

Annual Report: Dalby

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



Research Team

Dr Katherine Witt and Mr Jonathan Simpson

Acknowledgements

This research report was prepared by the Centre for Natural Gas, The University of Queensland. The research team would like to acknowledge the assistance from Queensland regional community members who participated in research interviews as part of the research process.

Disclosure/Disclaimer

This research was funded by The University of Queensland Centre for Natural Gas including the foundation industry members—Arrow Energy, APLNG, Santos and Shell (QGC). The Centre conducts research across Water, Geoscience, Petroleum Engineering and Social Performance themes. For information about the Centre’s activities and governance, see: www.natural-gas.centre.uq.edu.au

Researchers within or working with the UQ Centre for Natural Gas are bound by the same policies and procedures as other researchers within The University of Queensland, and these are designed to ensure the integrity of research. You can view the policies at: <http://ppl.app.uq.edu.au/content/4.-research-and-research-training>

The Australian Code for the Responsible Conduct of Research outlines expectations and responsibilities of researchers to further ensure independent and rigorous investigations. This report has not been peer reviewed.

Contact

Dr Katherine Witt
Research Fellow
The University of Queensland Centre for Natural Gas
St Lucia Qld 4072 Australia
E: k.witt@uq.edu.au
W: www.natural-gas.centre.uq.edu.au
W: www.boomtown-indicators.org

Report published: July 2020

CLX System ID: 149 365

ISBN: 978-1-74272-330-3

The Dalby CSG Development Story

The ‘Dalby CSG Development Story’ was developed in consultation with key members of the Dalby community: community groups and welfare organisations, Dalby Chamber of Commerce, business owners and managers, real estate agents, police, staff from schools, training providers and local and state government.

Participants 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 Dalby 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 2014, towards the end of the construction phase of CSG development, with follow-up interviews in 2017, 2018, and again in 2019.

The population in Dalby was historically stable at around 10,000 people. Since 2008, when CSG development was first noticed locally, the population has increased steadily. People have described this as a positive change, with benefits including increased cultural diversity and a more diverse retail sector. People also noticed an increasing transience, which was said to be ‘destabilising’. The population of non-resident workers sharply declined after 2013 with a brief increase in 2014/15. The population has now stabilised at around 12,400 people (since 2012/13), and the number of non-resident workers has significantly decreased since the construction phase. In 2018, non-resident workers account for approximately 2% of Dalby’s population.

Employment opportunities are generally good in Dalby as it has a range of industries and services. The CSG construction phase created many new jobs, which had flow-on effects for the local skills base, training, social connectedness and cultural diversity. A diverse economic base was thought to “buffer” Dalby from some of the impacts experienced in towns closer to CSG development, such as Chinchilla. For example, house prices did not spike, and rents did not increase to the same extremes. However, some industries and business sectors experienced skills shortages as workers were attracted to the higher wages thought to be offered by the CSG and related sectors. Some local business and services reportedly had difficulty retaining workers. As a result, some innovative non-monetary loyalty rewards were introduced such as offering handyman services to employees so they can relax on the weekends. Unemployment has risen since 2012/13, reaching a ten year high of 5.4% in 2017 with a slight drop in 2018. While this is still below the Queensland benchmark of 6.1%, it is hoped that proposed major construction projects in the region will arrest or counteract this upwards trend.

People said that Dalby has “done well” in relation to CSG development. However, the view was expressed that local industries, services and products could be better utilised by CSG companies. Training opportunities for local people were reported to have increased, with a significant proportion for CSG contract compliance. For example, experienced tradespeople required formal certification to be eligible for CSG procurement. Other training opportunities were provided. In 2018, community members advised that the training and experiences over recent years have better equipped them to deal with major projects in the future.

Dalby was described as a “very safe” and “friendly” town. The overall crime rate remained at the Queensland rate throughout the CSG construction years and increased police presence, and industry responses were thought by residents to be effective. The crime rate has been increasing from 2014, mainly due to increased drugs and traffic offences. Drugs were perceived by local people to be increasingly prevalent, but this was not attributed to CSG activities. Good order offences have also increased and could be associated with rising unemployment and financial stress. However, community members still consider Dalby to be a safe community.

This booklet provides detail on aspects of the Dalby CSG Development Story based on the range of priority indicators that we tracked. We would like to thank members of the Dalby community for their cooperation 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.

Contents

The Dalby CSG Development Story	3
Introduction	6
General Insights	7
Indicators of Change	
1. Population	8
2. Employment	11
3. Income & business	13
4. Housing	16
5. Safety & Wellbeing	19
List of figures	
1a. Dalby population and projection	9
1b. Resident vs. non-resident population – Dalby	10
1c. Resident vs. non-resident population – Western Downs	10
2a. Unemployment rate	12
3a. Average taxable income	14
3b. Total individual earnings	14
3c. Count of businesses by turnover (non-primary production)	15
3d. Count of businesses by turnover (primary production)	15
4a. Median house sale price	17
4b. Median weekly rent	17
4c. New building approvals	18
5a. Total crime rate	20
5b. Traffic and related offences	20
5c. Other relevant offences – Dalby	21
5d. Other relevant offences – Queensland	21
Appendices	
A. Spatial boundary maps (SA2, UCL and postcode)	22
B. Dalby rainfall (2002-2017)	23
C. Non-resident population projections – Western Downs	24
D. Project information	25

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 Dalby.

The following acronyms are used throughout this report:

CSG	Coal seam gas
LGA	Local Government Area
NRW	Non-resident worker
SA2	Statistical Area Level 2
SA3	Statistical Area Level 3
SLA	Statistical Local Area
UCL	Urban Centre & Locality

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:

- People have observed CSG companies sponsoring sports clubs and community events.
- Most interviewees believe Dalby is better off than before the boom.
- Dalby still has a good sense of community and opportunity.

Changed capability:

- The CSG boom is perceived to have had some positive legacy, with new services and bigger outlets now available in Dalby.
- Dalby has been very proactive through its CSG journey; it has a business capability directory (one of the few towns with such a resource), which has been active since 2014.
- Dalby Chamber of Commerce received some funding to provide business advisory services, which has been used to upskill community businesses in how to enhance their capability.

Lessons learned:

- Greater transparency about the skill sets, services and products needed by CSG projects would allow local businesses and workers to better position themselves to increase capabilities and reap the benefits of CSG development. "People cannot upskill if they don't know what to do."
- Need to actively manage unrealistic expectations about the magnitude and duration of the "boom" of council, developers and investors. Many people interviewed reported that the community was told "the boom would last for 20 years."
- While workers camps mitigate housing impacts in towns, they do not contribute to the local economy. Some community members suggested that companies should mandate that their long-term workers live in communities. At a minimum, workers camps should better incorporate local businesses in the supply chain of goods and services.
- Good relationships between CSG companies and police services is critical to maintaining law and order during times of heightened non-resident activity.

1. Population

2019 summary

Population in Dalby grew 11% during the Coal Seam Gas construction period from 2008/09 to 2012/13. Population has now plateaued at approximately 12,400 residents. Dalby had a small influx of non-resident workers (NRW) in 2011 – 2013, but this was significantly less than in nearby resource towns. Population is becoming more diverse.

Context

- Dalby is the most populated centre in the Western Downs region.
- The town has a long history as an agricultural services and manufacturing town, a regional training centre, as well as being the seat of local government.

Trends reflected in the data

Historical trend: Population was historically stable at around 10,000. Population began to increase steadily from 2005/06 at an average of 2.8% per year – faster than the Western Downs regional growth rate of 2%.

During CSG construction period (2011 – 2014): Dalby's population saw a spike of 4% in 2010/11, then returned to a more historical growth rate of ~2%. Influx of NRWs peaked in 2012/13 with 1 NRW for every 12 residents.

Since CSG construction period (2015 – 2019): Resident population is declining slightly from a peak in 2013. NRWs sharply declined in 2013/14 to less than 0.5% of population as the CSG construction phase began to wrap up. Numbers dropped to 45 in 2016, they were up again in 2018 to 265 full-time equivalent positions, or 1 NRW for every 46 residents. They have since declined to 185 in 2019.

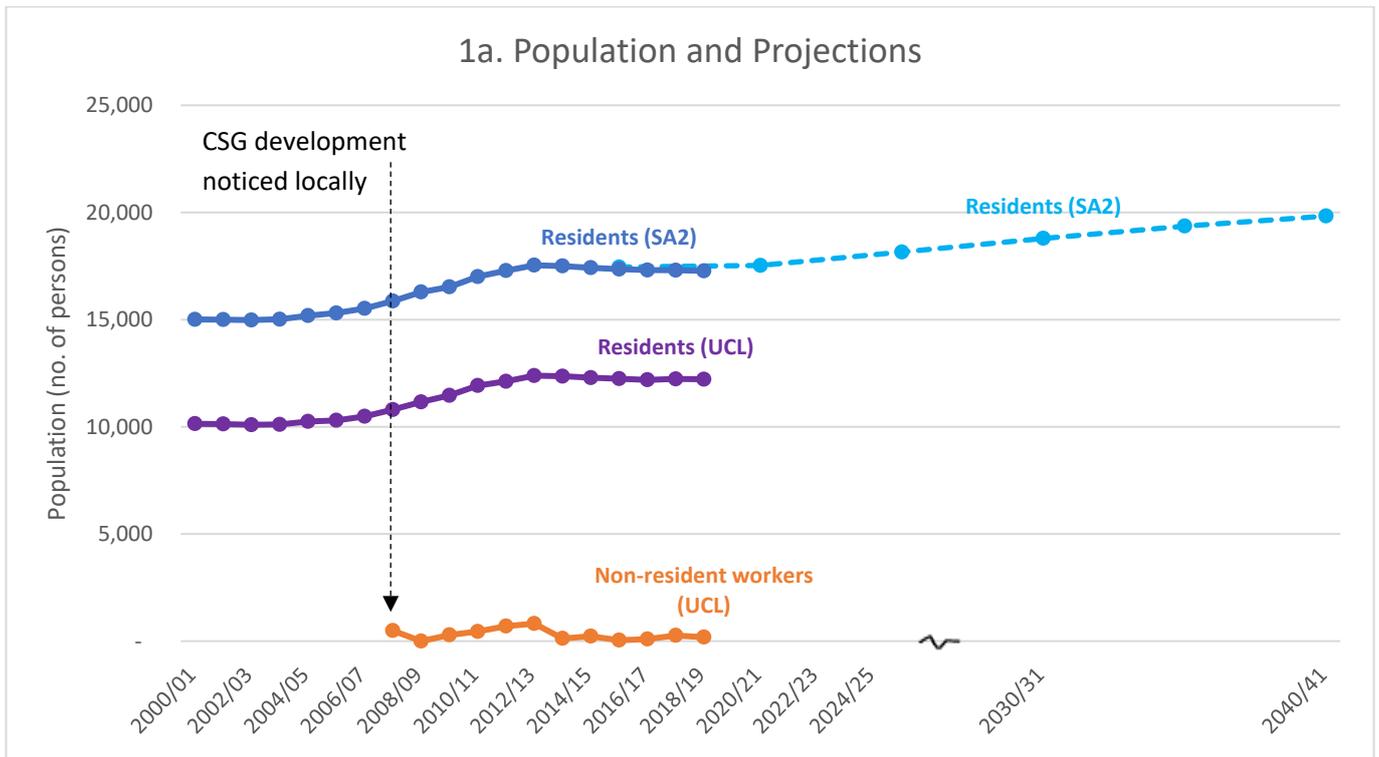
Community insights and perceptions

During CSG construction period (2011 – 2014): Despite expectations that the population of Dalby would double in seven years, Dalby is perceived not to have experienced the rapid population increases of "resource towns". Interviewees enjoyed seeing the CBD "busy and vibrant". Population growth was generally welcomed as a positive change. Experiences of lost social identity or connection were not widely reported.

Since CSG construction period (2015 – now): Community can see the population leveling out, with some new people and high levels of school enrolment. Increasing cultural diversity with people of a non-English speaking background becoming residents and 457 visa holders bringing their families to town. NRWs working on solar and wind projects, as well as power station.

Future expectations: Residents think population and NRW ratios will fluctuate in response to industry changes, including CSG and renewable energy projects and external factors, such as crop seasons. Expectation is that population will rise slowly, however the high projected populations were deemed unrealistic unless there is further CSG development.

1. Population

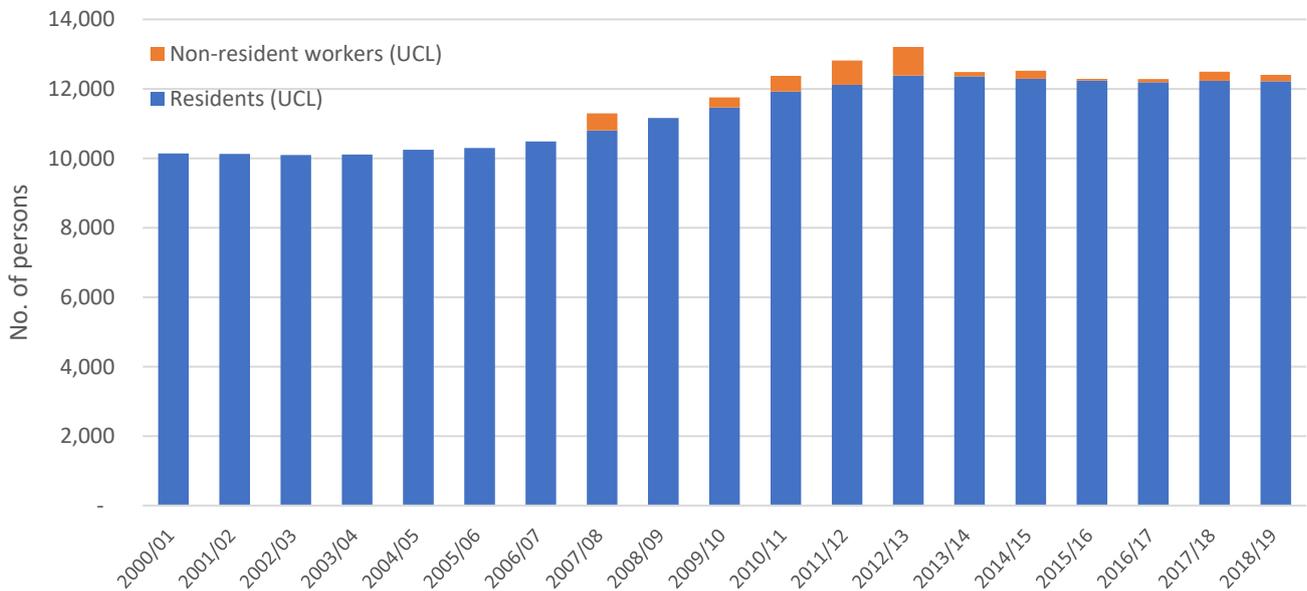


Data notes

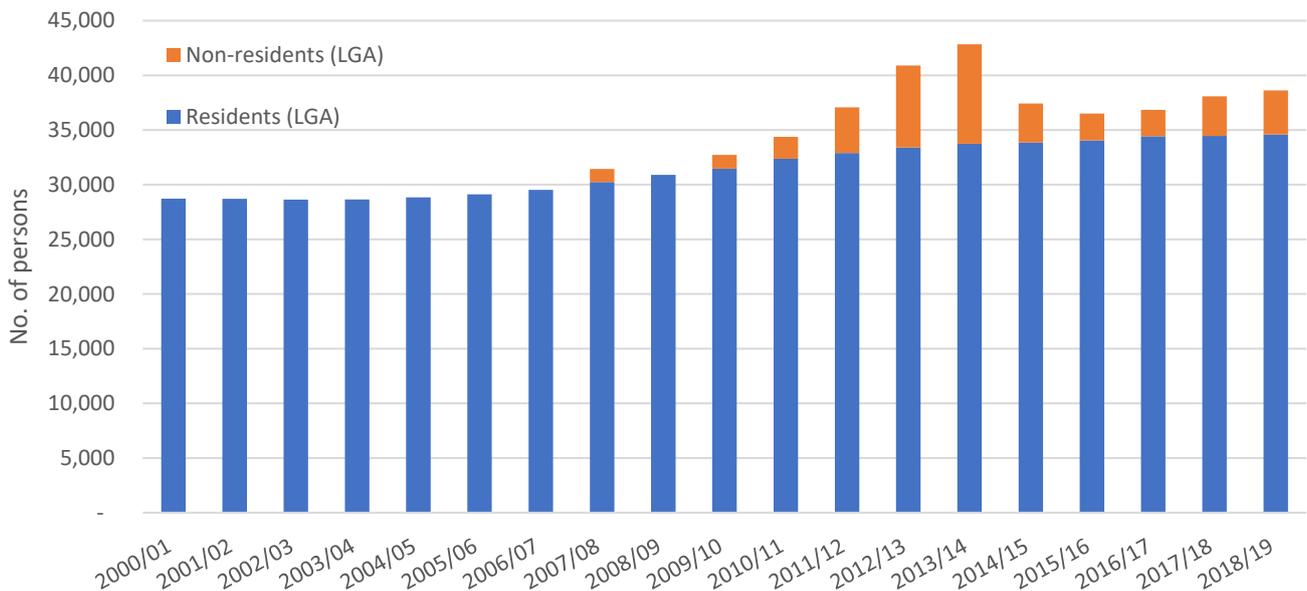
- UCL non-resident workers population estimate from QGSO 'Surat Basin Population Report' (ASGC 2016); 2019 version available here: <https://www.qgso.qld.gov.au/statistics/theme/population/non-resident-population-queensland-resource-regions/surat-basin>
- UCL resident population estimate from the QGSO 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 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 (2018 edition) from QGSO table 'Projected population (medium series), by statistical area level 2 (SA2), SA3 and SA4, Queensland, 2011 to 2041' (ASGC 2001), <http://www.qgso.qld.gov.au/subjects/demography/population-projections/tables/proj-pop-medium-series-sa2-sa3-sa4-qld/index.php>

1. Population

1a. Resident vs. non-resident population - Dalby



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

Unemployment remains high after a low in 2013. People on 457 visas working mainly in manufacturing and feedlots. Times are “tough but not terrible”.

Context

- Employment opportunities are generally good in Dalby as it has a broad range of industries and services, such as agriculture and manufacturing.

Trends reflected in the data

Historical trend: Dalby has a diverse employment base and is the regional training centre. Unemployment rates follow, and remain slightly lower than, historical Queensland trends. Locals are accustomed to periodic and minor fluxes due to external factors, such as drought and crop seasons.

During CSG construction period (2011 – 2014):

Unemployment was very low in 2009 and 2013 but rates were elevated in between. A peak of 4.6% in 2011 may suggest the movement of unemployed people to Dalby as rents rose in towns nearer to CSG activity.

Since CSG construction period (2015 – 2019):

Since the CSG construction period, the unemployment rate had increased steeply to approximately 4.7% in 2017. It has maintained this rate of increase and is now at 5.5%. This is approaching, but is still below, the Queensland rate of 6.1%.

Community insights and perceptions

During CSG construction period (2011 – 2014):

The CSG construction phase created many new jobs directly and many more job opportunities indirectly (e.g. child care workers). Many training opportunities benefitted local youth especially. Employment provided by the CSG industry may have “offset” higher unemployment due to drought. Skill shortages were reported in most sectors (agriculture and manufacturing, in particular), as workers moved to the CSG industry. Shortages outside the CSG sector were filled by newcomers and international workers.

Since CSG construction period (2015 – now):

Drought means the farmers aren’t spending and some are on their 2nd or 3rd year without crops. This generally affects manufacturing first, as they tend to supply to agriculture. Many jobs are currently being advertised; agricultural work tends to be word of mouth. The community feels it is pretty resilient.

Future expectations:

It was reported that most sectors are reducing staffing in response to a slowing economy. Interviewees hope that upcoming major construction projects (e.g. Second Range Crossing, inland rail) will boost employment.

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

While the number of earners has remained similar to the previous year, the total wage earnings are higher. The average personal income is about the same as 2012/13.

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: Dalby has always had a significant proportion of lower income earners, as well as some very high income earners. Average personal income tracked slightly less than the Qld average. Wages earnings increasing at an expected rate, but increasing at a similar rate. Business incomes and number of businesses increasing steadily before CSG.

During CSG construction period (2011 – 2014): Increased average personal incomes were evident in 2012/13 after a decrease in growth rate in 2011/12, perhaps related to flooding in 2010. Notable increase in total wages and salaries and the number of earners from 2008 peaking in 2012/13. There was an increase in the total number and high turnover NPP businesses during this period.

Since CSG construction period (2015 – 2019): Average taxable income in Dalby continued a steady decline from a 2013/14 high until 2016. This was alleviated in 2016/17 where it sat 7% lower than the QLD average, however where QLD increased Dalby did not, the difference is now 10%. Total individual earnings had a sharper drop over the same period for both earnings and number of earners, but showed recovery between 2016 and 2018. The NPP business counts stayed high until 2016/17 before seeing a drop and recovery in 2017/18 and 2018/19, respectively.

Community insights and perceptions

During CSG construction period (2011 – 2014):

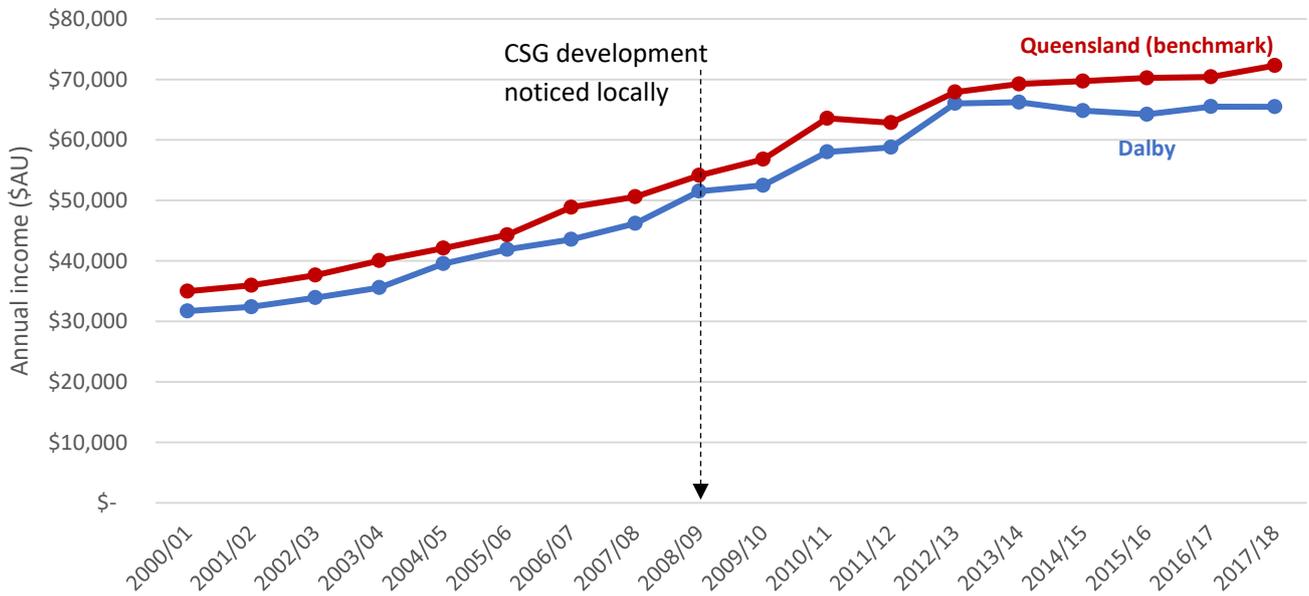
“Town did well.” Employers were forced to pay higher wages to attract and retain staff. Surprise expressed that incomes below Queensland average Salary increases strained sectors not directly benefitting from CSG. Interviewees concerned over apparent inequity in distribution of benefits from CSG development. CSG was perceived as keeping retail going through agricultural fluctuations.

Since CSG construction period (2015 – now): Dalby’s diverse economy buffered the impact of ceasing CSG construction. High wages are seen to create false expectations about value of labour as people returning to non-CSG jobs still expect high wages. Downturn in manufacturing due to drought, however, some businesses have expanded outside of Dalby/SEQ to customers all over Australia.

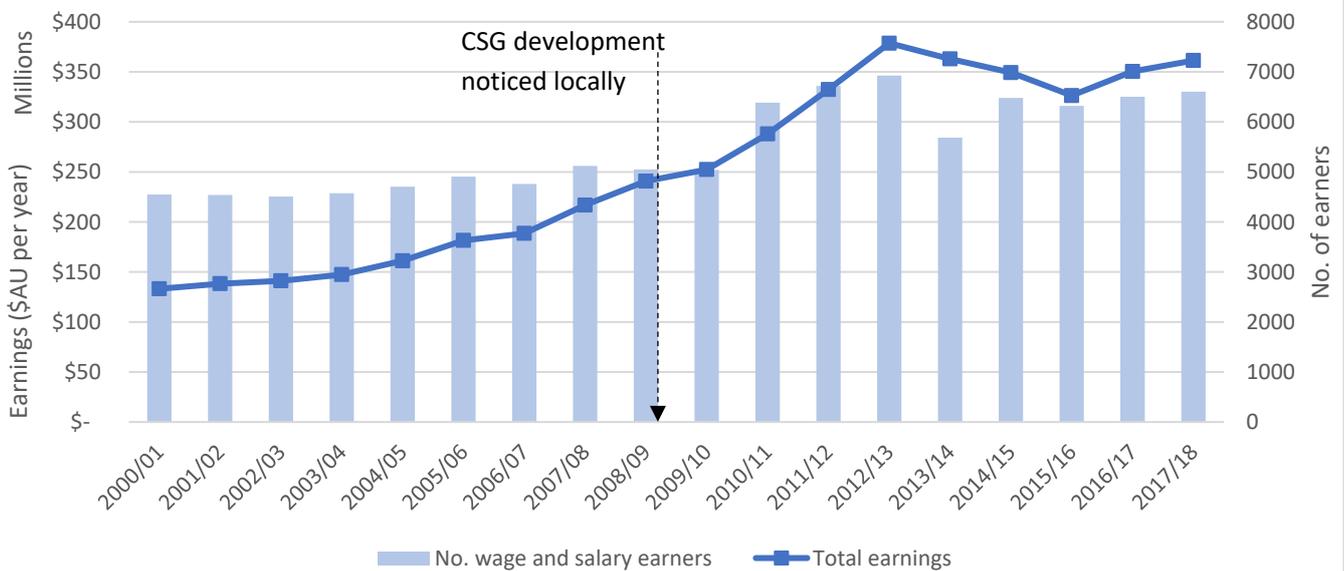
Future expectations: Mixed business confidence is reported. Shops closing in 2017, construction commenced on the Dalby by-pass and “much less traffic” is observed; however major companies including Bunnings and Aldi are investing in the town. Training and CSG experience have increased “readiness for future large projects”.

3. Income & business

3a. Average taxable income (taxable individuals only)



3b. Total individual earnings

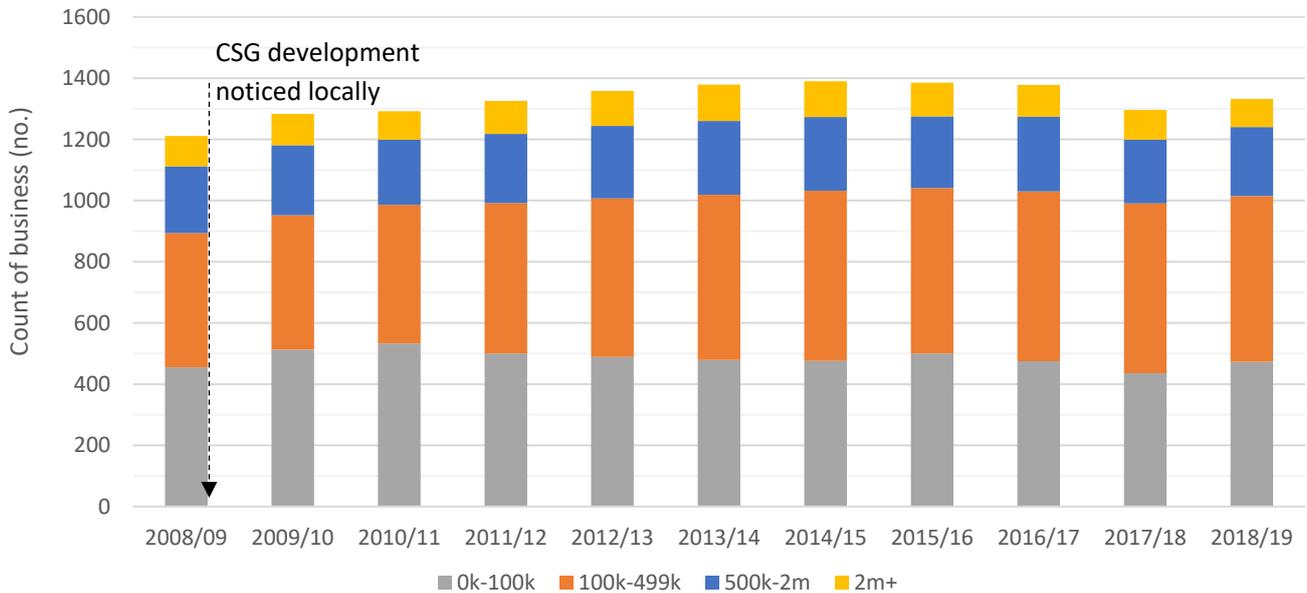


Data notes

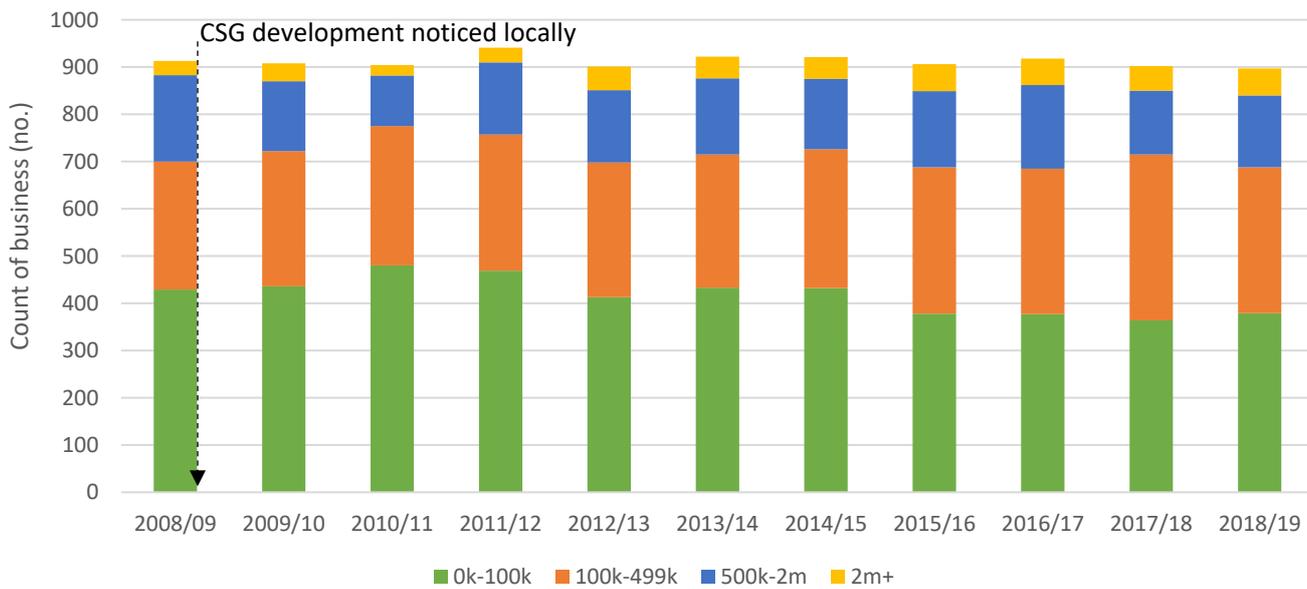
- Source: Australian Taxation Office (ATO), Research and Statistics, <https://www.ato.gov.au/>
- Average taxable incomes reported by ATO until 2009 excluded losses. Averages from 2010 include all taxable incomes including incomes of zero and losses.
- Data relates to Dalby postcode 4405
- Original data – no discounting applied
- Due to ATO data publishing cycles, 2018/19 data will be included in the 2020 Dalby 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 (Wambo) statistical boundary

4. Housing

2019 summary

In 2018, house sales have plateaued from a low in 2015. Prices continue to drop but at a slower rate. Rents have stabilised since a drop in 2014 - 2015 and are now higher than they were prior to CSG. Dalby did not experience the extreme housing affordability issues of other towns.

Trends reflected in the data

Historical trend: Historically, Dalby was a very affordable place to live. As a regional service hub, there has always been steady demand for rental accommodation. House prices increased steadily from 2004 to 2008/9. Rents almost doubled over the same period.

During CSG construction period (2011 – 2014):

Since 2009, concurrent with arrival of CSG industry, house prices have steadied and then decreased with lower numbers of sales. There was a significant spike of more than 200% above past peaks in residential building approvals in 2009/10, likely to capitalise on expected growth from CSG activity. Rents remained relatively stable until 2014.

Since CSG construction period (2015 – 2019):

Rents have declined since 2014 by approximately 25% to “more affordable” levels. A 30% drop in number of house sales was associated with a 14% drop in average house prices. The falling trend in house prices appeared slightly arrested by an increase in the number of sales in 2016/17 and 2018, but 2019 saw the lowest number since 2000. Development approvals for new residences remains low, but had increased slightly in 2018 to 31, returned to 25 in 2019.

Community insights and perceptions

During CSG construction period (2011 – 2014):

From 2004 until 2010, there has been a continual demand for houses. This was well before CSG development was noticed locally and is seen as driven by inter-state investors wishing to capitalise on CSG development. New estates seen as “cheap and rushed” to capture the “boom”. Rents higher, but Dalby did not experience outmigration due to housing unaffordability as other towns in the region. Worker camps have helped take pressure off the town itself, but non-resident workers “don’t spend money in town”.

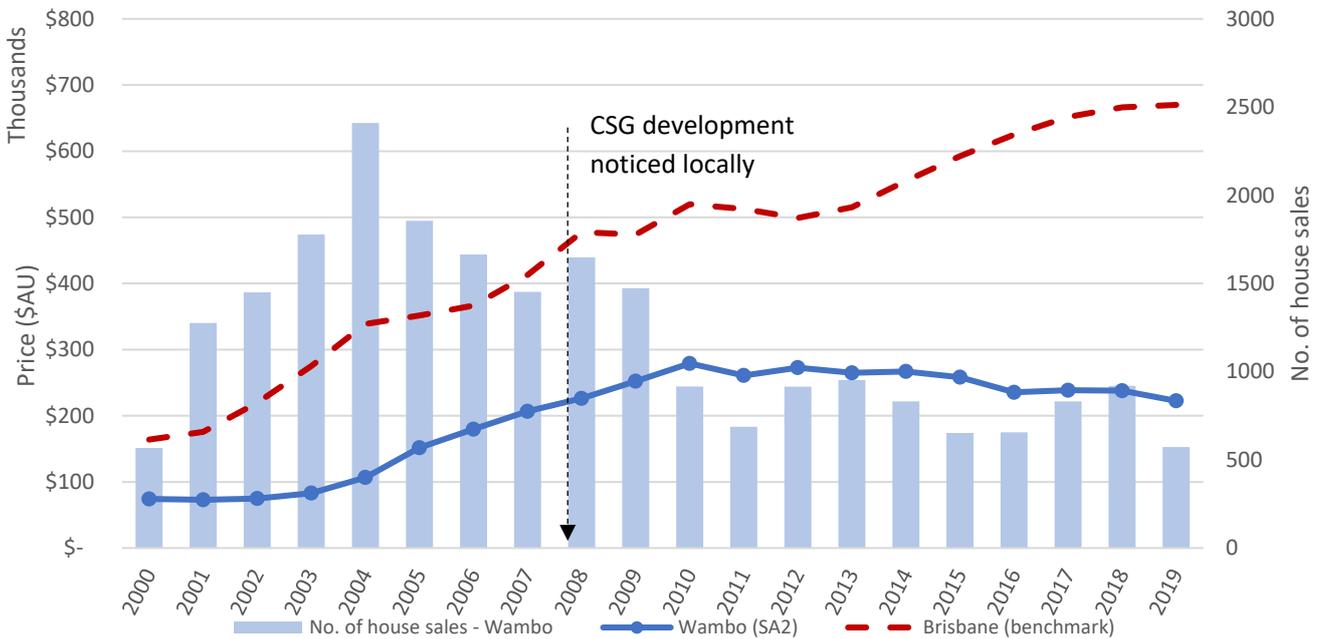
Since CSG construction period (2015 – now):

Many houses now vacant and investors losing money. Foreclosures are up. Rents for houses with 4+ beds remain high as these are prime rentals to accommodate workers. The numbers of owner-occupiers has increased although this is hampered by strict bank lending criteria. Some new houses are being built.

Future expectations: Prices and rents are expected to increase again, as the market recovers from an oversupply of housing. House sales increase between 2016 and 2017 likely due to cheap house values – as rents simultaneously increase, the economic rationale shifts to buying own home.

4. Housing

4a. Median house sale price



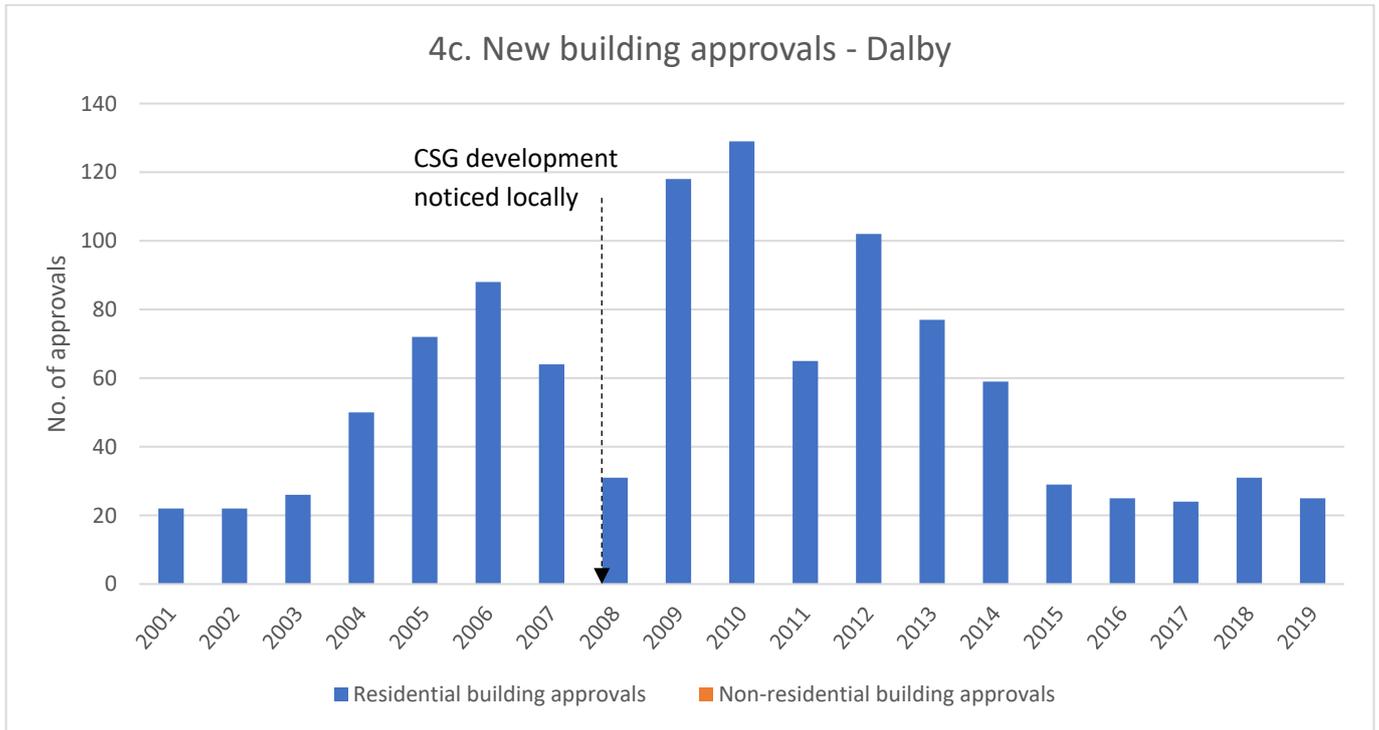
4b. Median weekly rent (3-bedroom house)



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 (Wambo) 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 (Wambo) 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

Total number of offences has increased consistently since 2013 and is now around 70% above the Queensland benchmark. This is driven by rises in drug and traffic offences in from 2016 to 2019, to 250% and 300% above the Queensland benchmark respectively. Known police operations in the region include Quebec Trawler which focuses on drugs.

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.
- There was a high level of police special operations in 2018-2019 targeting drugs in the Darling Downs.

Trends reflected in the data

Historical trend: Dalby was described as a “very safe” and “inclusive” place to live. The overall crime rate was high in 2005 (almost 150% of the QLD rate) but decreased from 2005 to 2011. Theft has historically been the most reported offence in Dalby. Good order offences were slowly increasing.

During CSG construction period (2011 – 2014): Overall crime rate in Dalby matched the QLD benchmark during CSG construction. This was below historical rates. Drugs offences increased in 2010 but then dropped and remained low. Good Order offences continued a slow increase except for a dip in 2010. Traffic offences varied but were slightly above QLD benchmark.

Since CSG construction period (2015 – 2019): Total crime increased markedly in 2015, with total crime figures 64% higher than the QLD benchmark in 2015. While traffic offences had decreased slightly in 2018 they reached a new peak in 2019. Drug offences have increased significantly in 2019 compared to 2014.

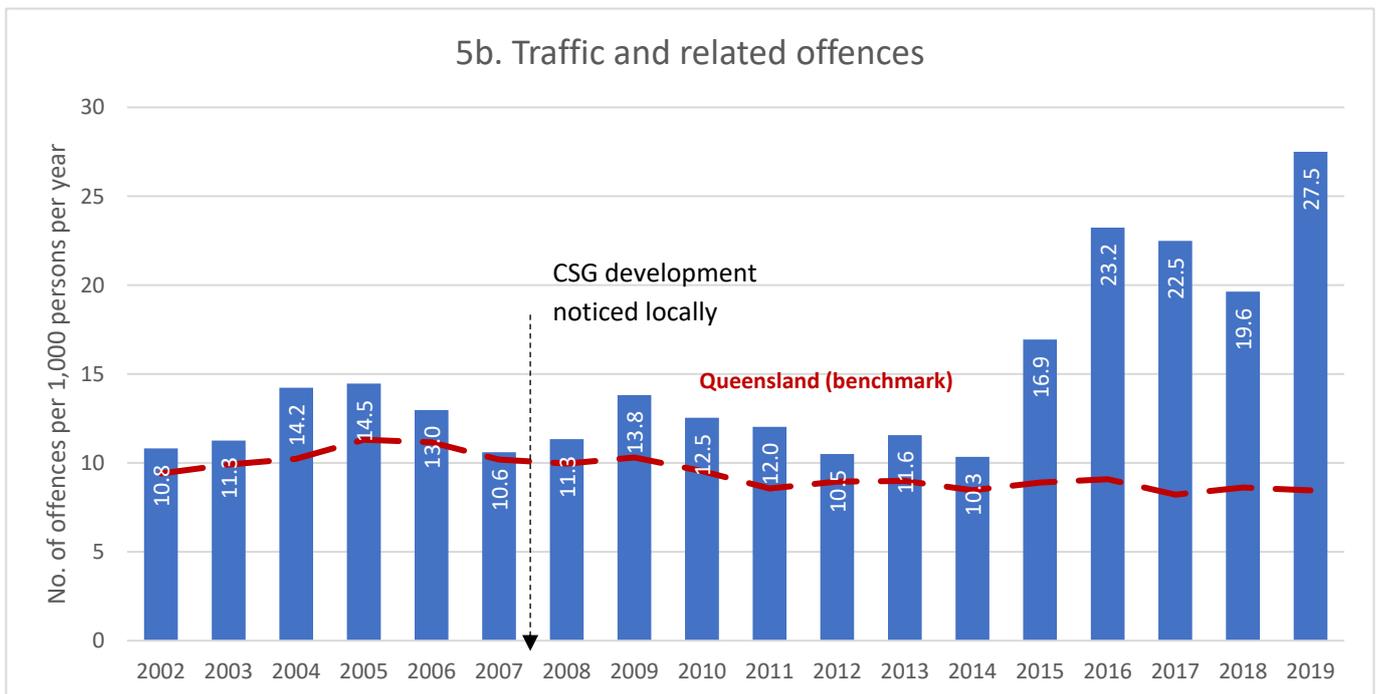
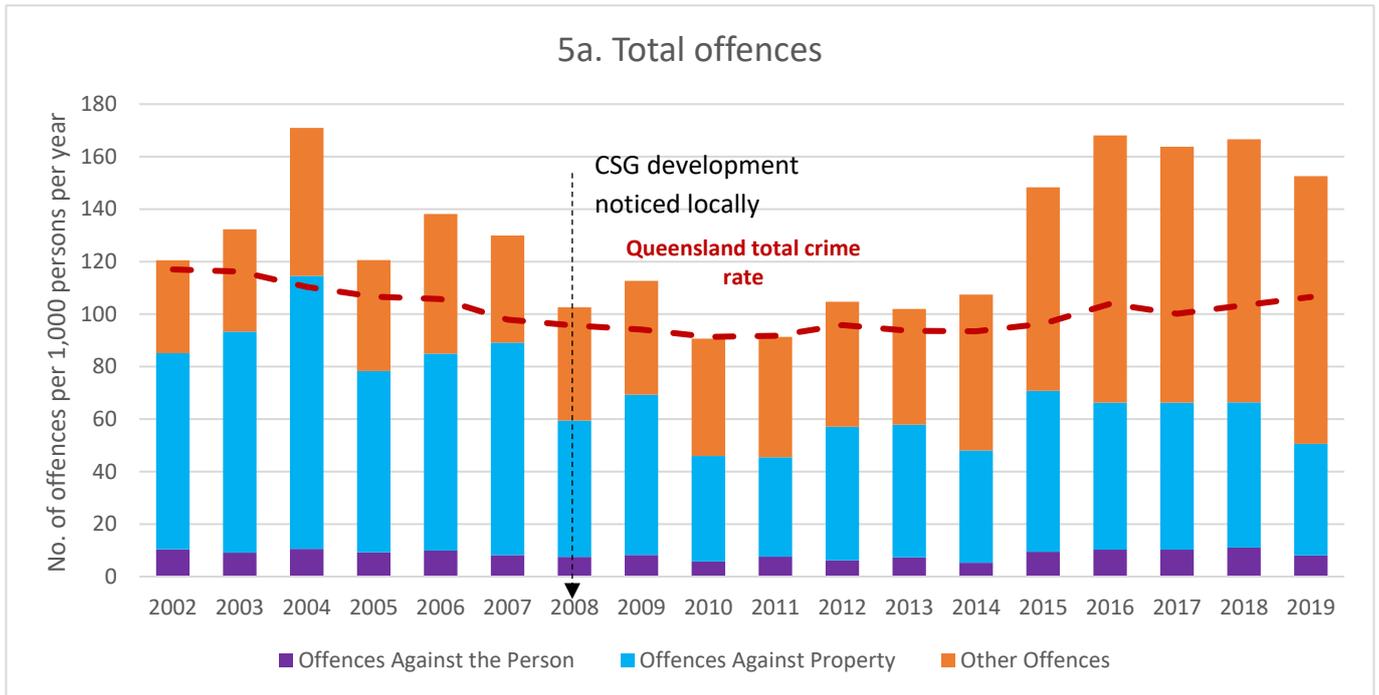
Community insights and perceptions

During CSG construction period (2011 – 2014): Good relations between local police and CSG was seen as important for maintaining law and order. Police and industry responses to traffic and safety issues were regarded as effective and total offences decreased during the CSG construction period. Interviewees perceived drug offences as state-wide or national issue. The Liquor Accord was said to be an effective method of decreasing Good Order offences as offenses dropped in 2010. Unfortunately, Good Order offences have risen consistently since.

Since CSG construction period (2015 – now): Interviewees outside QPS and community programs feel that Dalby remains a safe community. Theft continues to be seen as the main issue in town. Drugs are perceived be easily accessible and are evident in increased counselling resources and occasionally people appear under the influence of drugs. Interviewees surmise the recent increase in traffic offences reflects increased police presence and driver frustration with roadworks.

Future expectations: Offences may rise with increasing unemployment and financial. Domestic violence was said to be increasing. Unemployment has numerous ‘flow-on’ effects for community wellbeing. Property and other crimes are expected to be trending down in 2018.

5. Safety & Wellbeing

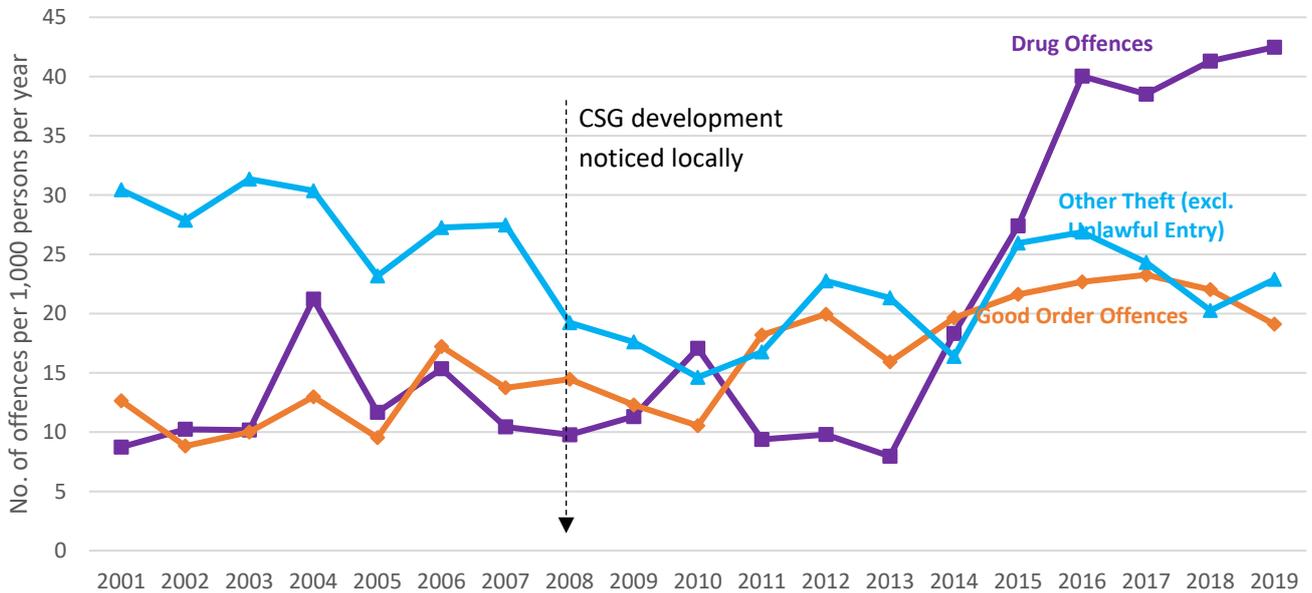


Data notes

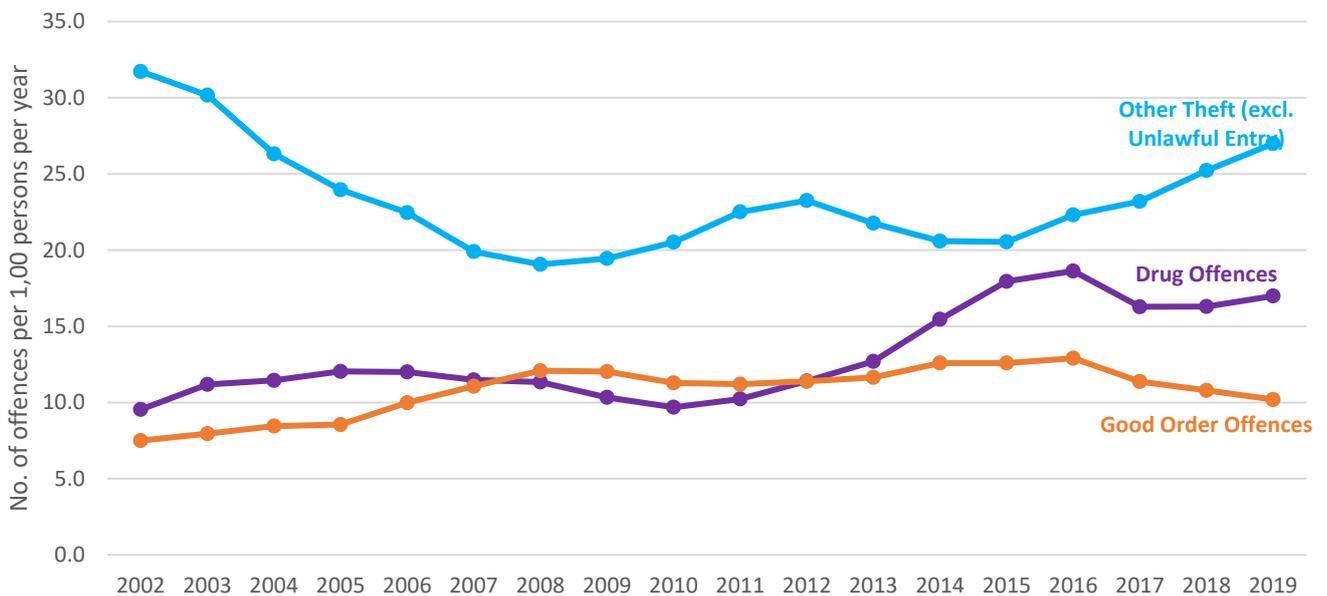
- Source: Queensland Police Service (QPS), <https://www.police.qld.gov.au/maps-and-statistics>
- Crime rate data (per 100,000 people) obtained by QPS Division (Dalby) and Queensland State; data was adjusted to be presented as number of offences per 1,000 people per year

5. Safety & Wellbeing

5c. Other relevant offences - Dalby



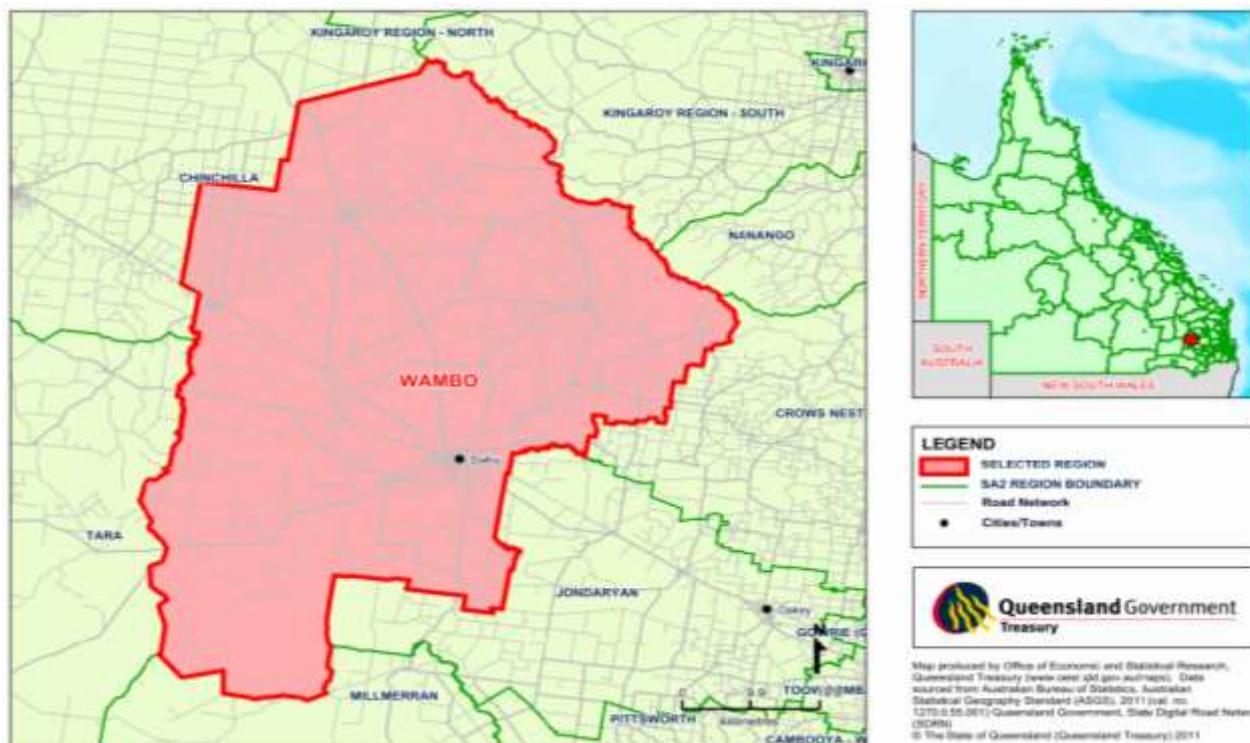
5d. Other relevant offences - Queensland



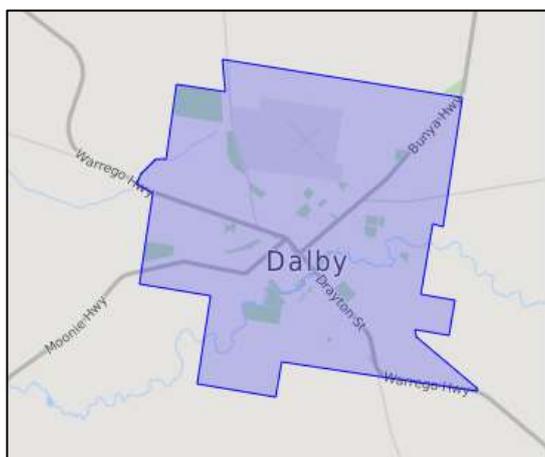
Data notes

- 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 (Dalby) 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)



Wambo statistical area 2 (SA2) boundary (2011, ASGS Code 307021183)

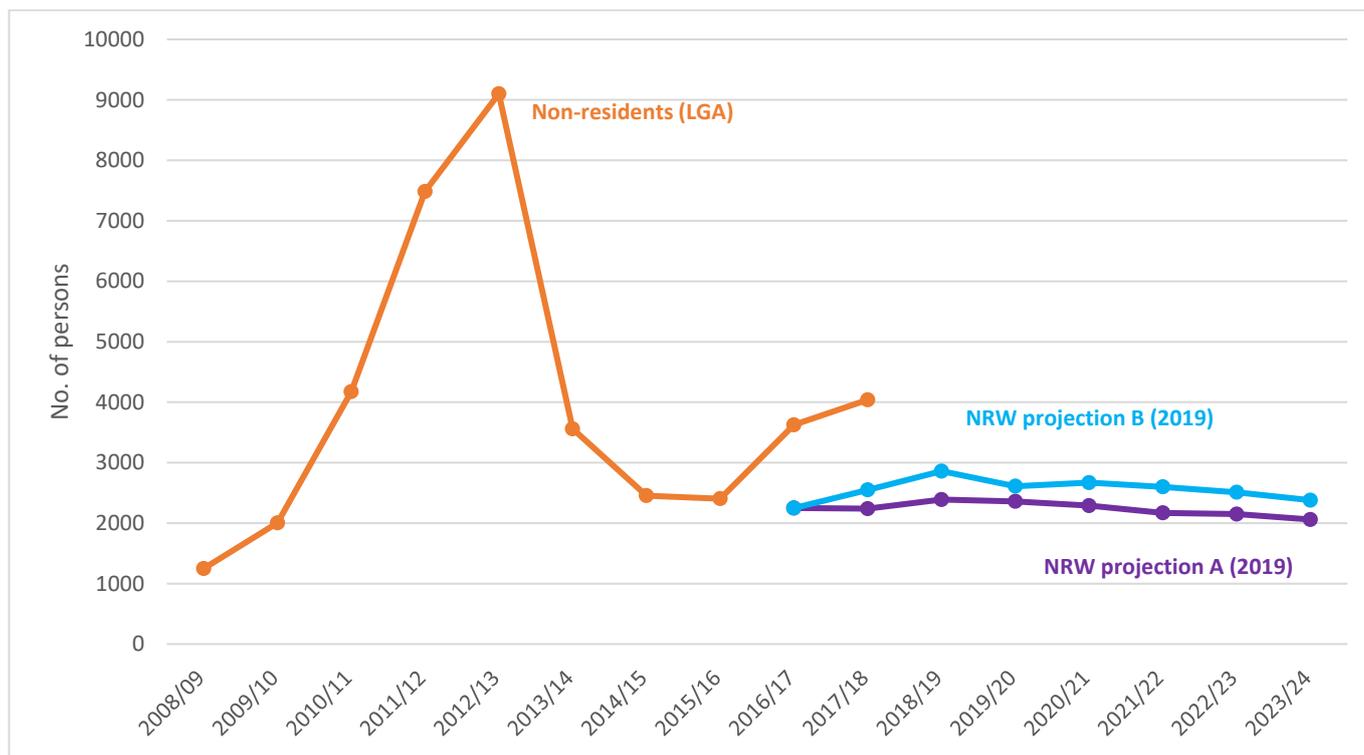


Dalby urban centre and locality (UCL) boundary



Dalby postcode boundary 4405

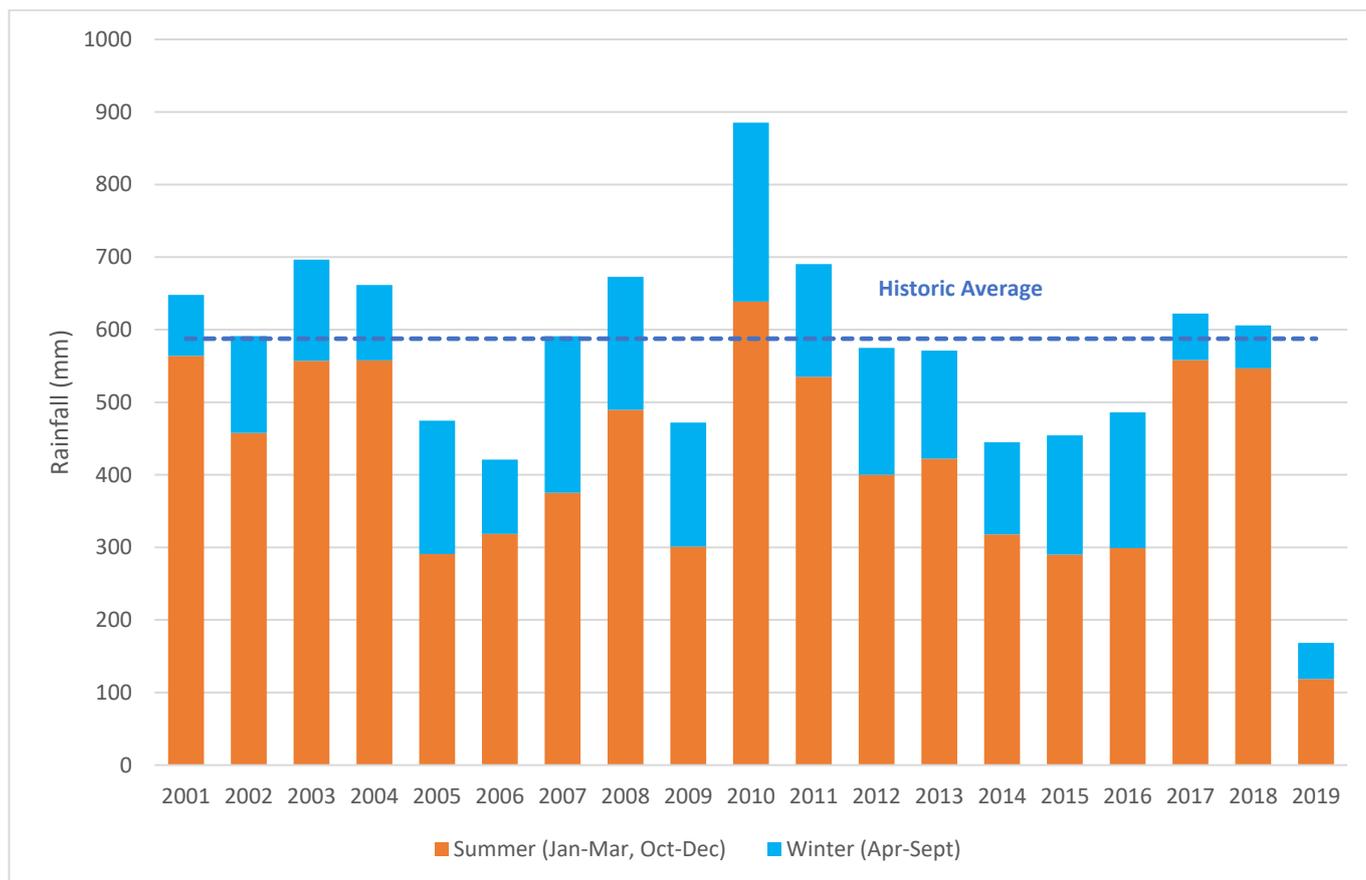
Appendix B: Non-resident population projections - Western Downs



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: Dalby rainfall (2001 – 2019)



Data notes

- Source: Bureau of Meteorology Climate Data online, <http://www.bom.gov.au/climate/data/>
- Rainfall observations reported for Dalby Airport 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
Centre for Natural Gas, Faculty of Engineering, Information Technology and Architecture,
The University of Queensland, Brisbane, QLD, 4072
M: 0418 619 341 | E: k.witt@uq.edu.au | W: www.natural-gas.centre.uq.edu.au

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.