

Annual Report: Miles

Social and economic changes in Queensland's gasfield communities in
2019



Research Team

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Acknowledgements

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Disclosure/Disclaimer

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The Miles CSG Development Story

The 'Miles CSG Development Story' was developed in consultation with key members of the Miles and district community and business organisations, including: real estate agents, motels and other local businesses, police, schools, welfare agencies, and local and state government staff.

The individuals participating in this consultation were asked to discuss and comment on statistical data on indicators of social and economic impact. These discussions provided a local point of view and insight into the Miles CSG Development Story, to be used in combination with the publicly available data. The following indicators were discussed:

1. Population
2. Unemployment
3. Income
4. Housing
5. Top offences recorded by police

Interviews were conducted in 2013 during the peak of the construction phase of CSG development, with follow-up interviews in 2017, 2018, and again in 2019.

Miles is seen by those interviewed to be a family-friendly town. Miles experienced rapid population growth first in 2008, with the arrival of non-resident workers (NRWs) in the area. In 2013, one interviewee noted that "9 out of 10 people we see on the street seem to be strangers". CSG development has brought a marked increase in the apparent population, with 1 NRW for every 4 residents in Miles in 2013. Most of these CSG workers lived in camps outside town. After 2013, the number of NRWs in the town decreased as CSG activity began to wind down. From 2016, the NRW population has been increasing, but the local resident population has been decreasing sharply. With the total 2017/18 population being lower than 2016, even with the high number of NRWs.

CSG development had the effect of significantly increasing average taxable personal income in the 2012/13 and 2013/14 financial years, bringing Miles' average income in line with the Queensland (QLD) average. Since CSG construction ended around 2013/14, personal incomes have declined; still they remain higher than pre-CSG levels. The number of businesses is said to have increased in 2018, however local insights suggest that many small businesses are "barely hanging on".

Interviewees expressed the view that the "boom" was not as beneficial to local businesses as expected, as locals travelled to larger centres for spending. Businesses were also said to have lost workers to the CSG industry, with skills shortages rising from 39% to 61% between 2009 and 2013. Unemployment fell below 1% in 2013 and 2014, but has risen since. In 2018, Miles unemployment rate is just above 3%, remaining well below the Queensland average of 6.1% and in line with the town's pre-CSG trend.

House prices and rents in Miles have traditionally been lower than the median for the state or Brisbane. Increased demand from the CSG sector boosted rents past the state median in 2012-3, with rents being the highest in the state in 2013. Some local residents were reported to take advantage of the escalating prices, and they sold or subdivided their block. There was an exceptionally high number of residential building approvals from 2012-2015. Departures of older, civically involved residents were said to contribute to a loss of social capital in the town. Volunteer numbers dropped. The higher rents were observed to cause residents with lower income levels to leave town. The quality of the housing stock has risen, but interviewees commented that there are now a lot of empty houses. Since 2012/13 there have been drastic decline in

sales, housing prices, and rents, suggesting shortcomings in the management of expectations and impacts of the brief 'boom' period.

The influx of mostly male CSG workers is reported to have affected feelings of wellbeing and to have caused a shift in town identity. Interviewees noted that women changed their socialising and exercise regimes. People drove their children to school instead of having them walk or ride, they said, due to the presence of many strangers and added heavy vehicle traffic.

Reported good order offences and drug offences rose significantly in the Miles Police District. New policing methods introduced in anticipation of impacts from CSG development may have contributed to this upsurge, as police were more vigilant. Since 2011, total offences have increased significantly with an upward trajectory and recent spike in 2016; total offences now stand at double the Queensland average. Traffic and especially drug offences continue to increase to potentially problematic levels.

This booklet provides the 'Miles CSG Story' based on the range of priority indicators that we tracked. We would like to thank members of the Miles community for their warm welcome and the gift of their time. We hope that we have done justice to their contributions to this investigation.

The UQ 'Cumulative Impacts' Research Team, July 2020.

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Introduction

The University of Queensland commenced research into the social and economic impacts of coal seam gas (CSG) development in 2013. This research focused on the combined impacts of the multiple CSG developments in the Western Downs region of Queensland as an initial case study, and has now expanded to include other local government areas—Maranoa, Toowoomba, and Isaac. The research team uses publicly available statistical information regarding a number of key indicators that were selected in consultation with community members at the commencement of research. These statistics are combined with additional data gained through interviews with key community members, which provide insight into the factors that are influencing changes in the community. This information is gathered each year, and findings are reported for each town, sub-regions and the region as a whole. More information about the methodology is contained in Appendix D to this report. In this document we present the findings on the town of Miles.

The following acronyms are used throughout this report:

CSG	Coal seam gas
FTE	Full-time equivalent
LGA	Local Government Area
NRW	Non-resident worker
QLD	Queensland
SA2	Statistical Area Level 2
SA3	Statistical Area Level 3
SLA	Statistical Local Area
UCL	Urban Centre & Locality
WDRC	Western Downs Regional Council

General insights

2019 summary

Due to the COVID-19 pandemic in 2020 the communities were not contacted. The data has been updated but has not been 'ground-truthed'. The effects of COVID will not be seen until next year, or 2022 for the income data.

Community spirit:

- Presently, community spirit is reportedly deflated, and social cohesion is strained; “the town is more divided now than it was before CSG.”
- “Some people are hurting badly and want some sort of acknowledgement; others say to ‘just get on with it.’”
- There is high concern in the community about escalating behavioural and safety issues in schools, which reportedly include violence and drugs. “Many parents are now sending children to schools in Chinchilla.”

Changed capability:

- Community views on changed capabilities are divided. Some feel that business and community capabilities have been either unaffected or diminished by CSG development in the area. Others suggest that some individuals and businesses have grown (e.g. negotiation skills, improved properties with CSG compensation money), but many have missed that opportunity due to dwelling on losses.
- During the construction phase, NRWs boosted volunteering capacity in the Miles community through event assistance and fundraising. The absence of these volunteers has been a loss to community groups.
- Several interviewees stated that those businesses that endured through the “bust” are now better equipped to exploit future opportunities, as they were forced to upgrade to best practice systems and processes, and have generally upskilled in interacting with large companies.

Lessons learned:

- Communities should not expect the “boom” to endure; expectations need to be actively managed.
- Interviewees emphasised that CSG companies’ “local” procurement policies could be improved by transparently defining “local content” (so as not to unduly raise expectations) and endeavouring to include small operators in immediately local towns (such as Miles).
- Do not underestimate speculative and market influences, which triggered a property investment “boom” in many Western Downs towns.
- The link between mismanaged housing oversupply, falling rents, and increasing number of total offences needs to be investigated to address community concerns.
- The following factors were proposed as essential to good CSG corporate citizenship as the industry and community moves into a “coexistence” operation phase:
 - Being involved with schools
 - Working collaboratively with communities to identify and deliver strategic activities
 - Living and procuring locally
 - Providing a go-to community liaison officer in the respective companies

1. Population

2019 summary

In 2018/19 the resident population continued to increase, following a period of plateau after the CSG construction ended. The number of non-resident workers (NRWs) also continued increasing. Low rents and affordable house prices may encourage population growth.

Context

- Condabri Camp (400-bed) closed November 2017, transitioning its workforce into local communities.
- Australian Government's *Relocation Assistance* program remains active, providing financial incentive to long-term unemployed job seekers to move to regional towns with low unemployment rates.

Trends reflected in the data

Historical trend: Miles has historically had a stable population, with average annual growth of 0.3% from 2001 – 2010. Prior to the Western Downs Regional Council amalgamation in 2008, Miles was previously the seat of government for Murilla Shire (which included Wandoan).

During CSG construction period (2011 – 2014): Miles experienced a 23% net growth in full-time equivalent (FTE) population (includes residents and non-residents) over this five-year period. From 2007/08, Miles saw an influx of NRWs in town; this was largely responsible for the town's overall growth. In 2012/13, a peak in NRW activity saw a population growth rate of 17%; well above the "boom town" threshold of 5 – 15% p.a. This equated to 1 NRW for every 4 Miles residents. In the same year, the resident population increased significantly (~8%). In 2013/14, growth had slowed back to 2.5% per annum.

Since CSG construction period (2015 – 2019): The resident population of Miles continues to increase, with approx. 100 more residents in 2018/19 than than CSG development, now at 1,287. NRWs have also increased over the last several years by 73%, with approximately 1 NRW for every 5 residents. The increase in NRWs has led to an overall population increase of 11%. The number of NRWs in town is at similar level to the peak CSG construction period.

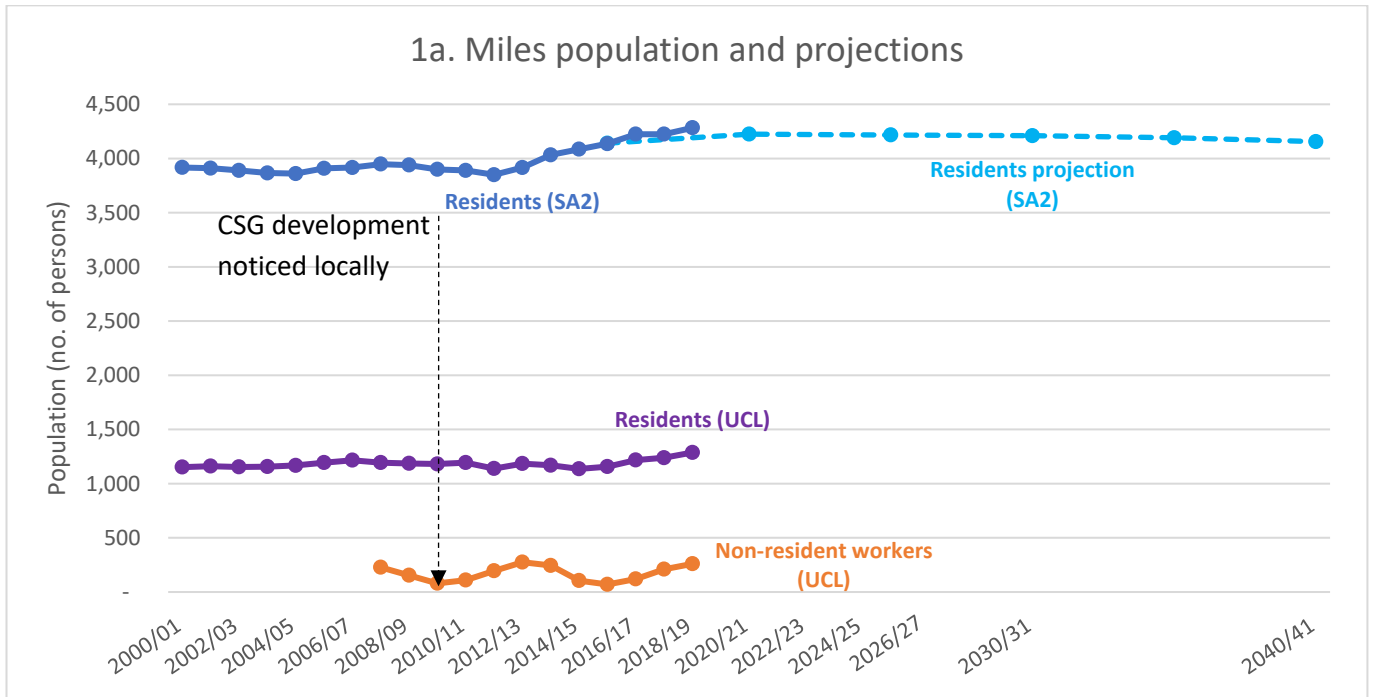
Community insights and perceptions

During CSG construction period (2011 – 2014): "Fluorescent work shirts". Most of the people interviewed thought the population was ~2,500 in 2013 (compared to 1,550 shown in chart 1b). One interviewee noted that at that time "9 out of 10 people on the street are strangers".

Since CSG construction period (2015 – now): Locals have noticed a decreasing, high turnover population. School enrolments have also declined. Increase in NRWs as Origin does work closer to town. A new influx, this time low income families and individuals, have been attracted by low rents in Miles and government incentives. Some interviewees highlighted an "us vs. them" divide between long-term locals and these "transient" newcomers, who are perceived to not contribute to, or participate in, the community. It is generally perceived that people who moved to Miles for cheap rents are now starting to move away.

Future expectations: Some interviewees expect that majority of workers from the Condabri Camp will move to Chinchilla, not Miles. However, it is hoped that some direct and indirect benefits from the camp closure will flow into the Miles economy. Low rents and affordable house prices may encourage medium-term population growth.

1. Population

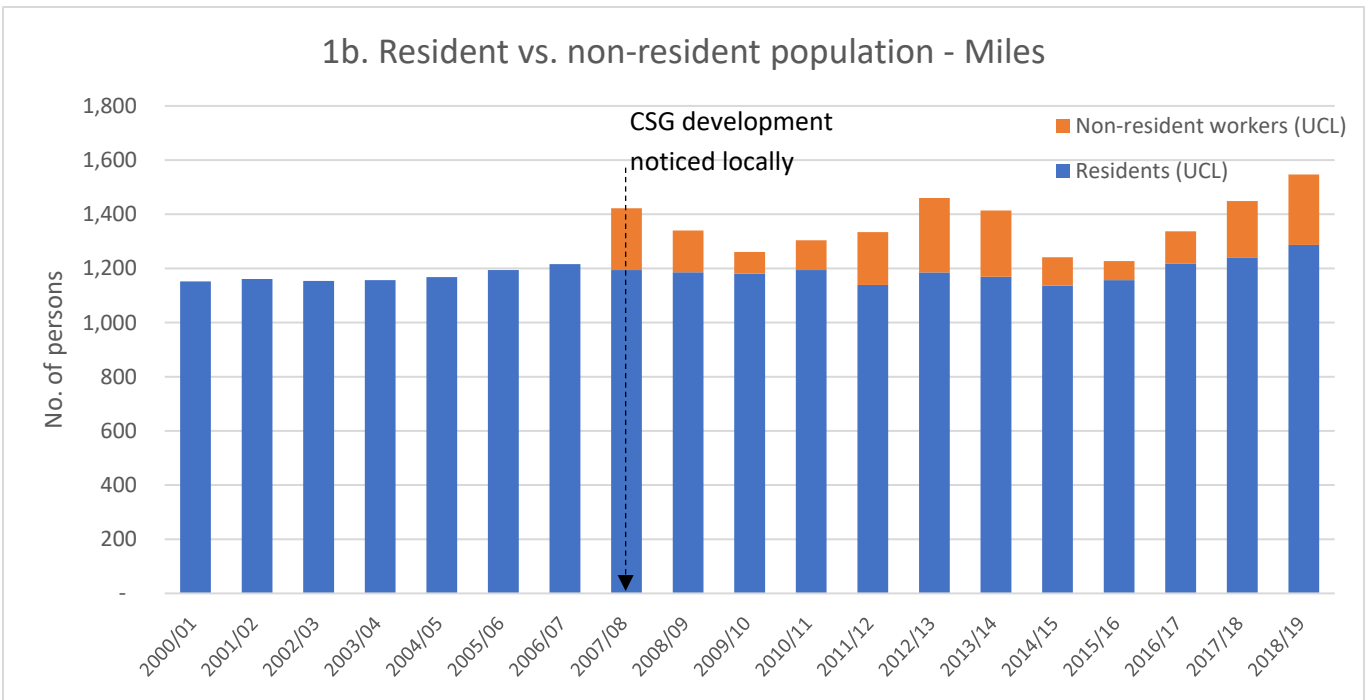


Data notes

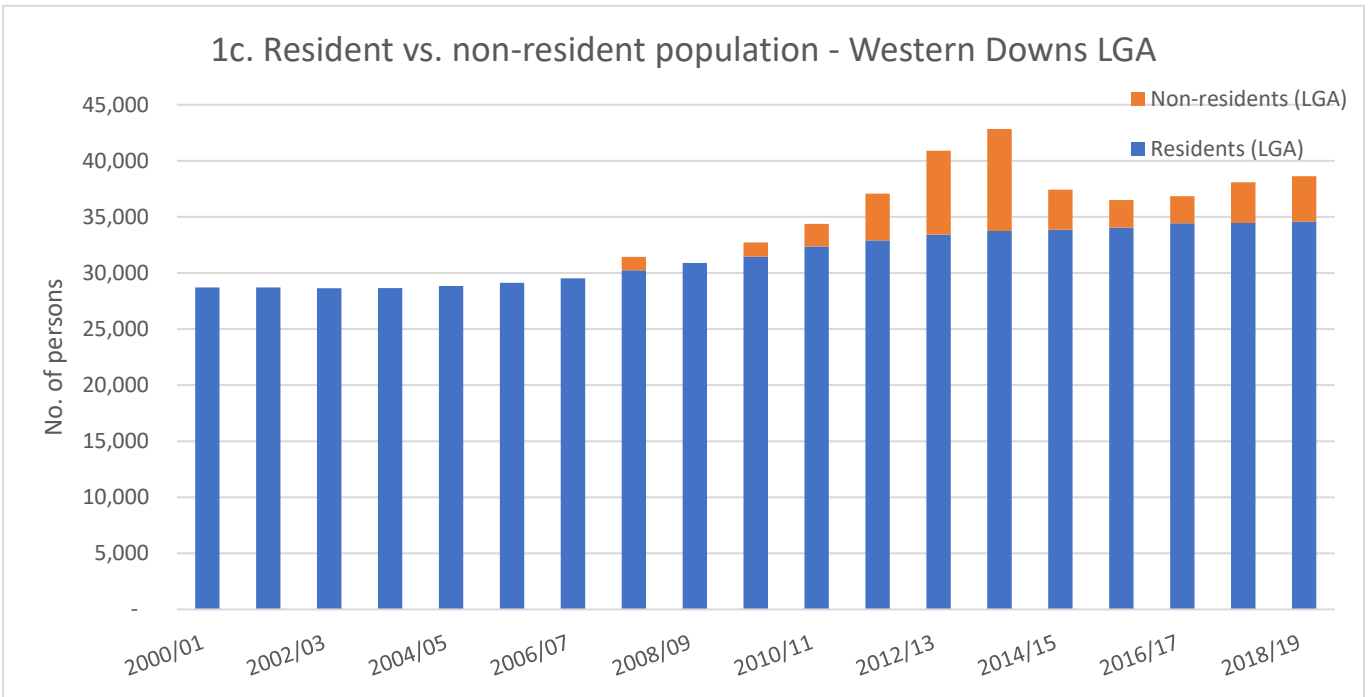
- UCL non-resident workers population estimate from QGSO 'Surat Basin Population Report' (ASGC 2016); 2018 version available here: <http://www.qgso.qld.gov.au/products/reports/surat-basin-pop-report/surat-basin-pop-report-2018.pdf>
- UCL resident population estimate from the QGSO table 'Estimated resident population (a) by urban centre and locality (b), Queensland, 2006 to 2016pr' (ASGS 2016), <http://www.qgso.qld.gov.au/products/tables/erp-ucl-qld/index.php>
- SA2 (Miles-Wandoan) population estimate from the QGSO table 'Estimated resident population by statistical area level 2 (SA2), Queensland, 2006 to 2016pr' (ASGS 2016), <http://www.qgso.qld.gov.au/subjects/demography/population-estimates/tables/erp-sa2-qld/index.php>
- Population projection (2015 edition) from QGSO table 'Projected population (medium series), by statistical area level 2 (SA2), SA3 and SA4, Queensland, 2011 to 2036' (ASGC 2001), <http://www.qgso.qld.gov.au/subjects/demography/population-projections/tables/proj-pop-medium-series-sa2-sa3-sa4-qld/index.php>
- NRW estimates do not include the many NRWs in camps outside town.

1. Population

1b. Resident vs. non-resident population - Miles



1c. Resident vs. non-resident population - Western Downs LGA



Data notes

- Population and non-resident worker population estimates for UCL and Western Downs LGA from the QGSO 'Surat Basin Population Report' (ASGC 2016); 2019 version available here: <https://www.qgso.qld.gov.au/statistics/theme/population/non-resident-population-queensland-resource-regions/surat-basin>
- Data missing for 2008/09 non-resident worker population

2. Employment

2019 summary

The unemployment rate remains low in Miles-Wandoan but has been steadily increasing since the CSG construction period (in 2013).

Context

- Origin Energy is restructuring in 2018, cutting 650 jobs across Queensland (75 in Western Downs).
- Australian Government's *Relocation Assistance* program remains active, providing financial incentive to long-term unemployed job seekers to move to regional towns with low unemployment rates.
- Unemployment data is based on Statistical Area Level 2 (SA2) boundaries. Wandoan is captured in the Miles-Wandoan SA2, accounting for approximately 8% of the area's total population.

Trends reflected in the data

Historical trend: Historically, Miles has a low unemployment rate, well below the Queensland average. Miles' economy is strongly linked to the state of its rural prosperity.

During CSG construction period (2011 – 2014): Unemployment fell from 3.1% in 2010 to below 1% in 2013 and 2014.

Since CSG construction period (2015 – 2019): The unemployment rate has generally increased since the end of the construction period by about 0.3 to 0.4% per year. The exception being 2016 where it increased 0.9% in one year. It remains well below the Queensland rate of 6.1%, in line with the historic (pre-CSG) relative trend.

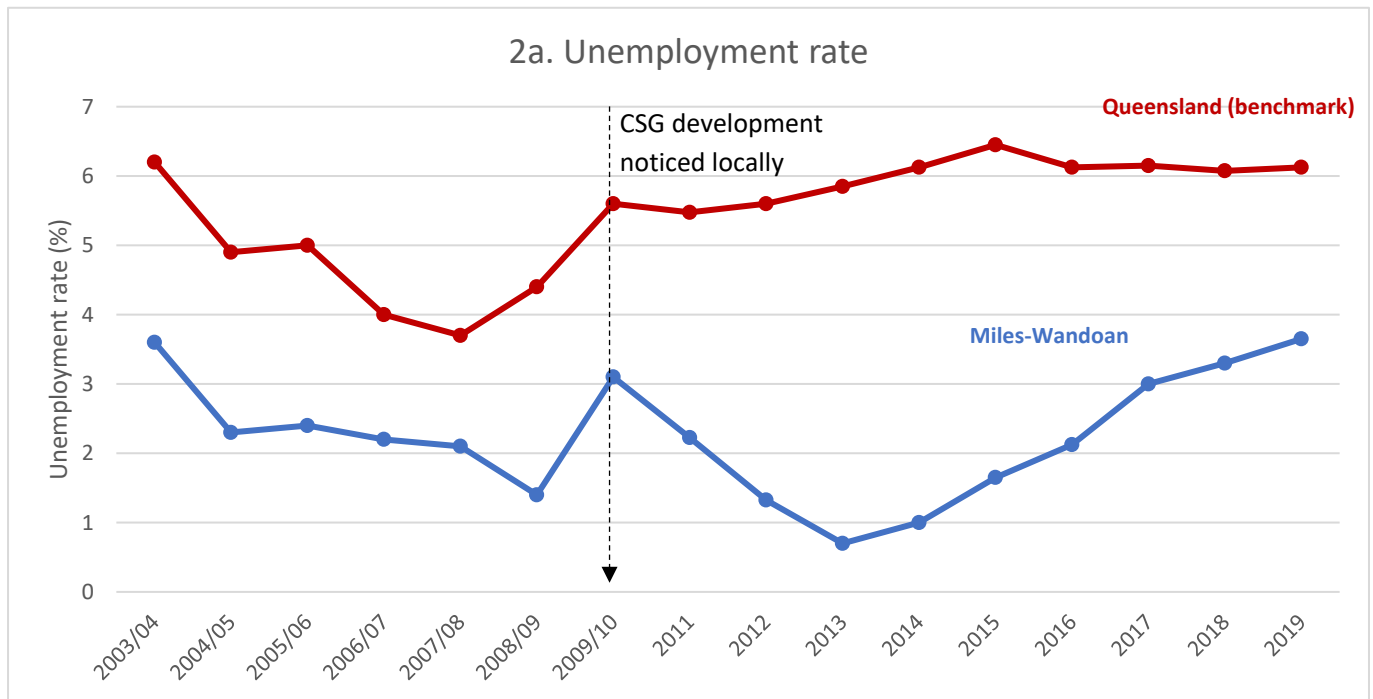
Community insights and perceptions

During CSG construction period (2011 – 2014): "Very low unemployment" made it difficult for local employers to keep staff or recruit new staff. WDRC had to undertake workforce planning and local business capability studies due to a labour and skills shortage. Those interviewed say that, during the CSG construction period, youth did not have to leave town to find work. Employment in the CSG sector may have offset unemployment in the agricultural sector due to drought.

Since CSG construction period (2015 – now): The last year has seen many new jobs being advertised, with a diverse range of industries and positions. The Cameby Downs Mine is expanding and hiring as well. However, the relocation program is still in place and moving low socio-economic families to Miles will likely affect the areas unemployment rate.

Future expectations: A "tough growing season", due to ongoing dry conditions, may contribute to unemployment in the near future. Some locals are hopeful that incoming renewable energy projects will provide local job opportunities.

2. Employment



Data notes

- 2001-2008 based on SLA statistical boundary; Source: QGSO Regional Database Archived dataset 'Labour Force - Small Area (Qtr Ended 31 Dec 2002 to Qtr Ended 31 Dec 2008) [DEEWR, Small Area Labour Markets Australia] (ASGC 2001)', <http://www.qgso.qld.gov.au/products/tables/qld-regional-database/index.php>
- 2009-2010 data from DEEWR file 'Unemployment salm_data_files_2008-2013'
- 2010-2019 based on SA2 statistical boundary; Source: QGSO Regional Database dataset 'Labour Force - Small Area (Qtr Ended 31 Dec 2010 to Qtr Ended 31 Dec 2019) [Department of Jobs and Small Business] (ASGS 2016)', <http://www.qgso.qld.gov.au/products/tables/qld-regional-database/index.php>

3. Income & business

2019 summary

Personal incomes have plateaued while many in the community are disappointed at empty shopfronts. Clothes and shoes businesses struggle the most because of online shopping.

Context

- Individual income lags a year behind other data due to ATO data reporting cycles.
- Since early 2016, 11 solar farms have been approved for development in the Western Downs LGA.

Trends reflected in the data

Historical trend: Personal income in Miles is consistently below the QLD average. Average incomes fell further below the state benchmark from 2004/05 to 2008/09, most likely associated with prolonged drought.

During CSG construction period (2011 – 2014):

Average personal income increased more rapidly from 2010/11, almost equalling the QLD average by 2012/13. The count of NPP businesses increased by 70 and the number in the high turnover brackets increased by 102 by 2014.

Since CSG construction period (2015 – 2019):

Average taxable income and total individual earnings increased by 2% and 7.8% respectively in 2016/17 after a decline the previous 2 years. However, while taxable income has plateaued, individual earnings continues to rise, now moderately higher than in 2012/13. The number of earners has remained relatively stable since 2010. Counts of PP businesses are lower but with a greater number in the higher turnover brackets, especially the 100k-499k and 2m+. The number of NPP businesses did decrease by 12 into 2018/19, however, the high turnover counts stayed very close to trend.

Community insights and perceptions

During CSG construction period (2011 – 2014):

“Wages have boomed in the last five years.” Many businesses “geared up”, investing in upgrades. Some local businesses obtained CSG contracts, but while data shows that total income for local businesses did increase substantially, interviewees perceived that most “did not benefit”. “Local content” spending seen to be in Chinchilla and Toowoomba (and Brisbane) and not in Miles – community members recommended that companies should clearly define definition, so as not to raise community expectations.

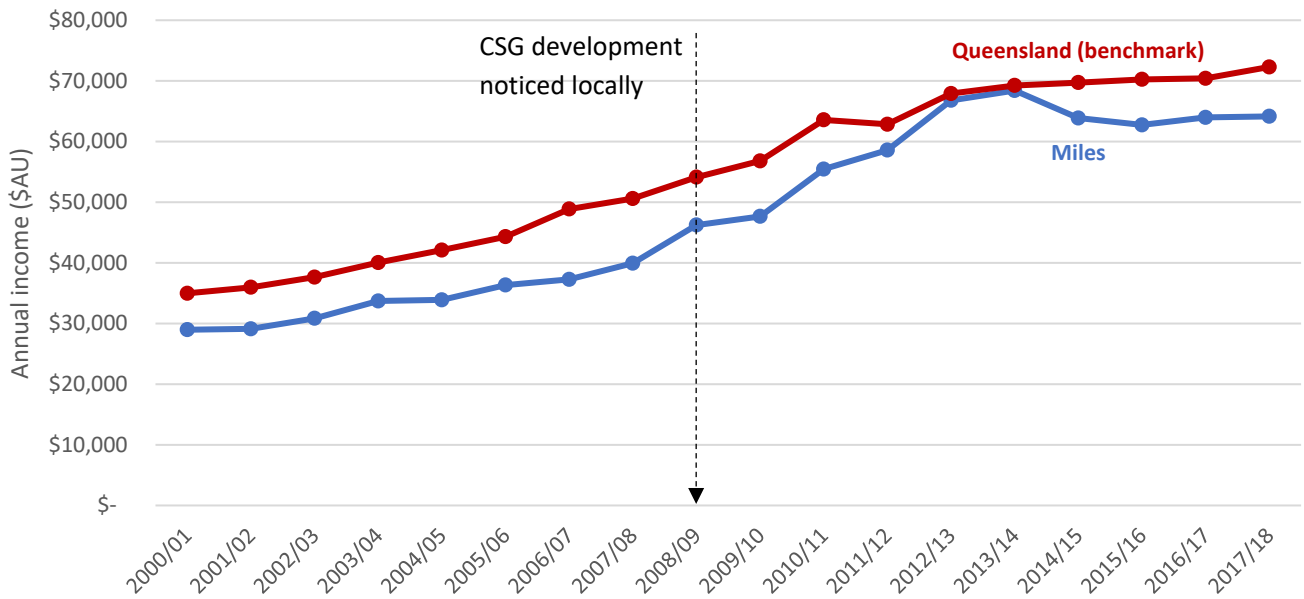
Since CSG construction period (2015 – now):

Several interviewees reported that Miles businesses are struggling – many have folded, confidence is low, and there is strain as “everyone is trying to grab the available markets”, e.g. hardware store selling homewares, chemist selling gifts and jewellery, hairdresser selling clothes. Farmers are spending less due to the effects of drought, though CSG payments are believed to be helping the down economy ward off the worst of it.

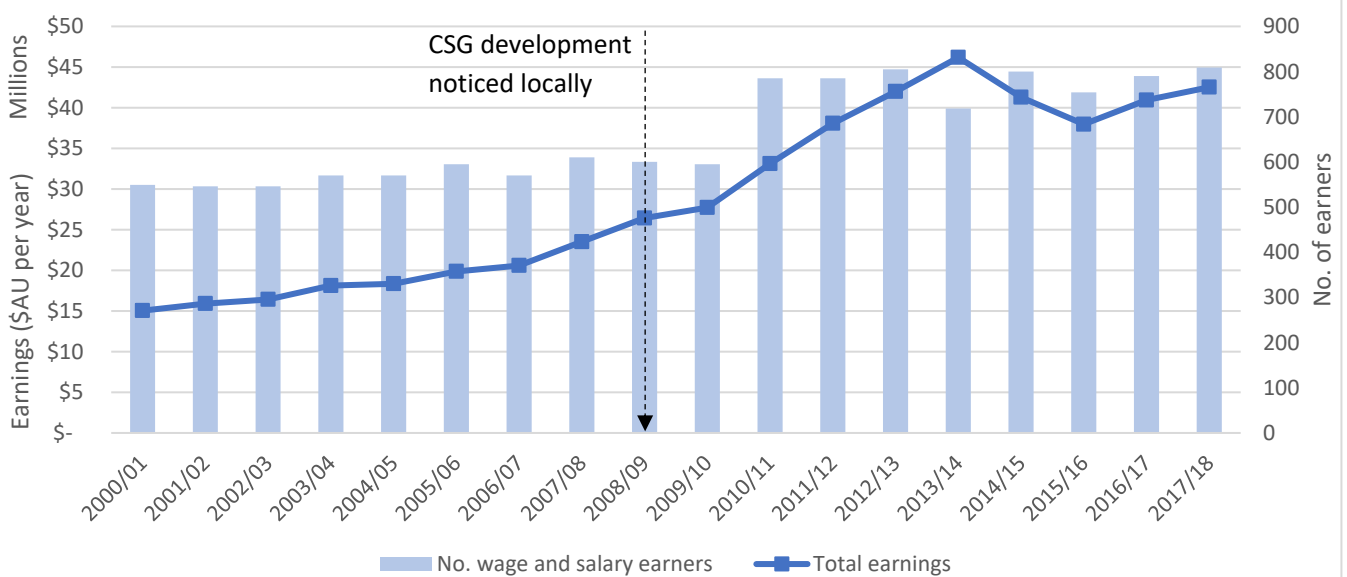
Future expectations: Some expect a “pick up” in activity in the next 12-18 months, with many development applications (for both conventional and renewable project) in the works. However, there is low confidence in current CSG local procurement policies delivering significant opportunities for Miles.

3. Income & business

3a. Average taxable income (taxable individuals only)



3b. Total individual earnings

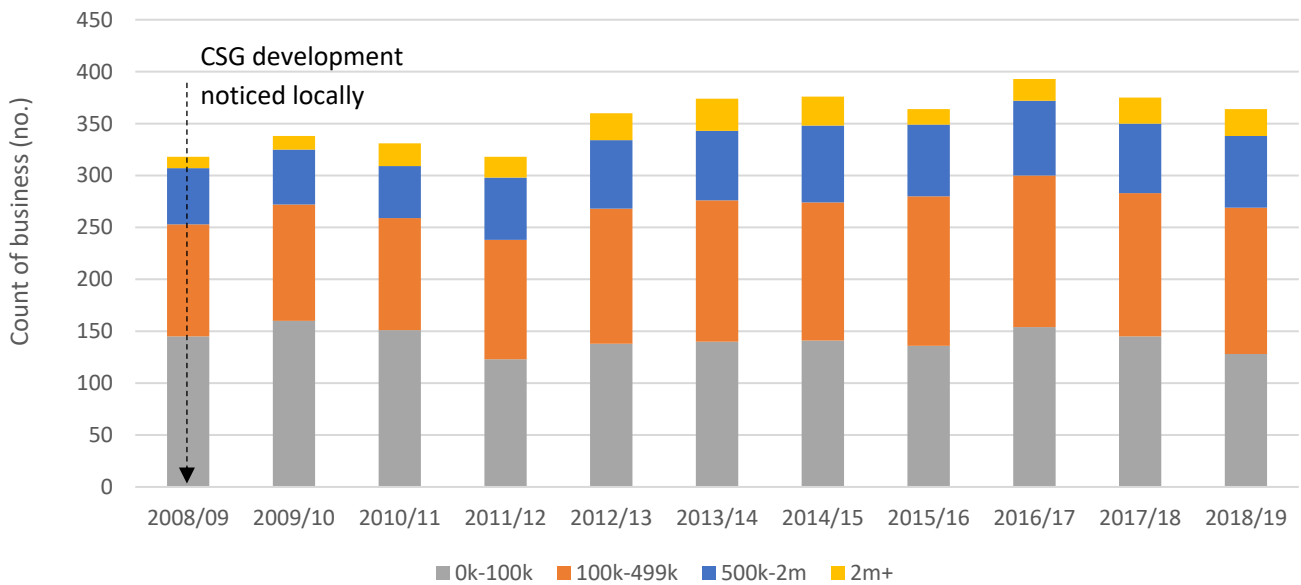


Data notes

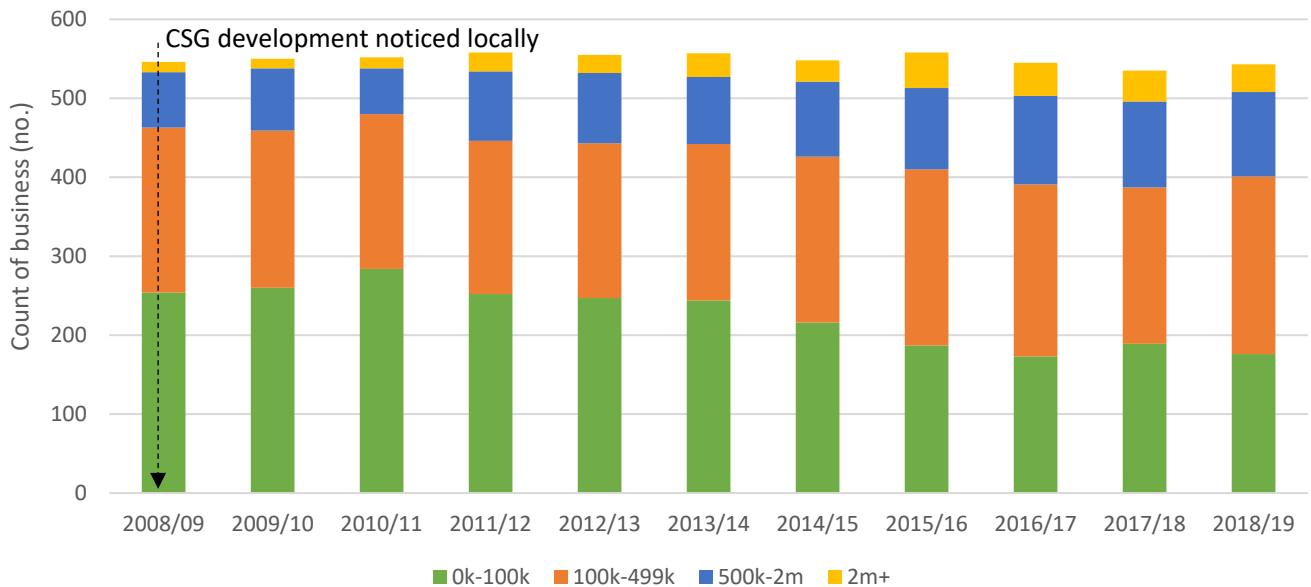
- Source: Australian Taxation Office (ATO), Research and Statistics, <https://www.ato.gov.au/>
- Average taxable incomes reported by ATO until 2009 excluded losses. Averages from 2010 include all taxable incomes including incomes of zero and losses.
- Data relates to Miles postcode 4415
- Original data – no discounting applied
- Due to ATO data publishing cycles, 2018/19 data will be included in the 2020 Chinchilla booklet

3. Income & business

3c. Count of businesses by turnover (non-primary production)



3d. Count of businesses by turnover (primary production)



Data notes

- Source: Australian Bureau of Statistics, Cat. 8165, <https://www.abs.gov.au/>
- Data based on SA2 (Miles-Wandoan) statistical boundary

4. Housing

2019 summary

House and rent prices have fallen significantly; in 2019 they maintained their lowest point since the record peaks of 2013 during CSG construction. In 2018 residents reported that there were many houses available for purchase, while rental availability is low. There was a general sense that Miles has seen the worst of its housing market crash, and that values and rents will now stabilise.

Trends reflected in the data

Historical trend: Traditionally older, low cost housing available. House prices and rents historically sat well below QLD benchmarks, and were increasing in line with benchmark trends.

During CSG construction period (2011 – 2014):

Median house prices in Miles continued a strong growth trend, increasing by 57% over this 4-year period, peaking in 2012/13. In contrast, the QLD benchmark declined by 17%. Strong demand from 2011 to 2013 prompted an historically unprecedented high number of residential building approvals – 127 in 2013 and 162 in 2014, compared to the previous record of 32 in 2007. Since 2013, however, demand fell dramatically. Median rent increased steadily until 2012 to the QLD benchmark (~\$350), then dramatically increased to \$550 the following year (2013).

Since CSG construction period (2015 – 2019):

The sharp downwards trend in sale prices began towards the end of the construction phase in 2013/14 appears to be levelling off with the median price about one-third of the “construction” peak. Since the 2013 rent peak, rents have fallen by 83% to pre-CSG levels, and remained steady since 2016/17, though they have increased by 16% through to 2019. There was one new building approval in the greater Miles-Wandoan area in 2019.

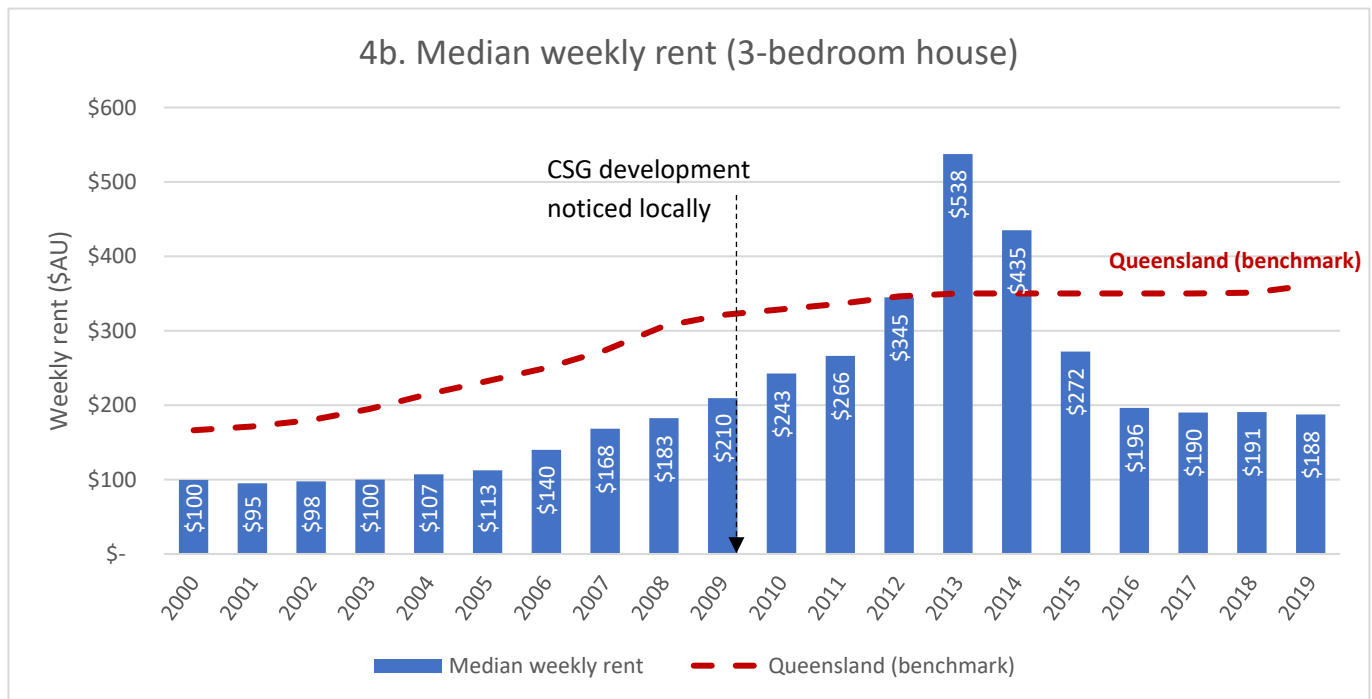
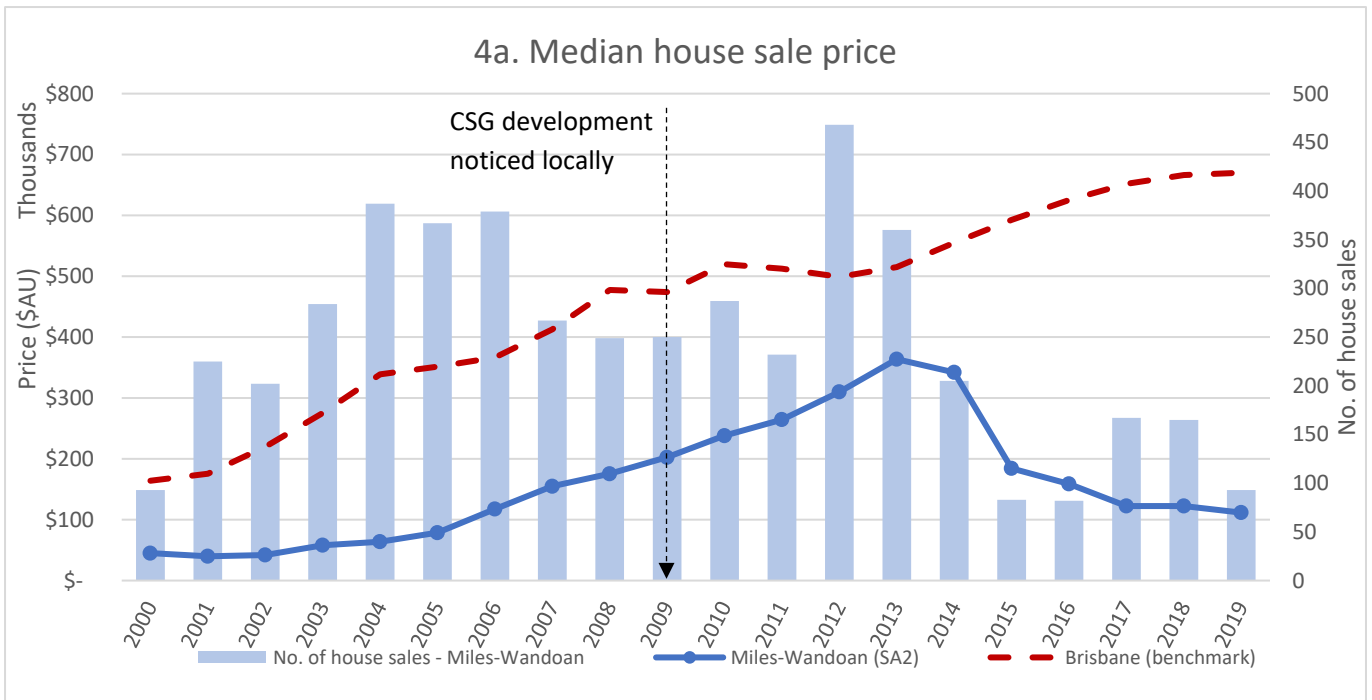
Community insights and perceptions

During CSG construction period (2011 – 2014): Some NRWs were initially living in houses in Miles, before majority were moved to camps outside town. CSG development caused prices to increase significantly, seen to be driven by “southern speculators”. “Severe lack” of affordable housing “caused lower income families to leave town”. Responses to housing impacts were too slow, with building approvals peaking near the end of the construction phase.

Since CSG construction period (2015 – now): The resulting oversupply of houses caused house and rent prices to drop. Consequently, there are many approved houses (including a new estate) that were never completed. “People who invested in real estate during the boom lost a lot of money”; some interviewees suggested that bank repossessions now account for a large proportion of house sales. Rents are coming up as vacancy rates are low, when one of the camps closed NRWs moved into town. Cheap rents means they still have “the demographic” who cause disruptions in schools and requires high levels of support.

Future expectations: Some interviewees believe that house values have “hit rock bottom” and will now start to stabilise; bringing CSG workers out of camps and into town will help this. The low vacancy rate is expected to continue and may result in a rental shortage if some of the construction projects predicted for the region go ahead. This is expected to drive up rent prices.

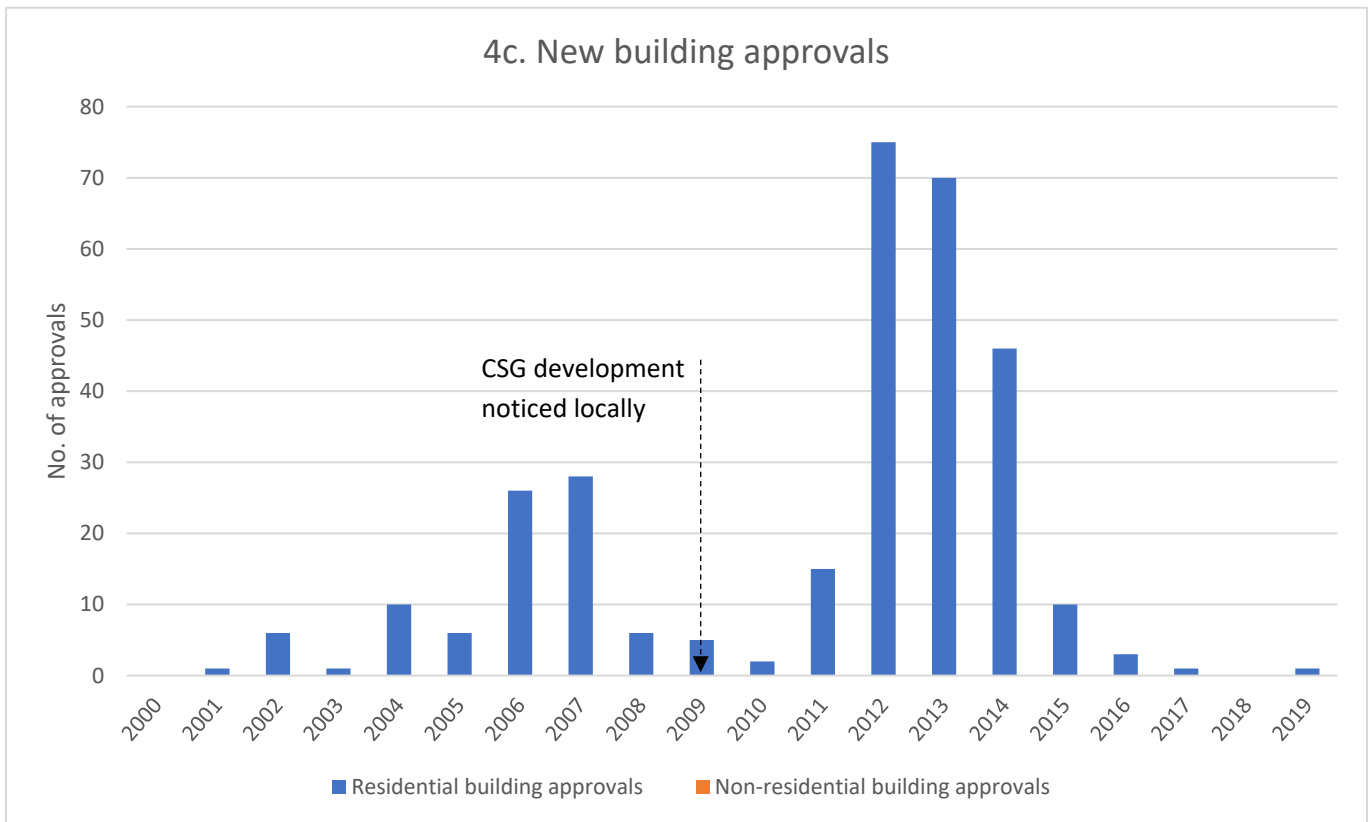
4. Housing



Data notes

- 4a source: QGSO Regional Database dataset 'Residential land and dwelling sales (Year Ended 30 Sep 2000 to Year Ended 31 Dec 2019) [DNRM] (ASGS 2016)', <http://www.qgso.qld.gov.au/products/tables/qld-regional-database/index.php>
- 4b source: QGSO Regional Database dataset 'Median rent (Year Ended 30 Sep 1990 to Year Ended 31 Dec 2019) [RTA] (ASGS 2016)', <http://www.qgso.qld.gov.au/products/tables/qld-regional-database/index.php>
- Data based on SA2 (Miles-Wandoan) statistical boundary
- Median data is an average of the reported quarterly medians per year

4. Housing



Data notes

- Source: QGSO Regional Database dataset 'Building Approvals (Jul 2001 to Dec 2019) [ABS 8731.0] (ASGS 2016)', <http://www.qgso.qld.gov.au/products/tables/qld-regional-database/index.php>
- Data based on SA2 (Miles-Wandoan) statistical boundary
- Approvals shown for private buildings only; public developments are excluded
- Private non-residential building approvals remained at zero between 2002 and 2019

5. Safety & Wellbeing

2019 summary

In 2019, total crime in Miles remains higher than the QLD rate, and approximately double than before CSG activity was noticed locally. Despite a significant decline in reported drug offences, this issue remains the primary crime-related concern for residents.

Context

- Drug offences are perceived to be on the rise in all rural QLD towns.
- Crime statistics can be subject to significant variation based on factors such as police resourcing, enforcement and prevention strategies, and community awareness and reporting.

Trends reflected in the data

Historical trend: Miles historically had a low crime rate, fluctuating between 46 to 87 offences per 1,000 people. This stayed well below the state benchmark until 2010.

During CSG construction period (2011 – 2014): In 2010, total offences spiked, with significant increases in traffic and drug offences. This settled to historic levels the following year, but continued to rise steadily from 2011 (59 offences per 1,000 people) to 2014 (130 offences per 1,000 people). Drug and traffic offences appear to be the main factors behind this upward trend, increasing over this period by 580% and 250%, respectively. Good order offences also increased. Total crime rate in Miles surpassed the QLD rate in 2013, and has remained above since.

Since CSG construction period (2015 – 2019): Total crime spiked in 2017, about 45% higher than the Queensland average. They remain high, but have decreased by 32% into 2019. In 2019 traffic offences decreased minimally from the previous year and drug offences decreased by 72% from a peak in 2015/16. Drug offences remain low, a decrease of 200% from the 2015 spike. Good order offences were at about half the rate of the previous year, though other theft was slightly raised.

Community insights and perceptions

During CSG construction period (2011 – 2014):

During the height of “excitement”, people “flooded in from other towns, treating it like a football trip and caring less because they don’t know people”. Sub-contractors were perceived as the “main offenders”. Increased good order crimes were said to be related to social activities (e.g. “drinking at the pub”). Women and girls reported feeling less safe, and more roadside litter was noticed. More vigilant policing methods were driven by “expectations of CSG impacts”.

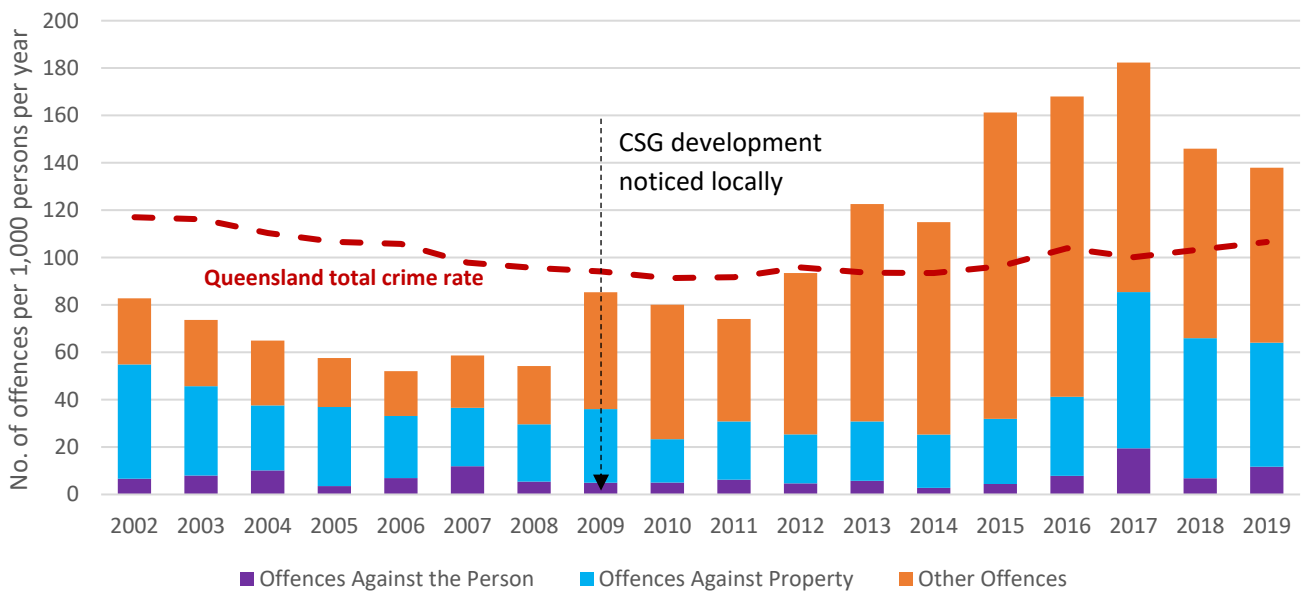
Since CSG construction period (2015 – now):

Residents expressed concerns about very low rents attracting “outsiders”, who are seen to be causing disruptions in schools and contributing to increased overall crime rates. Drugs issues are perceived to have increased, and are the primary crime-related concern for residents. Interviewees also reported domestic violence, property damage and theft as prevalent issues. A large 2016/17 police operation targetting drugs in Western Downs may explain the decreases in Miles drug offences. From 2017, the decline in traffic offences was partially attributed to reduced traffic volumes.

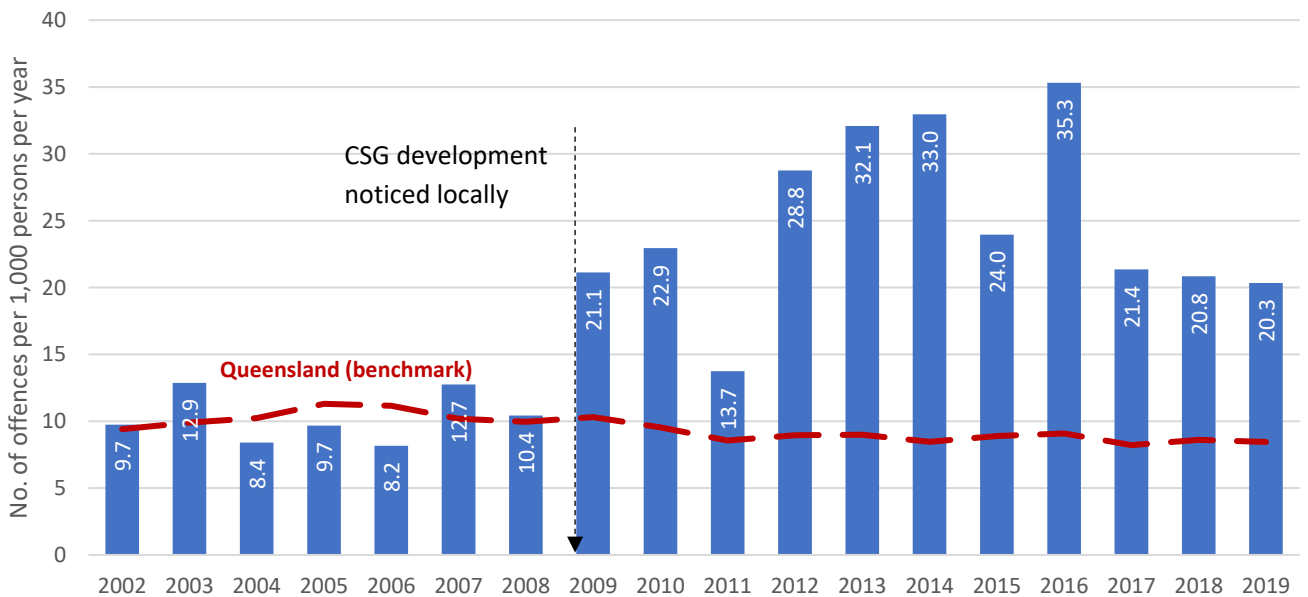
Future expectations: Drugs are perceived to be a growing problem, in Miles and QLD in general.

5. Safety & Wellbeing

5a. Total offences



5b. Traffic and related offences

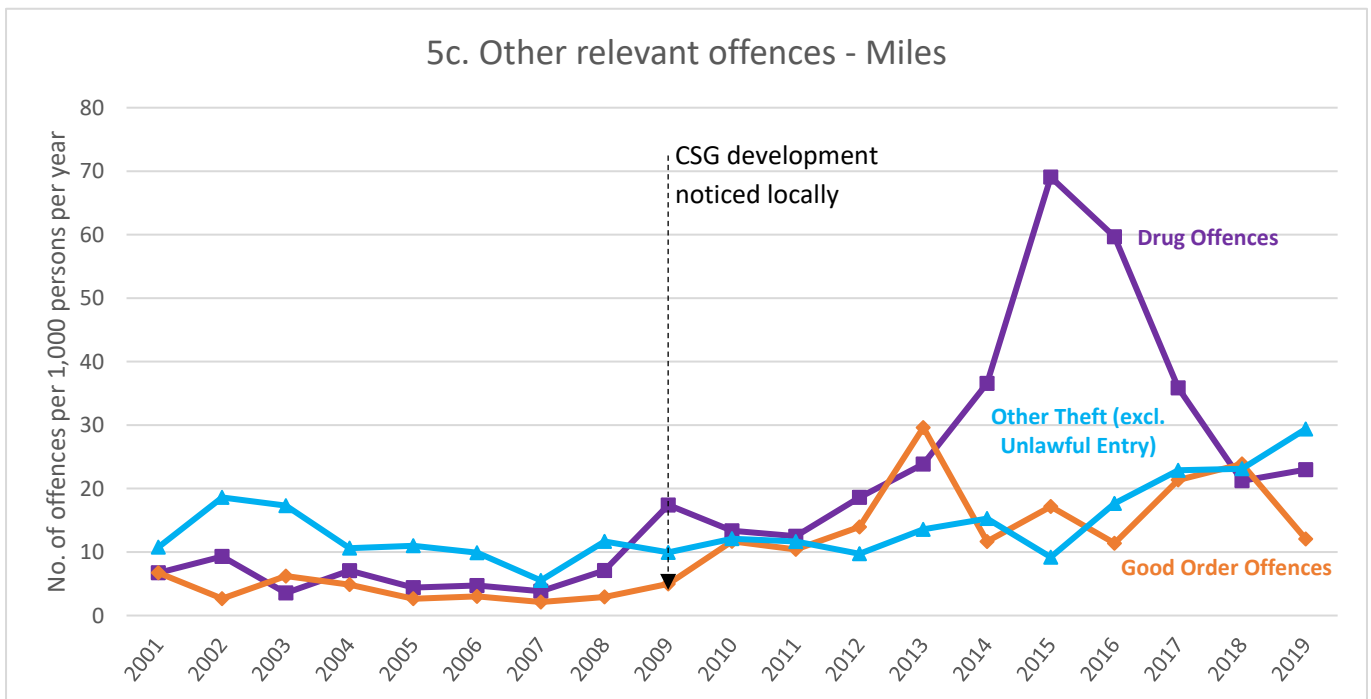


Data notes

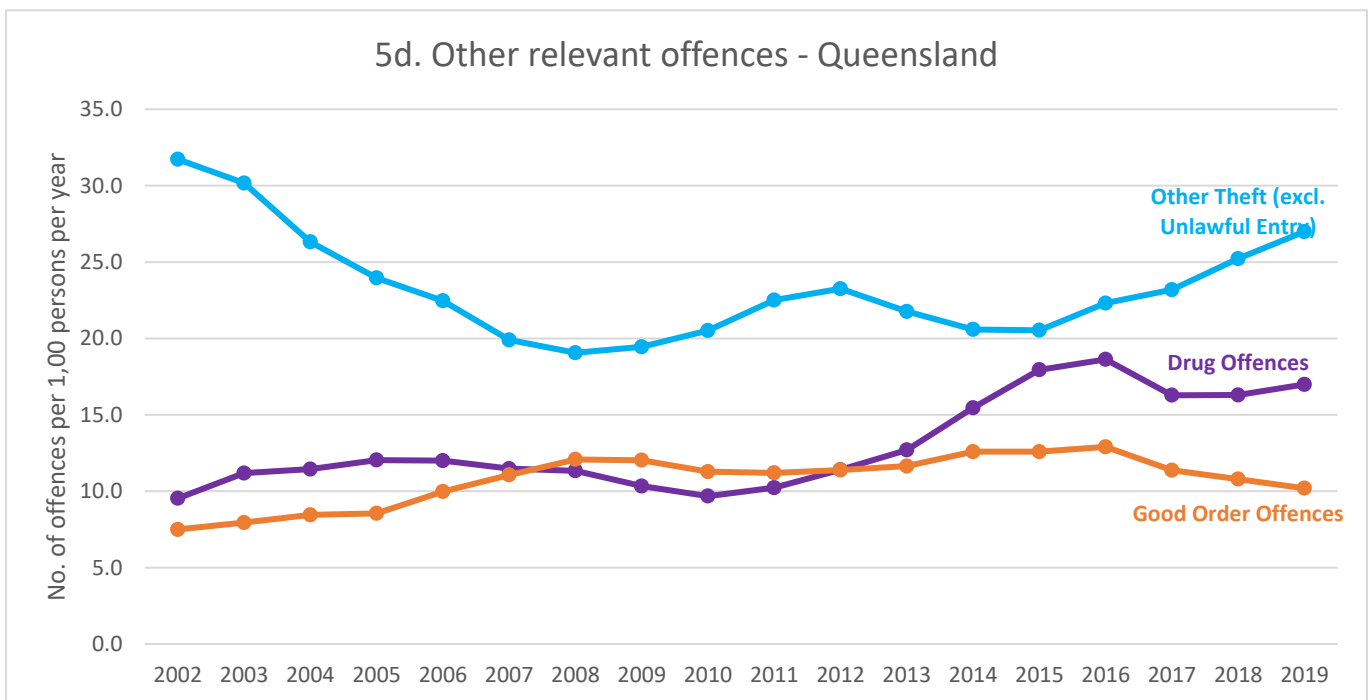
- Source: Queensland Police Service (QPS), <https://www.police.qld.gov.au/maps-and-statistics>
- Crime rate data (per 100,000 people) obtained by QPS Division and Queensland State; data was adjusted to be presented as number of offences per 1,000 people per year

5. Safety & Wellbeing

5c. Other relevant offences - Miles



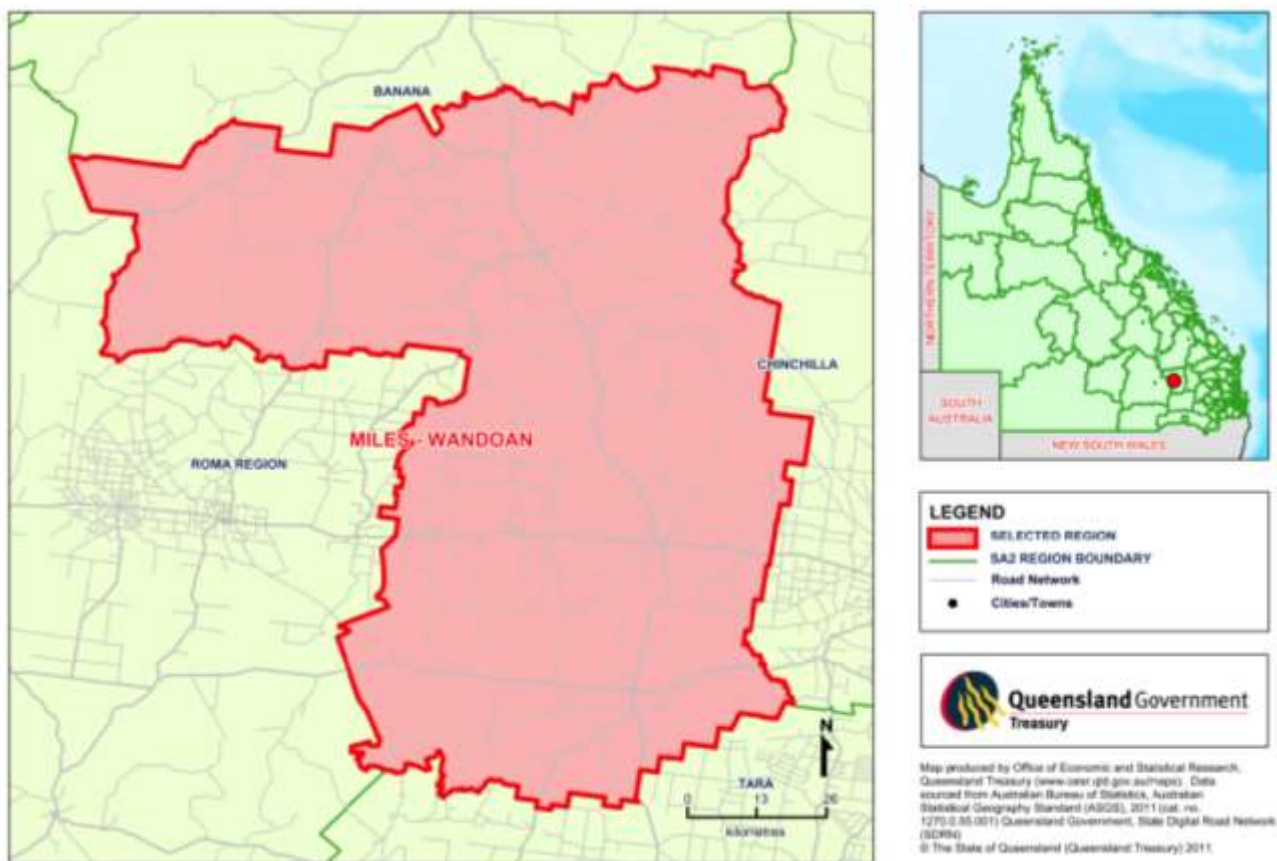
5d. Other relevant offences - Queensland



Data notes

- Source: Queensland Police Service (QPS), <https://www.police.qld.gov.au/maps-and-statistics>
- Crime rate data (per 100,000 people) obtained by QPS Division and Queensland State; data was adjusted to be presented as number of offences per 1,000 people per year

Appendix A: Spatial boundary maps (SA2, UCL and postcode)



Miles – Wandoan statistical area 2 (SA2) boundary (2011, ASGS Code 307011175)

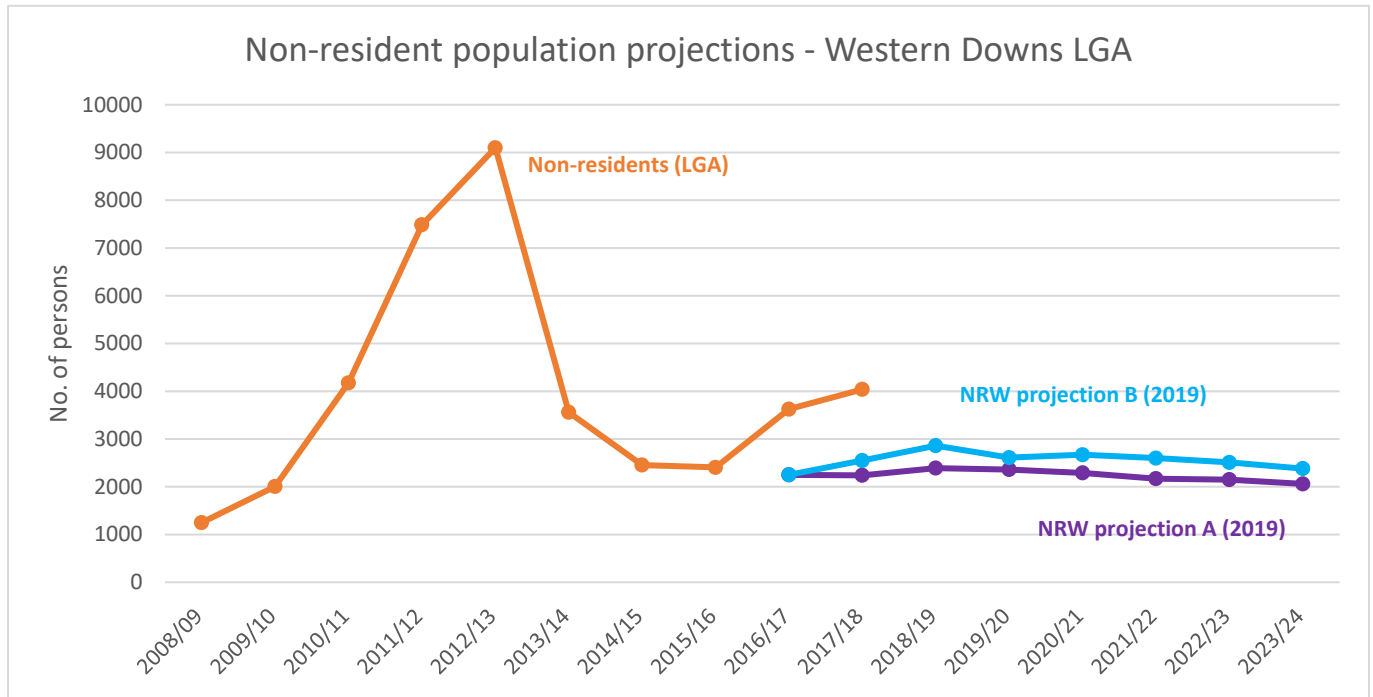


Miles UCL boundary



Miles postcode boundary 4415

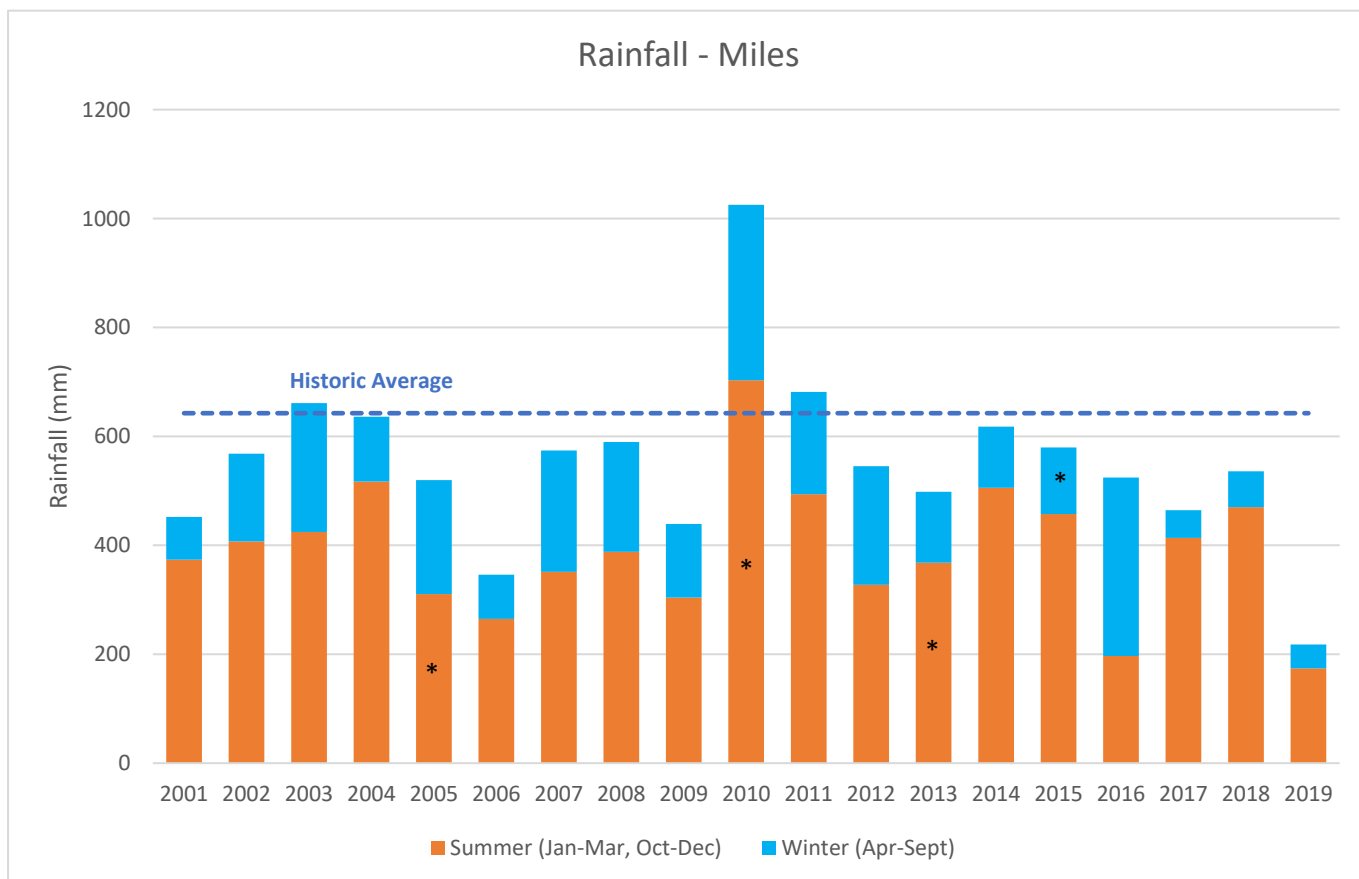
Appendix B: Non-resident population projections - Western Downs



Data notes

- Non-resident population, Queensland resource regions: Surat Basin: <https://www.qgso.qld.gov.au/statistics/theme/population/non-resident-population-queensland-resource-regions/surat-basin>
- Non-resident workers projections (2018) by LGA from QGSO report 'Surat Basin non-resident population projections: 2019 to 2025', <https://www.qgso.qld.gov.au/statistics/theme/population/non-resident-population-queensland-resource-regions/surat-basin>
- Series A projection is based on the number of non-resident workers on-shift who were engaged in existing resource operations and associated infrastructure activities in the area at June 2018. The projection takes into account future changes to those operational workforces as advised by resource company sources, as well as the estimated construction and operational workforces of Category A projects (i.e. those that are approved and have reached a financial close).
- Series B projection includes the Series A projection plus projected growth in the non-resident population arising from Category B projects (those that are approved but have yet to reach a financial close).

Appendix C: Miles rainfall (2001 – 2019)



Data notes

- Source: Bureau of Meteorology Climate Data online, <http://www.bom.gov.au/climate/data/>
- Rainfall observations reported for Miles Post Office Rainfall Station
- Where missing data is indicated (*), gaps exist in daily rainfall observations

Appendix D: Project Information

The University of Queensland is conducting research into the social and economic impacts of coal seam gas (CSG) development. The project has focused on the combined impacts of the multiple CSG developments in the Western Downs region of Queensland as an initial case study. That focus has now expanded to include other local government areas – Maranoa, Toowoomba, and Isaac.

Research project history

- **Engagement:** People from the community, government and industry worked with researchers to identify the most important ‘indicators’ to monitor. This consultation process helped to develop a shared understanding of social and economic development in the community and created a framework for reporting and discussion.
- **Indicator monitoring:** The team identified ways to calculate and report the impact of multiple CSG projects against the agreed set of indicators.

The research team

Dr Kathy Witt, Centre for Natural Gas, The University of Queensland has led this research since May 2017 and joined the original project team in 2014.

A large team of researchers has contributed to this project since 2013, including:

- Assoc. Prof. Will Rifkin, University of Newcastle (previously led this project while working at The University of Queensland from April 2012 – April 2017)
- Dr Jo-Anne Everingham, Senior Research Scientist, Centre for Social Responsibility in Mining, The University of Queensland (CSRSM).
- Research Assistants: Jonathan Simpson, (2019-2020) Simone Elias, (2018) Sarah Choudhury, (2017) and Bec Colvin, (2016).
- Ms Sherylee Johnson, Research Technician, CCSG (2013-2016).
- Professor David Brereton, Associate Director, Sustainable Minerals Institute (2012-2016).
- Dr Vikki Uhlmann, Research Manager, CSRSM (2013 -2014).
- Ms Kylie May, Research Analyst, CSRSM (2013 – 2014).

Reporting timeframes: The data collection for the project has been occurring annually since 2013. Project outcomes, recommendations, and reports have been released periodically. The timeframe for some datasets, such as those from the Australian Taxation Office, lags behind the main data used in this report—this is due to unique data collection and reporting requirements of this agency.

Ethics approvals: This study has been cleared by the human research ethics committee of The University of Queensland in accordance with the National Health and Medical Research Council's guidelines (Research Ethics clearance approval no. 2013000587).

Questions: Contact the lead researcher, Dr Katherine Witt
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If you would like to speak to an officer of the University not involved in the study, you may contact the Ethics Officer on 07 3365 3924.