1,850	\$1,733
Median rent per week	\$170	\$220	\$300	\$330

ABS Census 2011 and 2016, General Community Profile, occupied private dwellings, place of enumeration, excluding visitor only and non-classifiable households

Change in Number of Private Dwellings

The total number of private dwellings counted in Mareeba (S) increased by 2,000 dwellings from 7,635 at the 2006 census to 9,635 at the 2016 census, a total increase of 26.2% (ABS 2016 Census, TSP). Building construction was more active in the first five years, 2006-2011, when the total number of dwellings increased by 15.8%. This was a period of high migration and population growth, when estimated resident population was growing at an average annual rate of 2.1% (10.6% total change over the five years). The next five years saw a slowdown in building activity, when total dwellings increased by 9.0%, during a period of slower economic activity and slower population growth (ERP 1.4% p.a. 2011-2016) (ABS Cat.3218.0). The lot certification chart below (right) reflects this pattern.

Over the ten year period 2006-2016 the number of completed private dwellings increased at an average rate of 2.6% per year and the estimated resident population grew at an average rate of 1.8% per year. Although the number of lone person households is increasing, the average household size in Mareeba (S) at the 2016 census was 2.5 persons. 2,000 new dwellings (depending on their size) at an average of 2.5 persons per dwelling could house a capacity of around 5,000 people, yet the population grew only by an estimated 3,404 persons in total in the period June 2006- June 2016 (ERP, ABS Cat.3218.0). This excess of supply over demand could explain the higher percentage of unoccupied private dwellings at the 2016 census (10.6%) than at the 2006 census (8.3%) (ABS 2016 Census, Time Series Profile).

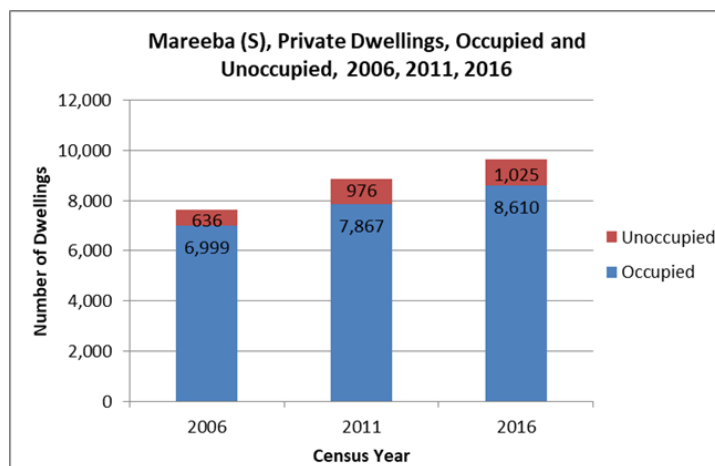
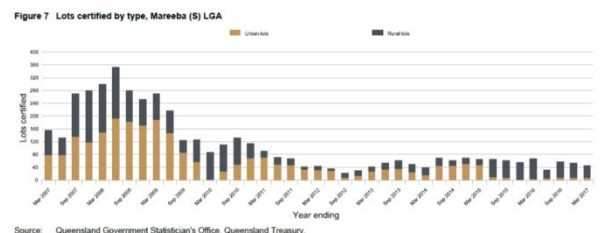


Fig.15 (above) Based on ABS Census, 2006, 2011, 2016



Source: Queensland Government Statistician's Office, Queensland Treasury.

Fig.16 above: Land Development: Mareeba (S) LGA, Lots certified by type: Urban (brown) and Rural (black), March 2007 to March 2017. There was a high of around 350 lots certified in the year ending June 2008 and a low of around 20 lots in year ending September 2012. For year ending March 2017, just over 40 lots were certified. Source: QGSO, Queensland Treasury 2017, Residential land development activity profile, Mareeba (S) LGA, accessed January 2018.

Table 8: Mareeba (S), Private Dwellings, Occupied and Unoccupied, Census 2006, 2011, 2016

	Occupied dwellings	Occupied as % of Total	Unoccupied dwellings	Unoccupied as % of Total	Total dwellings
2006	6,999	91.7%	636	8.3%	7,635
2011	7,867	89.0%	976	11.0%	8,843
2016	8,610	89.4%	1,025	10.6%	9,635
% change 2006-2011	12.4%		53.3%		15.8%
% change 2011-2016	9.4%		5.0%		9.0%
Average annual % change 2006-2016	2.3% p.a.		6.1% p.a.		2.6% p.a.

Based on ABS Census, 2006, 2011, 2016, based on place of enumeration

Table 9: Mareeba (S) Private dwellings by type of household present, 2006 – 2016

Based on ABS 2016 Census, Time Series Profile

	<i>Family households(a)</i>											
	<i>Couple family with no children present</i>	<i>Couple family with children present</i>	<i>One parent family</i>	<i>Other family</i>	<i>Total Family households</i>	<i>Lone person households</i>	<i>Group households</i>	<i>Total dwellings occupied by usually resident households</i>	<i>Visitor only & Non-classifiable</i>	<i>Total occupied private dwellings</i>	<i>Unoccupied</i>	<i>Total private dwellings</i>
2006	1,992	1,867	699	76	4,631	1,556	175	6,362	629	6,999	636	7,635
2011	2,190	1,978	808	80	5,060	1,849	222	7,131	742	7,867	976	8,843
2016	2,265	1,966	838	90	5,158	1,989	259	7,406	1,208	8,610	1,025	9,635

(a) In multiple family households, only the family composition of the primary family is included.

Table 10: Mareeba (S), % Change in number of households 2006-2011, 2011-16 and 2006-2016

	<i>Family households(a)</i>											
	<i>Couple family with no children present</i>	<i>Couple family with children present</i>	<i>One parent family</i>	<i>Other family</i>	<i>Total Family households</i>	<i>Lone person households</i>	<i>Group households</i>	<i>Total dwellings occupied by usually resident households</i>	<i>Visitor only & Non-classifiable</i>	<i>Total occupied private dwellings</i>	<i>Unoccupied</i>	<i>Total private dwellings</i>
2006-11	9.9%	5.9%	15.6%	5.3%	9.3%	18.8%	26.9%	12.1%	18.0%	12.4%	53.5%	15.8%
2011-16	3.4%	-0.6%	3.7%	12.5%	1.9%	7.6%	16.7%	3.9%	62.8%	9.4%	5.0%	9.0%
2006-2016	13.7%	5.3%	19.9%	18.4%	11.4%	27.8%	48.0%	16.4%	92.1%	23.0%	61.2%	26.2%

(a) In multiple family households, only the family composition of the primary family is included.

Households and Families

There were around 7,400 private dwellings occupied by usual residents of Mareeba Shire on census night 2016 (excluding 754 non-classifiable households) (ABS, 2016 Census).

Compared with Queensland, Mareeba (S) had a slightly lower proportion of family households (69.6% v. 71.8%), a higher proportion of Lone person households (26.9% v. 23.5%) and a lower proportion of Group households (3.5% v. 4.7%), at the 2016 Census, as shown in the table below.

Table 11: Households by Household type, Mareeba (S), Queensland and Australia, 2016 Census

	Mareeba (S)	Mareeba %	Queensland %	Australia %
Family households	5,153	69.6%	71.8%	71.3%
Lone person households	1,993	26.9%	23.5%	24.4%
Group households	259	3.5%	4.7%	4.3%
Total households*	7,405	100%	100%	100%

*Excluding visitor only households and non-classifiable households

Based on ABS 2016 Census

Family Composition

The 2016 census recorded 5,300 families living in 5,158 family households (133 being multiple family households). As a proportion of all families (rather than households), Mareeba (S) had a higher percentage of couple families without children (44.1%) than couple families with children (37.4%).

In Queensland as a whole, the reverse situation applies, with more couple families with children (42.5%) than couple families without children (39.4%).

However, when one parent families are combined with couple families with children, there are still more families with children (2,873) in Mareeba (S) than there are families without children (2,338).

Table 12: Family Composition, Mareeba (S), Queensland and Australia, percentage of all Families, 2016 Census

	Couple family without children	Couple family with children	One parent family	Other family	Total families
Mareeba (S)	2,338	1,983	890	89	5,300
Mareeba (S) %	44.1%	37.4%	16.8%	1.7%	100%
Queensland %	39.4%	42.5%	16.5%	1.6%	100%
Australia %	37.8%	44.7%	15.8%	1.8%	100%

Based on ABS 2016 Census, Quickstats

The total number of families recorded at the 2016 census was 560 families more than at the 2006 census, a growth of 11.8% over the ten years and an average increase of 1.2% or 56 families per year over the ten years.

Change in Households

There was an increase of 1,611 (23%) in all occupied private dwellings 2006-2016, including visitor only and non-classifiable households. All household types increased in number between the 2006 and 2016 censuses, as shown in the chart below.

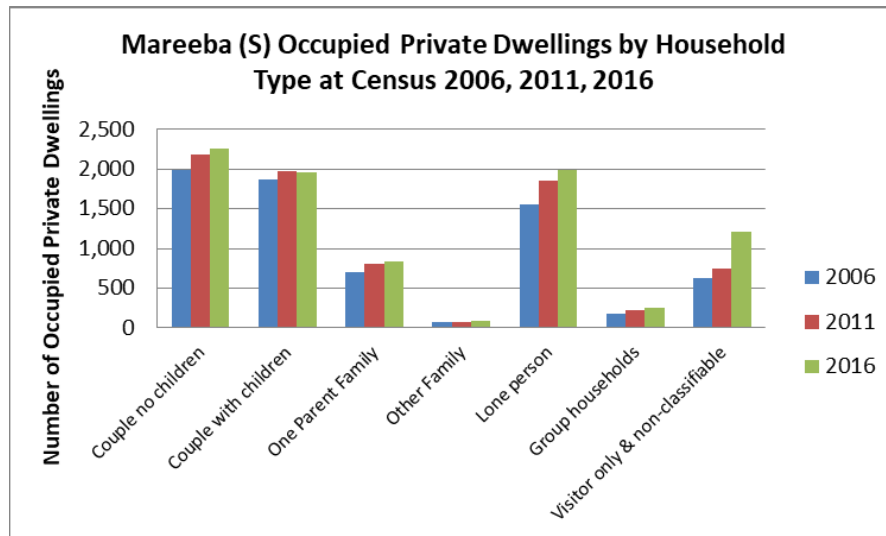


Fig.17: Based on data from: ABS 2016 Census, Time Series Profile, T14

If family households are considered as a proportion of all households (rather than of all families) in Mareeba (S), then couple without children households actually formed a smaller proportion of all households in 2016 than in 2006 (30.6% v. 31.3%) even though they increased in number. This could be explained by the relatively greater increase in Lone person households, but could also be a distortion created by the high number of unclassifiable households (754) in Mareeba (S) at the 2016 census.

Table 13: Households by Household type as a percentage of all Households (b), Mareeba (S), 2006, 2011, 2016

	Couple no children	Couple with children	One Parent Family	Other Family	Total Family Households (a)	Lone person	Group households	Total Resident Households (b)
2006	31.3%	29.3%	11.0%	1.2%	72.8%	24.5%	2.8%	100.0%
2011	30.7%	27.7%	11.3%	1.1%	71.0%	25.9%	3.1%	100.0%
2016	30.6%	26.5%	11.3%	1.2%	69.6%	26.9%	3.5%	100.0%

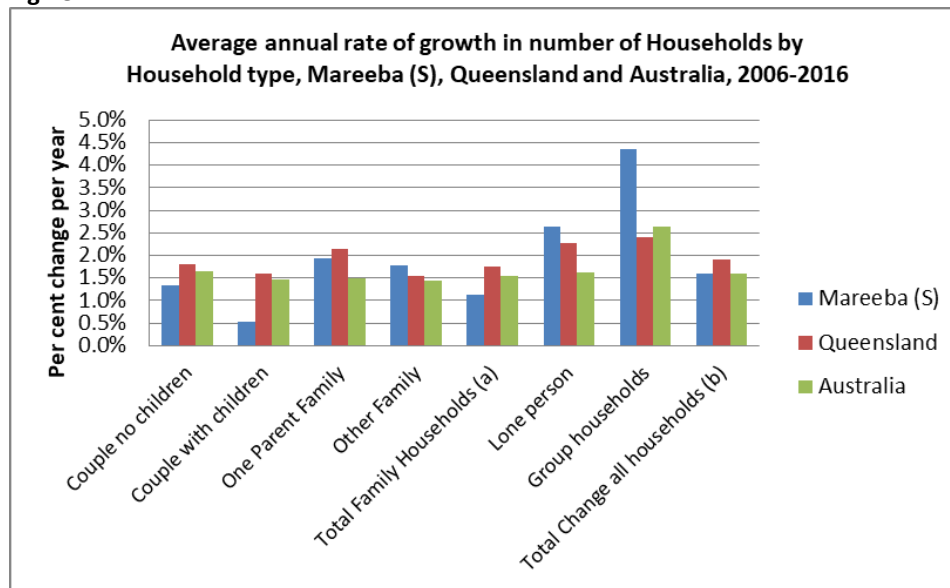
(a) In multiple family households, only the family composition of the primary family is included

(b) All occupied private dwellings, excluding visitor only and non-classifiable households

Based on data from: ABS 2016 Census, Time Series Profile, T14

Couple with children households increased in number between 2006 and 2011, but decreased between 2011 and 2016. They declined in proportion from 29.3% of all households in 2006 to 26.5% of all households in 2016. Lone person households increased from 24.5% of all households in 2006 to 26.9% in 2016. Whilst one parent households increased in number between 2006 and 2016, they remained at around 11% of all households throughout the period.

Fig.18



(a) In multiple family households, only the family composition of the primary family is included.

(b) All occupied private dwellings, excluding visitor only and non-classifiable households

Based on data from: ABS 2016 Census, Time Series Profile, T14

Table 14: Average annual rate of growth (%) in number of Households by Household type, Mareeba (S), Queensland and Australia, 2006 - 2016

	Couple no children	Couple with children	One Parent Family	Other Family	Total Family Households (a)	Lone person	Group households	Total Change all households (b)
Mareeba (S)	1.3%	0.5%	1.9%	1.8%	1.1%	2.6%	4.4%	1.6%
Queensland	1.8%	1.6%	2.1%	1.6%	1.8%	2.3%	2.4%	1.9%
Australia	1.6%	1.5%	1.5%	1.4%	1.5%	1.6%	2.6%	1.6%

(a) In multiple family households, only the family composition of the primary family is included

(b) All occupied private dwellings, excluding visitor only and non-classifiable households

Based on data from: ABS 2016 Census, Time Series Profile, T14

In the ten year period 2006-2016 the number of households occupied by usual residents increased at an average annual rate of 1.6%. This was at the same rate of increase as Australia as a whole, as shown in the table above. The number of households in Queensland increased at a higher rate of 1.9% per year.

The general trends that can be seen from the data above in Australia, Queensland and Mareeba (S) are:

- Lone person households growing at a higher rate than family households
- Group households increasing at the highest rate
- Couple without children households increasing at a faster rate than couple with children households
- One parent families increasing at a higher rate than couple family households

These trends were more marked in Mareeba (S) than in Australia as a whole.

The most significant difference in the Mareeba (S) population is the very low rate of growth of couple with children households at only 0.5% average annual growth over the ten years compared with 1.5% growth in Australia and 1.6% growth in Queensland for this household type. In the five years 2011-2016 the number of couple with children households actually declined from 1,978 in 2011 to 1,966 in 2016.

Factors contributing to the low rate of growth of couple with children households in Mareeba (S) include:

- The low percentage of people in the main child-bearing age of 25-44 years (23.8% in Mareeba (S) v. 27.5% in Queensland)
- The lack of higher educational opportunities in Mareeba (S) and the low percentage of people aged 15-24 years in Mareeba (S) (11.2% v. 13.4% in Queensland) as Couple families with children include dependent students of this age

It is interesting that couple without children households increased at a lower rate in Mareeba (S) (1.3% p.a.) than in Australia (1.6% p.a.) and Queensland (1.8% p.a.). This is possibly because of the lack of young couples yet to have children in Mareeba (S) compared with in Australia as a whole. It may also be because the ageing of the population in Mareeba (S) is at the stage where many people are losing their partners and becoming single, which explains the high rate of increase in lone person households (2.6% p.a.) in Mareeba (S) over the period 2006 to 2016. The most common age for people living alone in Mareeba (S) is between 55 and 74 years (50% of all lone person households) as shown below. Those aged 65 years and over make up 47% of lone person households. Many of these people would be on the age pension, explaining the spike in income of lone person households at \$400-\$499 per week. The high proportion of lone person households exerts downward pressure on the median household income in Mareeba, as explored further in the next section.

Socio-Economic Profile

Income

Median gross income for individual residents of Mareeba (S) recorded at the 2016 census was \$541 per week. This was 82.0% of the value of the median for Queensland residents (\$660/week). Median total income of families in Mareeba (S) was \$1,274 per week which was 76.7% of the value of Queensland median family income (\$1,661/week) and 73.5% of the value of Australian median family income (\$1,734/week). Median household income in Mareeba (S) (\$1,045/week) did the worst in comparison being only 74.5% of the value of median household income in Queensland and 72.7% of the value of median household income in Australia, as shown in Table 15 below.

Table 15: Mareeba (S), usual residents, Median Income \$/week, 2016 Census

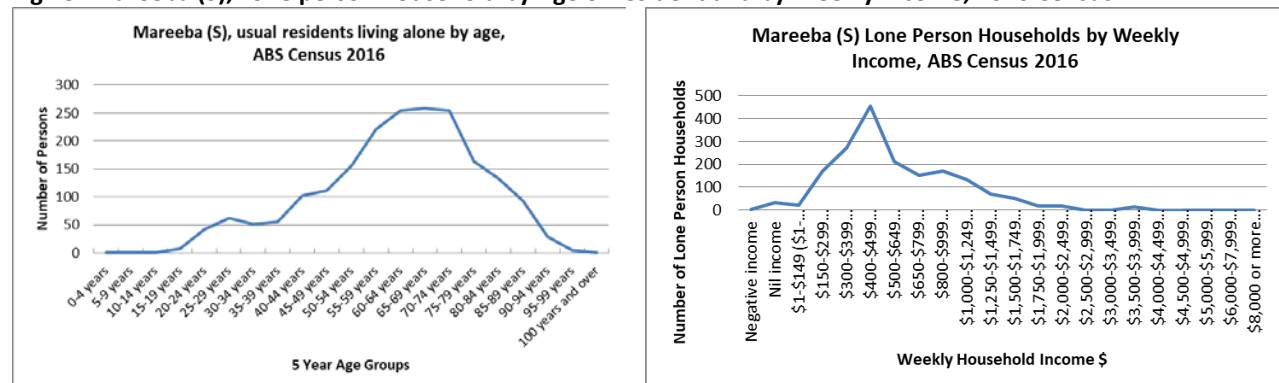
	Mareeba (S)	Qld	Australia	Mareeba Income /Qld Income	Mareeba Income/Aus Income
Median total individual income \$/week	541	660	662	82.0%	81.7%
Median total family income \$/week	1,274	1,661	1,734	76.7%	73.5%
Median total household income \$/week	1,045	1,402	1,438	74.5%	72.7%

Based on ABS 2016 Census, GCP, G02

Median income for individuals in Mareeba (S) increased by 20.4% between 2011 and 2016 whilst it only increased by 17.6% in the period 2011-2016. Median family income only increased by 12.3% in Mareeba (S) between 2006 and 2011 whereas it increased by 24% in Queensland. However, in the next five years, 2011-2016, median family income increased at a higher rate in Mareeba (S) (17.3%) than it did in Queensland (14.3%) but at a similar rate to Australia (17.1%). Median household income increased at a similar rate in Mareeba (S) as in Queensland and Australia over the ten years, as shown in Table 16.

Factors contributing to the relatively low level of household income could be the high percentage of lone person households (26.9% in Mareeba (S) compared with 23.5% in Queensland) and those lone person households being occupied by a high proportion of people on low incomes, such as age pensioners, as shown in Fig.19 below.

Fig.19: Mareeba (S), Lone person household by Age of resident and by Weekly Income, 2016 Census



Based on ABS 2016 Census accessed using Tablebuilder

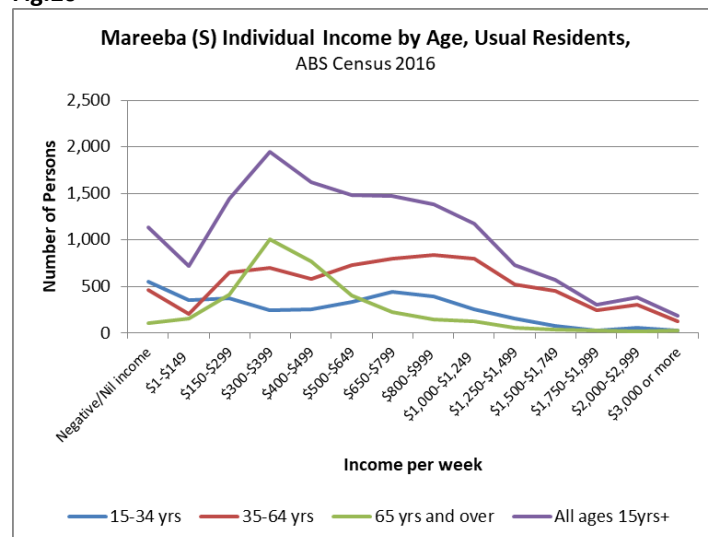
Table 16

Change in Weekly Income 2006-2016, Mareeba (S), usual residents							
	2006	2011	2016	Change 2006-11		Change 2011-16	
Median total individual income	382	460	541	78	20.4%	81	17.6%
Median total family income	967	1,086	1,274	119	12.3%	188	17.3%
Median total household income	741	889	1,045	148	20.0%	156	17.5%
Change in Weekly Income 2006-2016, Queensland, usual residents							
	2006	2011	2016	Change 2006-11		Change 2011-16	
Median total individual income	476	587	660	111	23.3%	73	12.4%
Median total family income	1,172	1,453	1,661	281	24.0%	208	14.3%
Median total household income	1,036	1,227	1,402	191	18.4%	175	14.3%
Change in Weekly Income 2006-2016, Australia, usual residents							
	2006	2011	2016	Change 2006-11		Change 2011-16	
Median total individual income	466	577	662	111	23.8%	85	14.7%
Median total family income	1,191	1,481	1,734	290	24.3%	253	17.1%
Median total household income	1,029	1,230	1,438	201	19.5%	208	16.9%

Based on ABS 2016 Census, G02 and T02

Individual Income

The individual income distribution for all Mareeba (S) usual residents aged 15 years and over shows a peak at the \$300-\$399 income per week bracket, reflecting a similar peak for the aged 65 years and over group, as shown in the chart below. The high proportion of people aged 65 years and over in the Mareeba (S) population (18.4%) and the fact that 70% of them are on the aged pension is responsible for peak at the low end of the income distribution in the Mareeba (S) population (ABS 2016 Census and ABS Regional Statistics by LGA, 2016).

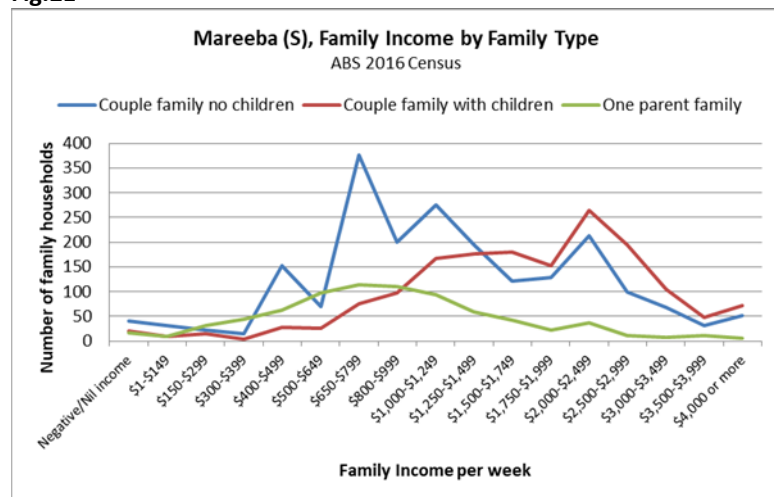
Fig.20

Based on ABS 2016 Census, G17

Family Income

Median total family income (including couple families with no children, couple families with children and lone parent families) in Mareeba (S) recorded at the 2016 census was \$1,274 per week. Families with children have an income distribution peaking at the higher end while for families without children and lone parent families it peaks at the lower end, as shown in the chart below.

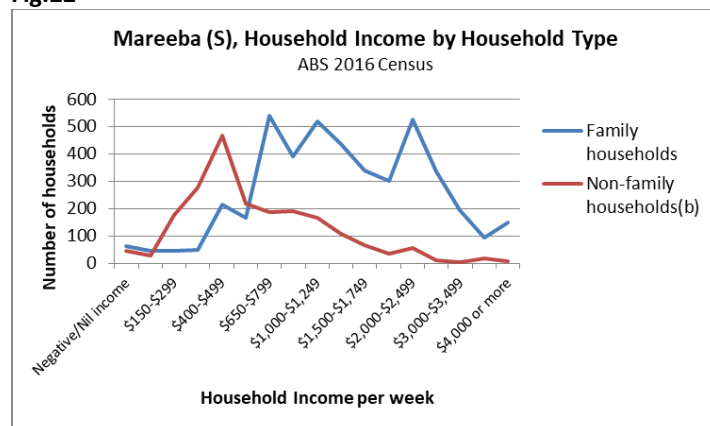
Fig.21



Based on ABS 2016 Census, G28

This is most likely a product of age and size of family. Couples without children have an older age distribution than couples with children and as we have seen above, in Mareeba (S) the older age group has lower incomes than people in their 30s, 40s and 50s who are more likely to have children present in the family. For lone parent families the fact that there is only one person providing income reduces the total family income compared with couple families. The same reasoning explains the difference in income distribution between family households and non-family households (lone person and group households) as shown below.

Fig.22



Based on ABS 2016 Census, G29 Family households: Couple with children, Couple without children, Lone parent families. Non-family households: Lone person and Group households

Based on place of enumeration, occupied private dwellings, excludes visitor only and non-classifiable households

Household Income

Median household income for all households (families, lone persons, group households) in Mareeba (S) as recorded at the 2016 census was \$1,045 per week. This was 74.5% of the value of the median household income for Queensland (\$1,402 per week) and 72.7% of the value of the median household income for Australia (\$1,438 per week).

If all households in Queensland who stated their income at the census are divided into quartiles, that is the 25% with the lowest household income, the 25% with the next lowest income range and so on, the dollar ranges for each quartile at the 2006, 2011 and 2016 censuses are as follows:

Table 17: Queensland, Household Income of all households ranked in quartiles, 2006, 2011 and 2016 Censuses

	Lowest 25%	Medium low 25%	Medium high 25%	Highest 25%
2006	\$0-\$554	\$555-\$1,031	\$1,032-\$1,646	\$1,647 and over
2011	\$0-\$641	\$642-\$1,226	\$1,227-\$2,146	\$2,147 and over
2016	\$0-\$745	\$746-\$1,392	\$1,393-\$2,348	\$2,349 and over

Source: economy.id based on ABS Census 2006, 2011, 2016 <https://economy.id.com.au/fnqroc>

There was a large jump in income levels of the highest 25% of households in Queensland between 2006 and 2011 from \$1,647 and over to \$2,147 and over per week.

The percentage of households in Mareeba (S) falling into these income ranges at the 2006, 2011 and 2016 censuses were:

Table 18: Mareeba (S), Households grouped according to Household Income ranges of Queensland Household Income Quartiles, 2006, 2011 and 2016 Censuses

	Lowest group	Medium low	Medium high	Highest group
2006	35.1%	28.2%	22.8%	14.0%
2011	35.2%	29.3%	21.6%	13.9%
2016	35.1%	28.5%	21.4%	15.0%

Source: economy.id based on ABS Census 2006, 2011, 2016 <https://economy.id.com.au/fnqroc>

While actual incomes have increased since 2006, the percentage of households falling into the lowest Queensland income quartile in Mareeba (S) has remained the same at 35.1% of all households in 2016. The percentage falling into the highest income group has increased from 14.0% in 2006 to 15% in 2016 in Mareeba (S). 15% of all households stating their income in Mareeba (S) at the 2016 census had a gross household income of \$2,349 or over per week compared with 25% of all households receiving this income in Queensland. Between 2011 and 2016 more households were added to the highest income group than were added to any of the other income groups in Mareeba (S), based on enumerated households which included visitors.

One of the factors contributing to the high percentage of households falling into the lowest income group in Mareeba (S) (35.1%) compared with Queensland (25%) is the higher proportion of lone person (26.9%) and couple only households (30.6%) in Mareeba (S) than in Queensland (23.5% and 28.2% respectively). However, even when household incomes are standardized (equivalised) to take into

account household size, Mareeba (S) has an even higher percentage of households in the lowest income group (36.0%) compared with Queensland (25%), as shown in the table below.

Table 19: Mareeba (S), Households grouped according to Equivalised Household Income ranges of Queensland Equivalised Household Income Quartiles, 2006, 2011 and 2016 Censuses

	Lowest group	Medium low	Medium high	Highest group
2006	34.7%	29.6%	21.9%	13.8%
2011	35.4%	29.3%	21.8%	13.5%
2016	36.0%	27.7%	22.3%	14.0%

Source: economy.id based on ABS Census 2006, 2011, 2016

<https://economy.id.com.au/fnqroc>

In Mareeba (S), 63.7% of households fell into the two lowest quartiles of equivalised household income compared with 50% of Queensland households at the 2016 Census.

Employment

Size of the Labour Force

The labour force includes those employed and those unemployed but looking for work, aged 15 years and over, in the week before the census

Of the 17,681 usual residents of Mareeba (S) aged 15 years and over recorded at the 2016 census, 51% (9,036) were participating in the labour force, 39% (6,805) were not in the labour force and 10% (1,840) did not state their employment status.

Of the 9,036 persons in the labour force, 8,282 (91.7%) said they were employed and 751 (8.3%) unemployed in the week prior to the census.

Of those in employment, 60% (4,955) worked full-time, 33% (2,770) worked part-time and 7% (557) were either away from work or did not state the hours they worked in the week before the census. 62% of full-time workers were male and 38% female. 33% of part-time workers were male and 66% female.

Compared with Queensland, at the 2016 census, Mareeba (S) had a higher proportion of people not in the labour force (38.5% vs. 31.8%), a lower labour force participation rate (51.1% vs 61.0%) and a lower employment rate (46.8% vs. 56.4%), as shown in the table below:

Table 20: Labour force status at 2016 census, Mareeba (S), usual residents aged 15 years and over

	Mareeba (S) Persons 15yrs+	Mareeba (S) % of all persons 15yrs+	Queensland %
Not in the labour force	6,805	38.5%	31.8%
Employment status not stated	1,840	10.4%	7.2%
Total labour force	9,036	51.1%	61.0%
Total persons aged 15yrs+	17,681	100%	100%
		% Labour Force	% Labour Force
All Employed	8,282	46.8%	56.4%
Employed full time	4,955	54.8%	57.7%
Employed part time	2,770	30.7%	29.9%
Unemployed	751	8.3%	7.6%
Labour force participation rate (labour force as % all persons 15yrs+)		51.1%	61.0%
Employment rate (all employed as % of all persons 15yrs+)		46.8%	56.4%

Based on data from: ABS 2016 Census, G43

Change in Employment 2006 – 2016

Between 2006 and 2011 the number of persons aged 15 years and over increased by 11%, while the labour force grew by 11.7%, with full-time employment increasing by 8.4% and part-time employment growing by 11.7%. There was a strong level of migration into the Shire during this time, replacing some of those going into retirement, although the number of unemployed was high and increased at a much higher rate (56%) than the labour force as a whole (11.7%).

Table 21: Change in labour force and employment status at Census 2006, 2011, 2016, Mareeba (S)

	2006	2011	2016	Change 5yrs 2006-11		Change 5yrs % 2011-2016		Average annual change over 5yr	
				persons	% change	persons	% change	2006-11	2011-16
Persons aged 15yrs+	14,407	15,998	17,681	1,591	11.0%	1,683	10.5%	2.2%	2.1%
Total labour force	7,882	8,801	9,036	919	11.7%	235	2.7%	2.3%	0.5%
Employed full-time	4,647	5,038	4,955	391	8.4%	-83	-1.6%	1.7%	-0.3%
Employed part-time	2,288	2,556	2,770	268	11.7%	214	8.4%	2.3%	1.7%
Unemployed	405	632	751	227	56.0%	119	18.8%	11.2%	3.8%
Not in labour force	5,373	6,065	6,805	692	12.9%	740	12.2%	2.6%	2.4%
Status not stated	1,148	1,128	1,840	-20	-1.7%	712	63.1%	-0.3%	12.6%

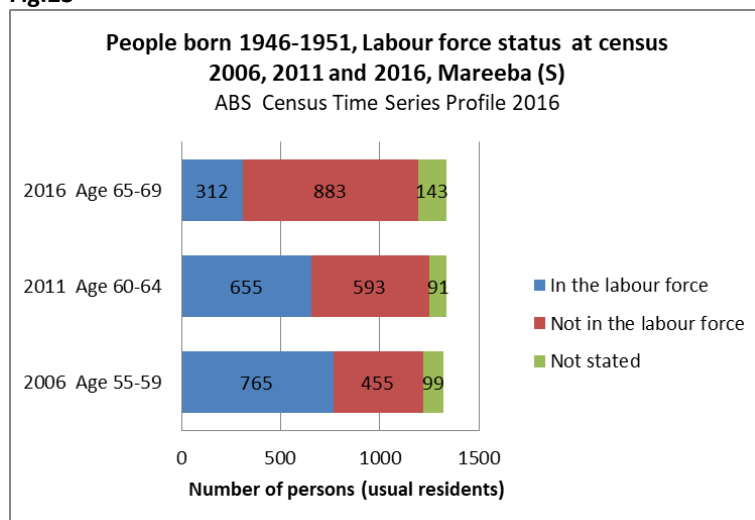
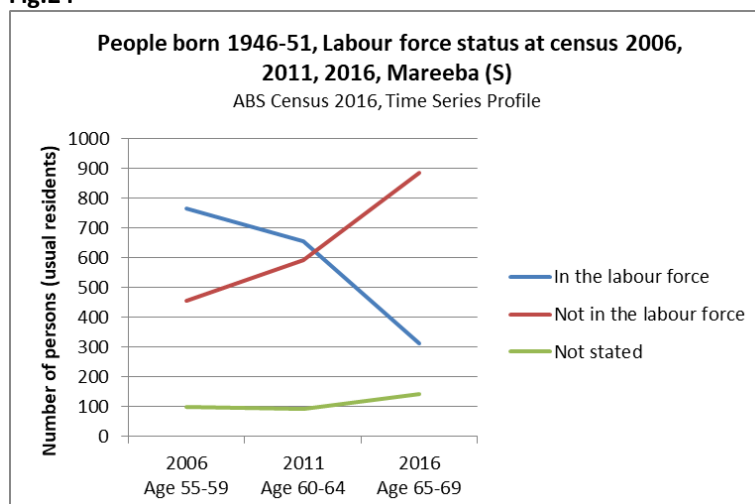
Based on data from: ABS 2016 Census, T29, usual residents

Excludes those Away from work or hours not stated

In contrast, between 2011 and 2016 while the total number of persons aged 15 years and over grew by 10.5%, the labour force only increased by 2.7% over this five year period. Part-time employment increased by 8.4% but full-time employment declined -1.6% and the number unemployed increased by 18.8%. The number of those not in the labour force increased by 12.2% while those not stating whether they were working or not grew by 63.1%. An important factor contributing to mismatch between population growth and labour force growth is the ageing of the population, with the period 2011-2016 coinciding with the first of the “baby boomers” reaching age 65 years and going into retirement.

Impact of Ageing Population on Employment

As is well known, the baby boomers (born 1946-1961) form a “bulge” in the age structure of the Australian population, being a large generation relative to the one that came just before and just after. In 2016 those born between 1946 and 1951 were aged 65-69 years. Analysis of the labour force status of this cohort of people in Mareeba (S) from the 2006, 2011 and 2016 censuses reveals their journey to retirement and why this has had such a large impact on the size of the labour force.

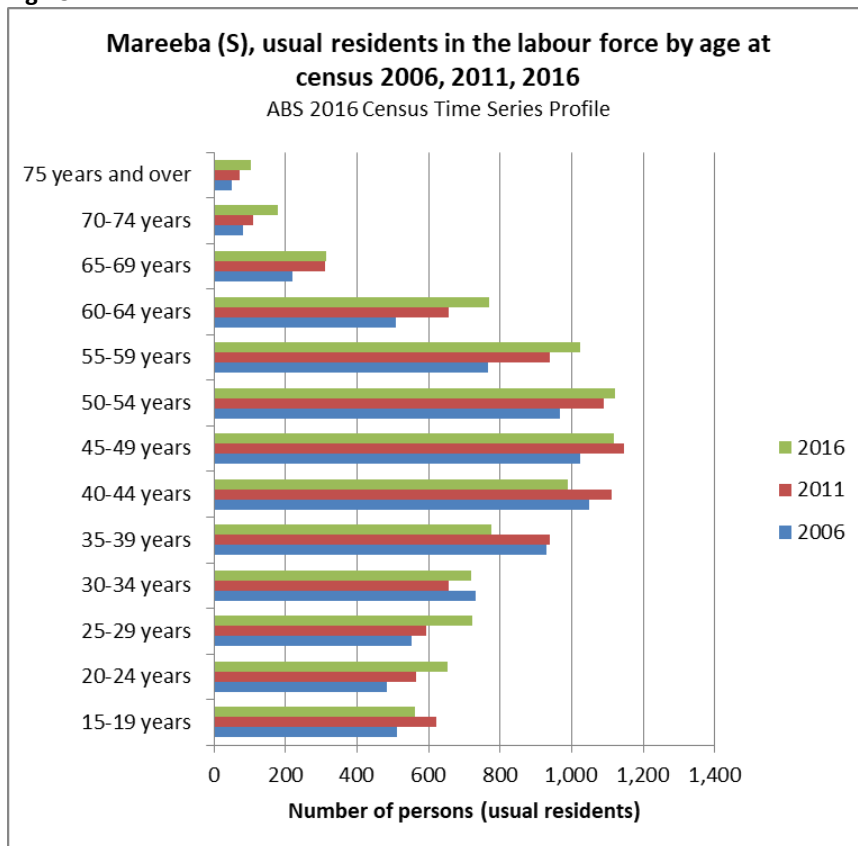
Fig.23**Fig.24**

Based on data from ABS 2016 Census, Time Series Profile, T33

In 2006, 58% (765 persons) of the 55-59 years age group, those born 1946-51, were in the labour force and 34.5% were not. In 2016, 23.3% (312 persons) of this cohort, aged 65-69 in 2016, were in the labour force and 66% were not, with 10.7% not stating their labour force status. This was a loss of 453 people from the Mareeba (S) labour force over the ten year period 2006-2016 due to retirement of those aged 65-69 years in 2016.

Between 2006 and 2011, the loss of 456 people retiring (or leaving the region) at age 55 and above was more than made up for by the addition of 819 people to those already in Mareeba Shire at ages 15-54. In contrast, between 2011 and 2016, the 651 people retiring at age 55 and above were not fully replaced by the 398 who were added at ages 15-54. However, there were still people in ages 55-79 years who carried on working, and larger numbers in each age group than in previous years, so enabling the labour force as a whole to grow by 235 people between 2011 and 2016. At ages 35-39, 40-44 and 45-49 years in 2016 there were fewer people in the labour force at these ages than in 2011, as shown below.

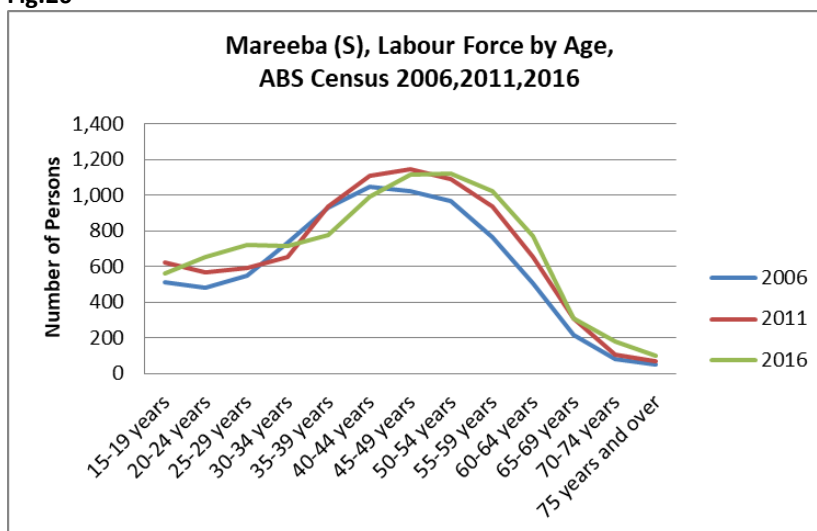
Fig.25



Based on data from ABS 2016 Census, Time Series Profile, T33

The ageing structure of the Mareeba (S) labour force is illustrated by the following chart which shows the larger number of workers at older ages in 2016 than in 2006 and relatively smaller proportion at younger ages.

Fig.26



Based on data from ABS 2016 Census, Time Series Profile, T33

Labour Force Participation Rate

The large number of people retiring between 2011 and 2016 is also reflected in the changing labour force participation rate for Mareeba (S). In 2011 55% of usual residents of Mareeba (S) aged 15 years and over were participating in the labour force, either employed or looking for work. In 2016 this proportion had dropped to 51.1% as the size of the labour force became smaller relative to the number not in the labour force. The employment to population rate also dropped, from 51.1% in 2011 to 46.8% in 2016 for the same reason and because of the increasing number and proportion of unemployed people, as shown below.

Mareeba (S), labour force participation of usual residents at census 2006, 2011, 2016

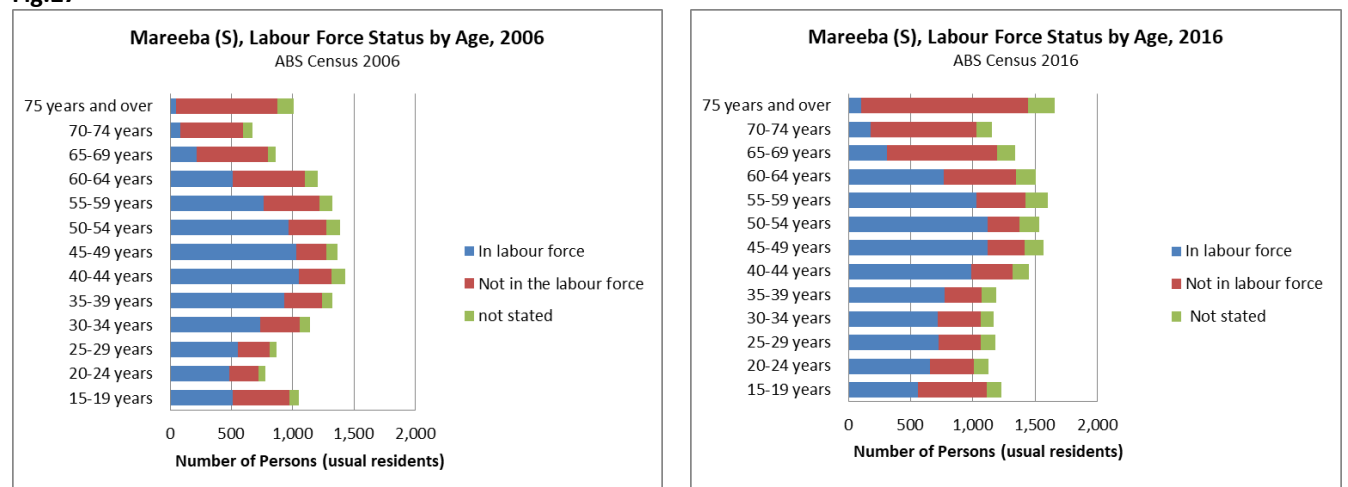
	2006	2011	2016
Persons aged 15 yrs+	14,407	15,998	17,681
Total labour force	7,882	8,801	9,036
Labour force participation rate (a)	54.7%	55.0%	51.1%
Total employed	7,473	8,169	8,282
Employment to population rate (b)	51.9%	51.1%	46.8%
Unemployed, looking for work	405	632	751
Unemployment to population rate (c)	2.8%	4.0%	4.2%

Based on data from ABS 2016 Census, Time Series Profile, T29

- (a) labour force participation rate: the number of persons in the labour force expressed as a percentage of persons aged 15 years and over;
- (b) employment to population rate: the number of employed persons expressed as a percentage of persons aged 15 years and over
- (c) unemployment to population rate: the number of unemployed persons expressed as a percentage of persons aged 15 years and over

Non-participation in the labour force occurs at all ages, but the number not participating grew from 820 in 2006 to 1,344 in 2016 (64% change) in the age group 75 years and over, as shown in the charts below.

Fig.27



Based on data from ABS 2016 Census, Time Series Profile, T33

Labour Force Status of Migrants into Mareeba Shire

Based on information given in the 2016 census on where usual residents of Mareeba (S) lived five years previously, there were 3,185 new residents aged 15 years and over joining the Mareeba (S) population. These replaced those who left the Shire between 2011 and 2016 (around 2,800 aged 15yrs+), with around 385 adding to the 15yrs+ population in Mareeba (S), although the large number who did not state where they lived five years ago makes this difficult to assess accurately. Of the new residents, 59% were employed, 7.5% unemployed and 33% not in the labour force. Of the 4,955 usual residents of Mareeba (S) at the 2016 census employed full-time, 1,138 (23%) were new residents (ABS 2016 Census).

Table 22: Labour force status of usual residents of Mareeba (S) aged 15 years and over at the 2016 census by where they lived 5 years previously

	Employed, worked full-time	Employed, worked part-time	Employed, away from work	Unemployed, looking for full-time work	Unemployed, looking for part-time work	Not in the labour force	Not Stated	Total (persons aged 15yrs+)
Migrants into Mareeba (S) (a)	1,138	622	112	168	70	1,050	25	3,185
Existing Residents (b)	3,740	2,085	408	305	155	4,604	148	11,445
Not Stated (c)	77	62	23	33	12	1,143	1,668	3,018
Total	4,955	2,769	543	506	237	6,797	1,841	17,648

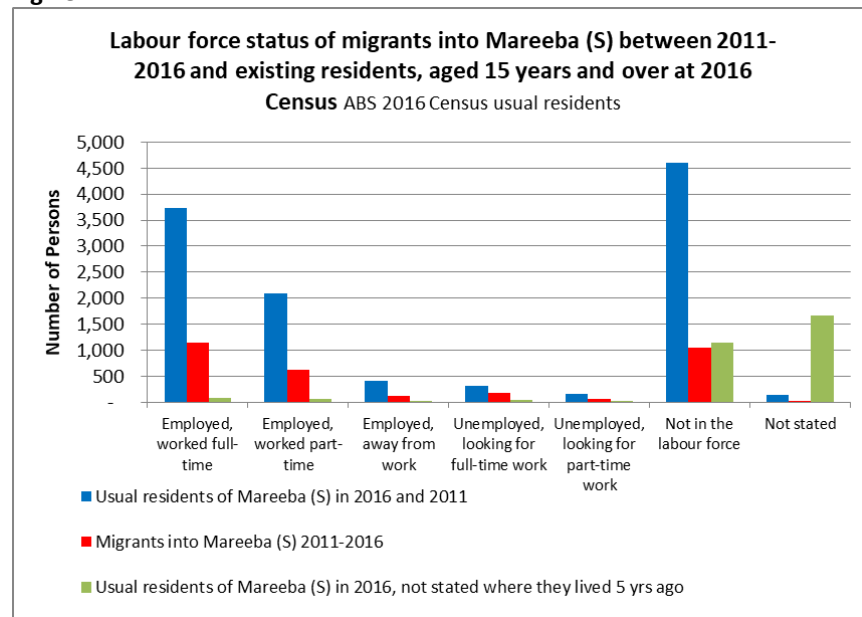
Based on data from ABS 2016 Census accessed using Tablebuilder

(a) Usual residents of Mareeba (S) at 2016 census who stated they lived elsewhere in Australia or overseas 5 years previously

(b) Usual residents of Mareeba (S) at 2016 census and five years previously

(c) Usual residents of Mareeba (S) at 2016 census who did not state where they lived 5 years previously

Fig.28

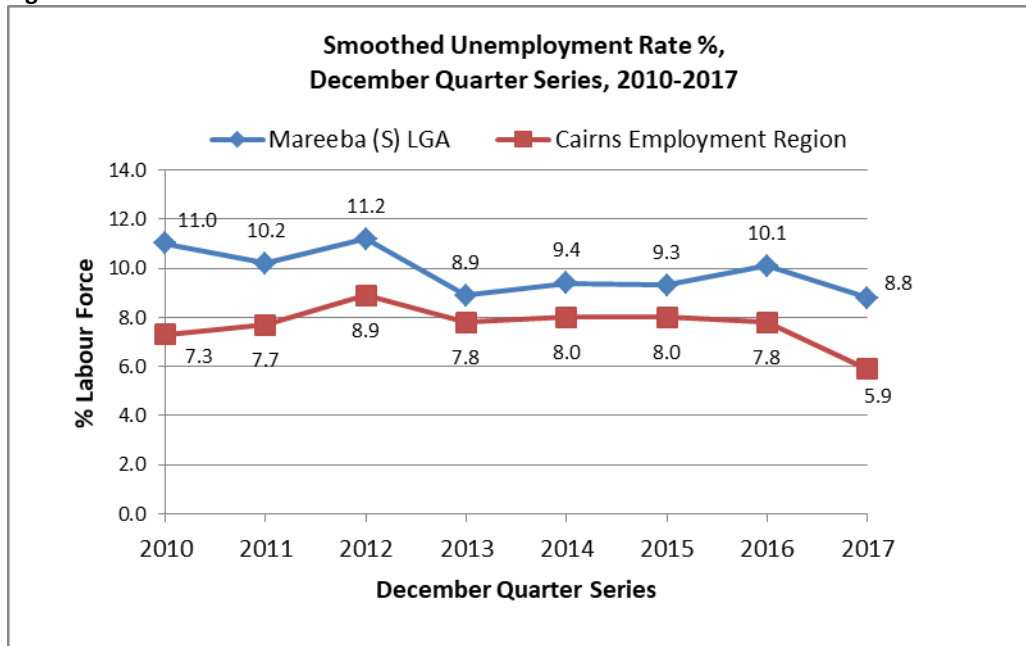


Based on data from ABS 2016 Census accessed using Tablebuilder

Impact of Reduced Labour Force Participation on Mareeba Shire's economy

With only 46.8% of the population aged 15 years and over in employment in 2016 compared with 51.9% ten years previously, and compared with the rate for Queensland as a whole (56.4%) in 2016, Mareeba Shire residents' average income is likely to be reduced relative to the average for Queensland. Unemployment and retirement are both contributing factors to this low figure in Mareeba (S). Although unemployment in Mareeba (S) has dropped from 10.1% at December 2016 to 8.8% at December 2017, it is still 2.9 percentage points above that of the whole Cairns Employment Region, as shown below.

Fig.29



Source: Small Area Labour Markets, December Quarter 2017, Australian Government, Department of Jobs and Small Business, and

<https://www.jobs.gov.au/small-area-labour-markets-publication>

<http://lmip.gov.au/default.aspx?LMIP/EmploymentRegion/QLD/Cairns/UnemploymentRateTimeSeries>

Regional Competitiveness

Mareeba Shire's Gross Regional Product (GRP) in the financial year 2015/16 has been estimated at \$991m by the National Institute of Economic and Industry Research (NIEIR). This is up from \$851m in 2005/06 but down from a high of \$1,002m in 2009/10 (inflation adjusted). This figure is the sum of all the local industries' estimated value added including taxes and dividends that flow out of the local region, and also the estimated value of income of all residents of the Shire, including rents and income generated by property in the Shire. The value of income generated by local industry after taxes and other outflows is estimated by NIEIR at \$615m in 2015/16 and the value generated by the incomes of all workers residing in the Shire is estimated at \$699m. This suggests a substantial proportion of workers live in Mareeba (S) but work outside the Shire (NIEIR presented by economy.id.com.au).

The total output or sales generated by all industries in Mareeba (S) in 2015/16 is estimated at \$1,769.6m. Of this it is estimated that \$794.27m was value added. Mareeba (S) total output contributed 6.2% of the total output/sales generated in the FNQROC economic region and 0.6% of total output in the wider Regional Queensland area (non-metropolitan Queensland) in 2015/16. The value added component contributed 6.3% of FNQROC's total value add and 0.6% of Regional Queensland's.

The value of exports generated by Mareeba (S) industries was \$412.73m, which was 4.5% of FNQROC's total exports and 0.4% of Regional Queensland's in 2015/16. Exports were down on the value generated in 2010/11 by \$143.62m when they represented 5.9% of FNQROC's exports. Imports into Mareeba (S), however, were up by \$511.07m over the 2010/11 value at \$1,287.62m in 2015/16, representing an 11.5% share of all imports into the FNQROC region, up from 7.6% in 2010/11.

Local sales within Mareeba (S) were up \$98.35m in 2015/16 from \$1,258.53m in 2010/11 to \$1,356.87m in 2015/16. Worker productivity was up by \$7,482 per worker from \$96,297 per worker in 2010/11 to \$103,779 per worker in 2015/16. This compares with worker productivity of \$104,719 per worker in the FNQROC region in 2015/16.

Mareeba Shire's most competitive single industry is Agriculture, Forestry and Fishing. In 2015/16 Agriculture, Forestry and Fishing in Mareeba (S) generated \$331m in total sales, of which \$223m (67%) was exports out of the LGA and \$108m (33%) was local sales and \$140m was value add. Total output in Agriculture, Forestry and Fishing in Mareeba (S) contributed 11.9% of total output of the FNQROC economic region in this industry in 2015/16 (economy.id).

While in Australia as a whole there is a downward trend in employment in the agricultural sector, in Mareeba (S) there is an upward trend with 207 more people being recorded as employed in the Agriculture, Forestry and Fishing industry at the 2016 census than at the 2011 census. In 2016 there were 1,398 usual residents of Mareeba (S) employed in this industry which was 16.9% of all usual residents of Mareeba (S) compared with 2.8% of residents in Queensland.

Employment by Industry

Location quotient analysis of industry of employment and comparison with Queensland as a whole can reveal which industries Mareeba Shire is competitive in. Industries with a location quotient (LQ) higher than 1.0 indicate a competitive advantage in Mareeba Shire.

The agricultural industry is the economic base of the Mareeba region economy, employing the greatest number of people in the Mareeba Shire and, compared with Queensland, shows a high degree of specialization and competitiveness having a location quotient (LQ) value of 5.95, as shown below:

Table 23: Industry of Employment, Mareeba (S) and Queensland, usual residents aged 15 years and over, ABS 2016 Census

	Mareeba (S) persons	Mareeba (S) %	Queensland %	Location Quotient (LQ)
Agriculture, forestry & fishing	1,398	16.9	2.8	5.95
Health care & social assistance	937	11.3	13.0	0.87
Retail trade	750	9.1	9.9	0.91
Education & training	665	8.0	9.0	0.89
Public administration & safety	616	7.4	6.6	1.13
Construction	615	7.4	9.0	0.83
Accommodation & food services	514	6.2	7.3	0.85
Manufacturing	385	4.6	6.0	0.77
Transport, postal & warehousing	376	4.5	5.1	0.90
Other services	298	3.6	3.9	0.92
Administrative & support services	276	3.3	3.5	0.94
Professional, scientific & technical services	249	3.0	6.3	0.48
Mining	229	2.8	2.3	1.18
Wholesale trade	170	2.1	2.6	0.78
Arts & recreation services	124	1.5	1.6	0.95
Rental, hiring & real estate services	97	1.2	2.0	0.59
Electricity, gas, water & waste services	95	1.1	1.1	1.03
Financial & insurance services	85	1.0	2.5	0.40
Information media & telecommunications	46	0.6	1.2	0.47
Total (Includes Inadequately described/Not stated)	8,284	100.0	100.0	1.00

Source: Queensland Regional Profiles: Resident Profile: Mareeba (S) LGA, Queensland Treasury, based on ABS Census 2016

Change in Employment by Industry

Table 24

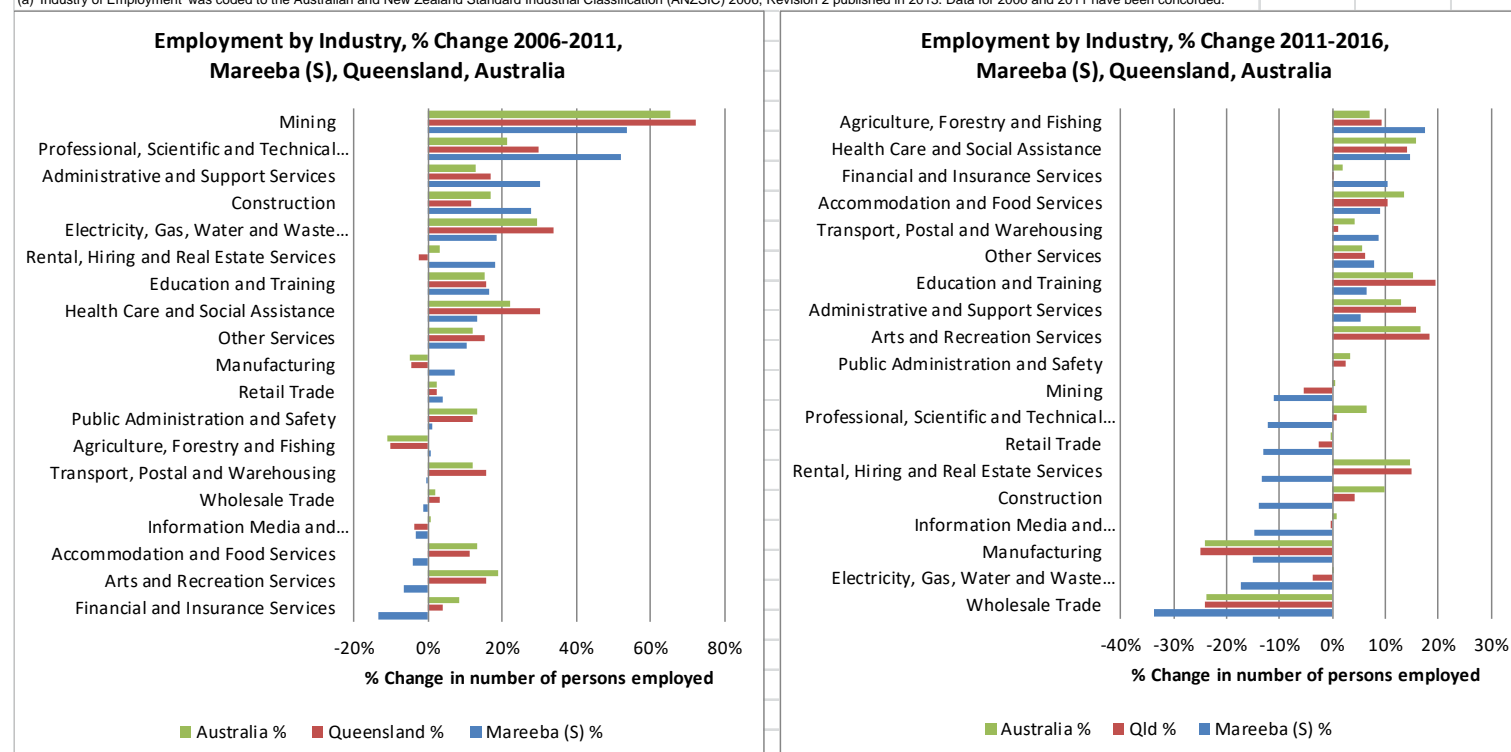
Mareeba (S), Industry of employment, Change in number of persons employed, Census 2006, 2011, 2016, usual residents, aged 15 years and over															
Based on ABS 2016 Census, Time Series Profile, T34															
Mareeba Change 2006-2011				Mareeba Change 2011-2016				Mareeba Change 2006-2016							
	2006	2011	Change	% Change		2011	2016	Change	% Change		2006	2016	Change	% Change	
Mining	168	258	90	53.6%	Agriculture	1,191	1,398	207	17.4%	Administrative and Support Activities	201	276	75	37.3%	
Professional, Scientific and Technical Services	187	284	97	51.9%	Health Care and Social Assistance	818	937	119	14.5%	Mining	168	229	61	36.3%	
Administrative and Support Activities	201	262	61	30.3%	Financial and Insurance Services	77	85	8	10.4%	Professional, Scientific and Technical Services	187	249	62	33.2%	
Construction	559	715	156	27.9%	Accommodation and Food Services	472	514	42	8.9%	Health Care and Social Assistance	724	937	213	29.4%	
Electricity, Gas, Water and Sewerage	97	115	18	18.6%	Transport, Information and Communication	346	376	30	8.7%	Education and Training	536	665	129	24.1%	
Rental, Hiring and Real Estate Services	95	112	17	17.9%	Other Services	276	298	22	8.0%	Other Services	250	298	48	19.2%	
Education and Training	536	625	89	16.6%	Education and Training	625	665	40	6.4%	Agriculture	1,184	1,398	214	18.1%	
Health Care and Social Assistance	724	818	94	13.0%	Administrative and Support Activities	262	276	14	5.3%	Construction	559	615	56	10.0%	
Other Services	250	276	26	10.4%	Public Administration and Safety	616	616	0	0.0%	Transport, Information and Communication	347	376	29	8.4%	
Manufacturing	423	453	30	7.1%	Arts and Recreation Services	124	124	0	0.0%	Accommodation and Food Services	493	514	21	4.3%	
Retail Trade	832	863	31	3.7%	Mining	258	229	-29	-11.2%	Rental, Hiring and Real Estate Services	95	97	2	2.1%	
Public Administration and Safety	609	616	7	1.1%	Professional, Scientific and Technical Services	284	249	-35	-12.3%	Public Administration and Safety	609	616	7	1.1%	
Agriculture, Forestry and Fishing	1,184	1,191	7	0.6%	Retail Trade	863	750	-113	-13.1%	Electricity, Gas, Water and Sewerage	97	95	-2	-2.1%	
Transport, Postal and Warehousing	347	346	-1	-0.3%	Rental, Hiring and Real Estate Services	112	97	-15	-13.4%	Financial and Insurance Services	89	85	-4	-4.5%	
Wholesale Trade	261	257	-4	-1.5%	Construction	715	615	-100	-14.0%	Arts and Recreation Services	133	124	-9	-6.8%	
Information Media and Telecommunications	56	54	-2	-3.6%	Information and Communication	54	46	-8	-14.8%	Manufacturing	423	385	-38	-9.0%	
Accommodation and Food Services	493	472	-21	-4.3%	Manufacturing	453	385	-68	-15.0%	Retail Trade	832	750	-82	-9.9%	
Arts and Recreation Services	133	124	-9	-6.8%	Electricity, Gas, Water and Sewerage	115	95	-20	-17.4%	Information and Communication	56	46	-10	-17.9%	
Financial and Insurance Services	89	77	-12	-13.5%	Wholesale Trade	257	170	-87	-33.9%	Wholesale Trade	261	170	-91	-34.9%	
Inadequately described	245	249	4	1.6%	Inadequately described	249	366	117	47.0%	Inadequately described	245	366	121	49.4%	
Total	7,479	8,171	692	9.3%	Total	8,171	8,284	113	1.4%	Total	7,479	8,284	805	10.8%	
This table is based on place of usual residence.															
(a) 'Industry of Employment' was coded to the Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006, Revision 2 published in 2013. Data for 2006 and 2011 have been concorded.															
Please note that there are small random adjustments made to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from table totals.															

Fig.30

Change in Employment by industry, 2006-11 and 2011-16, Mareeba (S), Queensland and Australia

ABS Census 2016, Time Series Profile, T34, persons aged 15yrs+, place of usual residence,

(a) 'Industry of Employment' was coded to the Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006, Revision 2 published in 2013. Data for 2006 and 2011 have been concorded.



Mining boom - increase in employment in Mining, Prof,Sci & Tech Services and flow on effects to rest of economy

Expansion Lotus Glen - employment in Construction & flow on effects; more employment Public Admin & Safety

Ageing of population - increase in employment of Health Care & Social Assistance

High level of migration into Mareeba Shire

Impact on housing construction & flow on effects to economy

Pre-GFC and during GFC

Mining investment boom over - loss of jobs in Mining & associated services - impact on rest of economy

Post-GFC - general economic decline

Growth in online shopping - decline in Retail trade, Wholesale trade, increase in Postal delivery & warehousing

Professional, scientific & technical services associated with mining - decline as mining declines

Baby boomers start retiring - impact on employment (jobs may not be replaced)

Ageing population - Health Care & Social Assistance employment up

Tourism improving - Accom & Food Services employment up

Table 25

Shift Share Analysis, Mareeba v. Australia, Employment by Industry, Census 2011-2016				
	Economic Growth	Proportional Shift	Differential Shift	Total Change
Agriculture, Forestry and Fishing	6.2%	0.6%	10.5%	17.4%
Mining	6.2%	-5.6%	-11.9%	-11.2%
Manufacturing	6.2%	-30.5%	9.3%	-15.0%
Electricity, Gas, Water and Sewerage	6.2%	-6.1%	-17.5%	-17.4%
Construction	6.2%	3.7%	-23.9%	-14.0%
Wholesale Trade	6.2%	-30.0%	-10.1%	-33.9%
Retail Trade	6.2%	-6.5%	-12.8%	-13.1%
Accommodation and Food Services	6.2%	7.3%	-4.6%	8.9%
Transport, Postal and Warehousing	6.2%	-2.0%	4.4%	8.7%
Information Media and Telecommunications	6.2%	-5.5%	-15.6%	-14.8%
Financial and Insurance	6.2%	-4.3%	8.5%	10.4%
Rental, Hiring and Real Estate Services	6.2%	8.4%	-28.1%	-13.4%
Professional, Scientific and Technical Services	6.2%	0.1%	-18.6%	-12.3%
Administrative and Support Services	6.2%	6.7%	-7.6%	5.3%
Public Administration and Safety	6.2%	-2.9%	-3.4%	0.0%
Education and Training	6.2%	8.9%	-8.7%	6.4%
Health Care and Social Assistance	6.2%	9.5%	-1.2%	14.5%
Arts and Recreation Services	6.2%	10.3%	-16.6%	0.0%
Other Services	6.2%	-0.6%	2.3%	8.0%
Inadequately described	6.2%	96.9%	-56.2%	47.0%
Total	6.2%	0.0%	-4.8%	1.4%

Regional Competitive Effect (Differential Shift), Employment by Industry, ABS Census 2011-2016, Mareeba (S) v. Australia

Industry	Differential Shift (%)
Other Services	2.3
Arts and Recreation Services	-16.6
Health Care and Social Assistance	-1.2
Education and Training	-8.7
Public Administration and Safety	-3.4
Administrative and Support Services	-7.6
Professional, Scientific and Technical Services	-18.6
Rental, Hiring and Real Estate Services	-28.1
Financial and Insurance	8.5
Information Media and Telecommunications	-15.6
Transport, Postal and Warehousing	4.4
Accommodation and Food Services	-4.6
Retail Trade	-12.8
Wholesale Trade	-10.1
Construction	-23.9
Electricity, Gas, Water and Sewerage	-17.5
Manufacturing	9.3
Mining	-11.9
Agriculture, Forestry and Fishing	10.5

Mareeba (S) is competitive in Agriculture, Forestry and Fishing - of the 17.4% increase in employment 2011-16, part of this was due to general economic growth in Australia (6.2 percentage points), a slight positive effect in the Ag,F&F industry across the nation (0.6 percentage points), but most could be attributed to local competitive advantage (10.5 percentage points). Manufacturing lost jobs in Mareeba (S) in 2011-16 (-15%), but not to the extent expected in Manufacturing in Australia as a whole (-30.5%). General economic growth in Australia exerted a positive effect (6.2%) and so the combined effect of these forces shows that Manufacturing in Mareeba (S), in comparison to Manufacturing in Australia in general, was regionally competitive (differential shift 9.3%) - it did not do as badly as forces in the industry as a whole would lead one to expect, indicating some local strength. There was employment gain in Accommodation and Food Services in Mareeba (S) 2011-16 (8.9%), but given the general economic growth in Australia (6.2%), and the strength of the Accommodation and Food Service industry as a whole (7.3%), Mareeba (S) was lagging behind in this industry compared with the progress nationally, which indicates some local disadvantages and weakness in this industry, hence the negative competitive effect (-4.6%). Across all industries, Mareeba (S) had a negative regional competitive effect (-4.8%) compared with Australia in 2011-16.

Occupation

Compared with Queensland, Mareeba (S) has a high percentage of Managers and Labourers in its population of employed residents, as shown below. This is consistent with an agricultural economy with most farms in Mareeba (S) being run by owner-managers and with labourers employed on the farm.

Table 26: Employed persons by occupation, Mareeba (S) and Queensland, usual residents, 2016 Census

		Mareeba Shire	Qld
	Persons	% Total	% Total
Managers	1,374	16.6	12.1
Labourers	1,321	15.9	10.5
Technicians and trades workers(b)	1,136	13.7	14.3
Professionals	1,097	13.2	19.8
Community and personal service workers	1,010	12.2	11.3
Clerical and administrative workers	935	11.3	13.6
Sales workers	693	8.4	9.7
Machinery operators and drivers	578	7.0	6.9
Total (Incl. Inadequately described/Not stated)	8,284	100.0	100.0

Based on ABS 2016 Census, persons aged 15 years or older, by place of usual residence,

Table 27: Location Quotient (Specialisation Ratio) Occupation, Mareeba Shire in reference to Queensland

	LQ
Labourers	1.51
Managers	1.37
Machinery operators and drivers	1.01
Community and personal service workers	1.08
Technicians and trades workers(b)	0.96
Sales workers	0.86
Clerical and administrative workers	0.83
Professionals	0.67

The top five occupation sub-major groups of employment for Mareeba (S) LGA were:

1. Farmers and Farm Managers (8.3%)
2. Sales Assistants and Salespersons (6.2%)
3. Farm, Forestry and Garden Workers (5.7%)
4. Carers and Aides (5.1%)
5. Hospitality, Retail and Service Managers (4.1%)

Source: Queensland Regional Profiles: Resident Profile: Mareeba (S) LGA, Queensland reasury, based on ABS Census 2016

Table 28: Occupation: Professionals by sub-type (3-digit level), Mareeba (S) and Queensland, 2016 Census

	Mareeba (S) Number	Mareeba (S) % Total	Qld %
School Teachers	263	23.9%	16.4%
Midwifery and Nursing Professionals	175	15.9%	12.5%
Natural and Physical Science Professionals	82	7.4%	3.6%
Social and Welfare Professionals	72	6.5%	4.8%
Air and Marine Transport Professionals	60	5.4%	1.5%
Health Therapy Professionals	49	4.4%	3.3%
Arts Professionals	43	3.9%	1.5%
Architects, Designers, Planners and Surveyors	42	3.8%	3.9%
Medical Practitioners	39	3.5%	4.2%
Tertiary Education Teachers	36	3.3%	3.4%
Accountants, Auditors and Company Secretaries	35	3.2%	5.9%
Human Resource and Training Professionals	31	2.8%	3.4%
Health Diagnostic and Promotion Professionals	30	2.7%	3.7%
Sales, Marketing and Public Relations Professionals	27	2.5%	4.6%
Information and Organisation Professionals	26	2.4%	4.7%
Engineering Professionals	23	2.1%	4.9%
Miscellaneous Education Professionals	20	1.8%	2.2%
Financial Brokers and Dealers, and Investment Advisers	14	1.3%	2.7%
Legal Professionals	11	1.0%	2.9%
Media Professionals	6	0.5%	1.4%
Professionals, nfd	5	0.5%	1.5%
Education Professionals, nfd	5	0.5%	0.3%
ICT Network and Support Professionals	5	0.5%	1.2%
Business and Systems Analysts, and Programmers	3	0.3%	3.6%

Based on ABS 2016 Census, employed persons aged 15yrs and over, place of usual residence

The largest sub-type of Professionals living in Mareeba (S) are School Teachers (23.9%) followed by Midwifery and Nursing Professionals (15.9%). However, when compared with Queensland, Mareeba (S) specializes in Air and Marine Transport Professionals (LQ 3.60), Arts Professionals (LQ2.61), Natural and Physical Science Professionals (LQ2.07) as well as others, as shown in the table below (all those above LQ value 1.0). Mareeba (S) is lacking in Medical Professionals (LQ 0.83), Legal Professionals (LQ 0.35) as well as others with a LQ value below 1.0, as shown in the table below.

The specialization in Air and Marine Transport Professionals (LQ 3.60) reflects the emerging air transport support services industry in Mareeba Shire, which may be further progressed by a proposed pilot training school at Mareeba Airport.

**Table 29: Location Quotient, Professionals by sub-type, ABS Census 2016 (3-digit level)
Mareeba (S) in reference to Queensland**

	LQ
Air and Marine Transport Professionals	3.60
Arts Professionals	2.61
Natural and Physical Science Professionals	2.07
Education Professionals, nfd	1.62
School Teachers	1.45
Social and Welfare Professionals	1.35
Health Therapy Professionals	1.35
Midwifery and Nursing Professionals	1.27
Architects, Designers, Planners and Surveyors	0.96
Tertiary Education Teachers	0.96
Miscellaneous Education Professionals	0.84
Medical Practitioners	0.83
Human Resource and Training Professionals	0.82
Health Diagnostic and Promotion Professionals	0.73
Accountants, Auditors and Company Secretaries	0.54
Sales, Marketing and Public Relations Professionals	0.53
Information and Organisation Professionals	0.50
Financial Brokers and Dealers, and Investment Advisers	0.46
Engineering Professionals	0.43
ICT Network and Support Professionals	0.39
Media Professionals	0.38
Legal Professionals	0.35
Professionals, nfd	0.31
Business and Systems Analysts, and Programmers	0.08

Based on ABS 2016 Census, employed persons aged 15yrs and over, place of usual residence

Education and Qualifications

Table 30: Post-school Qualification, Mareeba (S) and Queensland, 2016 Census

	Bachelor Degree or higher	Advanced Diploma or Diploma	Certificate 1-1V
Mareeba (S)	10.3%	6.7%	20.4%
Queensland	18.3%	8.7%	21.3%

Based on ABS 2016 Census, employed persons aged 15yrs and over, place of usual residence

Businesses

The total number of businesses in Mareeba (S) registered with the Australian Tax Office (which does not include government businesses) fell from 2,082 in 2011 to 2,026 in 2015, as shown in the table below.

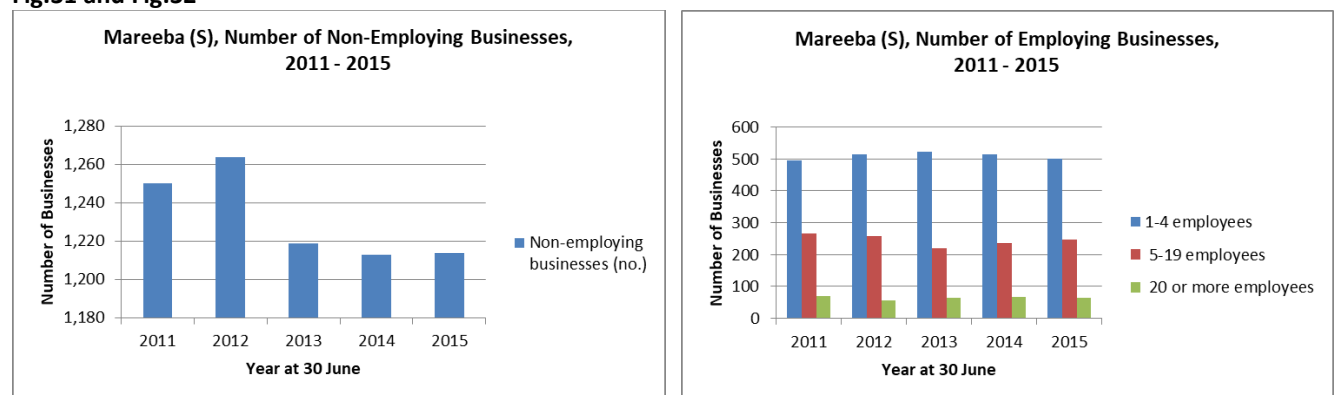
Table 31: Number of Businesses Mareeba (S), Financial Year 2011-2015

Number of Businesses - As at 30 June	2011	2012	2013	2014	2015
Non-employing businesses (no.)	1,250	1,264	1,219	1,213	1,214
Employing businesses: 1-4 employees (no.)	495	514	521	513	501
Employing businesses: 5-19 employees (no.)	266	259	219	236	247
Employing businesses: 20 or more employees (no.)	71	57	64	68	64
Total number of businesses (no.)	2,082	2,094	2,023	2,030	2,026

Based on: ABS Dataset: Regional Statistics by LGA, 2011-2016. Does not include government businesses

Businesses that did not employ anyone else apart from the business owner (non-employing businesses) dropped by 36 businesses. Businesses that employed 1-4 people, as well as the business owner, rose from 495 businesses in 2011 to 521 businesses in 2013 and then dropped down to 501 in 2015.

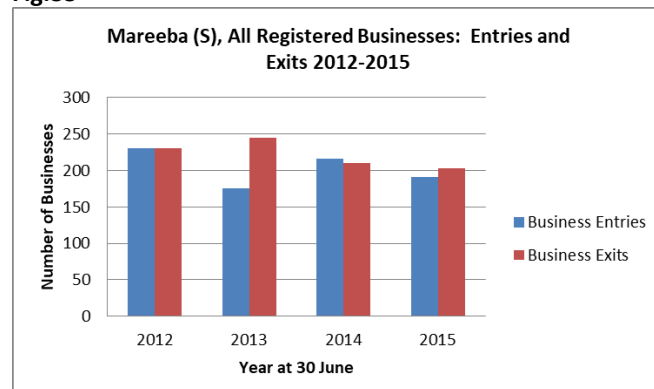
Fig.31 and Fig.32



Based on: ABS Dataset: Regional Statistics by LGA, 2011-2016

In the financial year to 30 June 2015, Mareeba (S) lost 203 businesses but gained 191 new businesses.

Fig.33



Based on: ABS Dataset: Regional Statistics by LGA, 2011-2016

Businesses by Industry

In the five years to June 2015, Mareeba (S) gained businesses in Manufacturing; Rental, Hiring and Real Estate Services; Financial and Insurance Services; Administrative and Support Services; Mining and Education and Training. It lost businesses in Agriculture, Forestry and Fishing; Construction; Retail Trade; Professional, Scientific and Technical Services and Arts and Recreation Services.

Table 32: Mareeba (S), Number of Businesses by Industry, as at 30 June 2011-2015

	Year as at 30 June				
	2011	2012	2013	2014	2015
Agriculture, Forestry and Fishing	652	651	608	609	609
Construction	323	326	313	309	311
Rental, Hiring and Real Estate Services	188	187	181	195	196
Retail Trade	153	146	137	135	129
Transport, Postal and Warehousing	110	108	98	104	93
Professional, Scientific and Technical Services	107	102	103	99	98
Other Services	81	85	86	87	81
Manufacturing	78	82	84	80	84
Accommodation and Food Services	75	75	72	69	76
Financial and Insurance Services	65	73	75	84	89
Administrative and Support Services	53	58	54	56	65
Wholesale Trade	50	51	52	48	47
Health Care and Social Assistance	42	39	41	39	41
Arts and Recreation Services	33	32	30	29	26
Mining	27	30	31	30	31
Inadequately described/Not stated	18	22	27	24	18
Education and Training	11	12	15	14	14
Information Media and Telecommunications	9	7	7	9	8
Electricity, Gas, Water and Waste Services	4	4	5	6	6
Public Administration and Safety	3	4	4	4	4
Total	2,082	2,094	2,023	2,030	2,026

Based on: ABS Dataset: Regional Statistics by LGA, 2011-2016

Although Mareeba (S) lost businesses in Agriculture, Forestry and Fishing in the period June 2011 to June 2015, the 2016 Census shows that employment increased by 207 persons over the 2011 Census. However, while employment in Manufacturing declined by 68 jobs from in this census interval, the number of businesses increased from 78 at June 2011 to 84 at June 2015.

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Appendix

Components of Population Change

The relative contributions of natural increase (births - deaths) and net migration (in-migration – out-migration) to population have been calculated using ABS data on births, deaths and estimated resident population (ERP) for Mareeba (S) LGA for the years 2006 to 2016.

Natural Increase

Natural increase is the difference between the number of births and the number of deaths in a given population. ABS data collected is those births and deaths registered in Mareeba (S) in a calendar year (January to December). Births or deaths could actually have occurred in a previous calendar year (please see Explanatory Notes for Births Australia and Deaths Australia on the ABS website www.abs.gov.au for more information). Births may also occur to women who registered the birth in Mareeba Shire but who actually lived elsewhere.

**Mareeba (S), 2006 – 2016 (Calendar Year), Births and Deaths
Registered in Mareeba (S), Natural Increase and Average Annual
Births and Deaths and Natural Increase (= births – deaths)**

	Births	Deaths	Natural Increase
2006	210	126	84
2007	279	124	155
2008	293	155	138
2009	307	159	148
2010	269	115	154
2011	266	140	126
2012	251	135	116
2013	249	167	82
2014	277	149	128
2015	241	138	103
2016	224	178	46
	2,866	1,586	1,280
Annual average over 10 yrs	286.6	158.6	128

Source of data: ABS Births Australia by LGA Cat.33010do003_2016 and Deaths Australia by LGA Cat. 33020do005_2016

Assumed Net Migration

Data on registered births and deaths is collected on a calendar year basis (January to December) whereas the estimated resident population (ERP) is calculated on a mid-year basis (July to June). In order to align the level of natural increase with the mid-year population estimate, the average of two consecutive calendar years of natural increase has been calculated to approximate the level of increase at the mid-year of the later year. The mid-year estimate of natural increase has then been subtracted

from the mid-year ERP to give the level of assumed net migration for each year. This was then aggregated for the two five year periods, 2006-2011 and 2011-2016 to estimate the relative contribution each of natural increase and assumed net migration to population growth in these two periods. Please note, these calculations are made by the author and are approximations, they are not figures released by the ABS or Queensland Treasury.

Methodology for calculation of relative contribution of natural increase and assumed net migration to population increase in Mareeba (S) 2006 - 2016

		A	B	C	D	E	F	G	H	I	J
			Pop Increase Jul - Jun (A2-A1, A3-A2.....)	Natural Increase Jan - Dec (Births - Deaths)	Average (2yrs/2) i.e. half of one yr + half of next (C1+C2/2; C2+C3/2...)	Assumed net migratio n (B2-D2)	Ass. Net mig. 2006-11, 2011-16 Sum (E2:E6); Sum (E7:E11)	Nat. Incr. 2006-11, 2011-16 Sum (D2:D6); Sum (D7:D11)	Pop. Change 2006-11, 2011-16 Sum (F6:G6); Sum (F11:G11)	% Net Mig. (F6/H6) x 100; (F11/H11) x 100	% Natural Increase (G6/H6) x 100; (G11/H11) x 100
1	2006	18,753		84							
2	2007	19,195	442	155	119.5	323					
3	2008	19,737	542	138	146.5	396					
4	2009	20,177	440	148	143	297					
5	2010	20,495	318	154	151	167					
6	2011	20,745	250	126	140	110	1,292	700	1,992	65%	35%
7	2012pr	20,979	234	116	121	113					
8	2013pr	21,428	449	82	99	350					
9	2014pr	21,624	196	128	105	91					
10	2015pr	21,925	301	103	115.5	186					
11	2016pr	22,157	232	46	74.5	158	897	515	1,412	64%	36%
	Total increase		3,404	1,280			2,189	1,215	3,404		

Based on ABS 33020DO004_2016 Deaths, Australia, 2016; 33010do003_2016 Births Australia, 2016; ABS 3218.0, Regional Population Growth, Australia, 2016 and Queensland Treasury estimates.

Please note these calculations are made by the author and are not representations of work carried out by the ABS or Queensland Treasury; they are approximations and should not be relied upon.