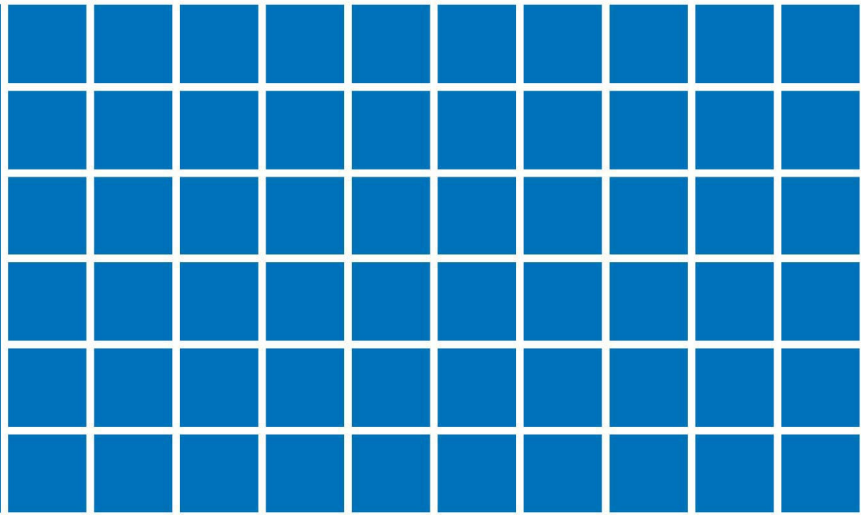


**Office of Economic and  
Statistical Research**

**Queensland Treasury**

This document was prepared by the Demography and Planning facet. As part of Queensland Treasury's Office of Economic and Statistical Research, this facet analyses and forecasts demographic and planning data.



# **Surat Basin Population Report, 2010**

Estimates and projections of the non-resident and resident populations of local government areas in the Surat Basin, June 2010





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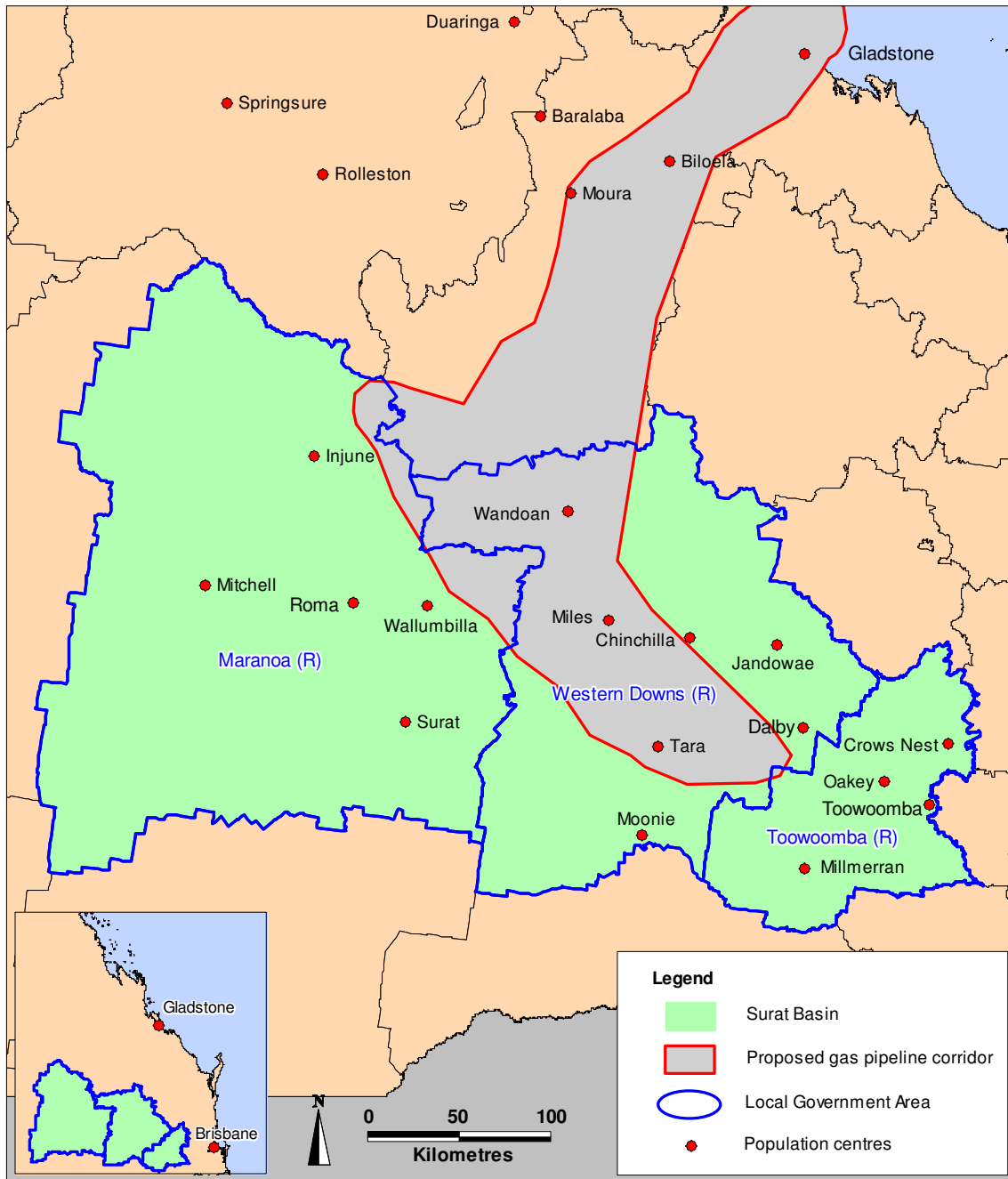
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## Map of study area

### Local government areas and selected urban centres and localities in the Surat Basin



(R) – Regional Council

Source: OESR, 2011



## Executive summary

The *Surat Basin Population Report, 2010* brings together resident and non-resident (fly-in/fly-out or drive-in/drive-out (FIFO/DIDO)) population data for the local government areas (LGAs) of Toowoomba (R), Western Downs (R) and Maranoa (R).

The non-resident worker data presented in this report are sourced from three surveys conducted by the Office of Economic and Statistical Research (OESR) in 2010. The *Survey of Accommodation Providers* and the *Resource Operations Employment Survey* counted the current number of non-resident production, construction and maintenance workers directly employed by the resource industry, as well as the non-resident construction workforces of major infrastructure projects such as power stations. The *Resource Projects Employment Survey* gathered data on likely workforce numbers and anticipated scheduling of resource projects directly from proponents, which informed the development of non-resident workforce projections to 2017.

Estimated resident population (ERP) counts are available from the Australian Bureau of Statistics (ABS) on an annual basis. Resident population projections to 2031 included in this report are sourced from *Queensland Government Population Projections 2011 Edition*. The ERP, added to the number of non-resident workers on-shift, gives a full-time equivalent (FTE) population estimate. This provides a more complete picture of the region's service population and a better measure of total demand for goods, services and infrastructure.

Summary findings of this report are:

### **The Surat Basin's FTE population reached 210,040 people by June 2010**

The FTE population of the Surat Basin was estimated at 210,040 at the end of June 2010, comprising 207,500 residents and 2,540 non-resident workers (Table 1). This was an increase of 8,380 people or 4 per cent since June 2008 when the FTE population was 201,660.

### **Almost half of the Surat Basin's non-resident workers stay in Western Downs (R)**

Some 1,250 of the 2,540 non-resident workers (or 49 per cent of the Surat Basin total) were counted in the LGA of Western Downs (R) in June 2010. Together, the urban centres of Chinchilla (360 workers) and Dalby (290 workers) accounted for just over half (51 per cent) of the non-resident worker population in Western Downs (R). The remaining non-resident workers in the Surat Basin were located in the LGAs of Maranoa (R) (930 workers or 37 per cent) and Toowoomba (R) (360 workers or 14 per cent).

### **Worker accommodation villages (WAVs) provide half of the non-resident worker accommodation**

WAVs housed 1,260 people or 50 per cent of all non-resident workers in the Surat Basin in June 2010. Of these non-resident workers in WAVs, 61 per cent or 770 were located in Western Downs (R), with the remainder in Maranoa (R) (490 workers or 39 per cent).



### **The majority of non-resident worker accommodation is located within urban centres and localities (UC/Ls) in WAVs or commercial accommodation**

Some 1,630 workers or 64 per cent of the 2,540 non-resident workers in the Surat Basin in June 2010 were accommodated within UC/Ls in WAVs or commercial accommodation. The remaining 910 workers (36 per cent) were located out of town in WAVs on mining and gas fields.

### **Many non-resident workers in the Surat Basin live in South East Queensland (SEQ) and some live interstate and overseas**

In 2010, 66 per cent of non-resident workers in Western Downs (R) lived in SEQ, much higher than the corresponding proportion for Maranoa (R) (48 per cent). In contrast, 14 per cent of non-resident workers who were employed in Maranoa (R) usually lived overseas or interstate, compared with only 1 per cent in Western Downs (R).

### **Non-resident worker numbers are predicted to grow sharply in 2012**

The projected number of non-resident workers on-shift is expected to increase sharply in 2012 as large-scale construction activity begins on coal seam gas projects in the region. The largest increases in non-resident worker numbers will occur in Western Downs (R), followed by Maranoa (R) and Toowoomba (R). Numbers of non-resident workers are expected to peak at 4,930 in 2013 and then decline steadily to 2017 as large construction workforces are replaced with smaller operational workforces.

### **Resident population numbers in the Surat Basin are expected to grow by 44 per cent over the next 20 years**

According to the medium series projections, the resident population of the Surat Basin is expected to grow by 44 per cent between 2011 and 2031, from 209,960 to 301,910 people. Average annual growth is projected to be 1.8 per cent (or 4,600 people per year), equal to the state average.

### **Toowoomba (R) will continue to drive resident population growth in the Surat Basin**

Toowoomba (R) will have the largest and fastest resident population growth in the Surat Basin between 2011 and 2031. According to the medium series projections, Toowoomba (R) is expected to add 3,990 usual residents per year (or an average annual growth rate of 2.0 per cent) to the Surat Basin total population, followed by Western Downs (R) (410 people or 1.1 per cent annually) and Maranoa (R) (190 people or 1.3 per cent annually).

**Table 1: FTE population for Surat Basin LGAs and selected UC/Ls, June 2010**

LGA	UC/L	2010p ERP	Total non-resident workers	FTE population estimate	Non-resident workers as a per cent of FTE
			— number —		%
Maranoa (R)	Injune (L)	370	40	420	10
	Mitchell (L)	1,030	50	1,080	5
	Roma	6,520	300	6,820	4
	Wallumbilla (L)	300	30	330	8
	<i>LGA remainder</i>	<i>5,150</i>	<i>510</i>	<i>5,660</i>	<i>9</i>
<b>Total</b>		<b>13,370</b>	<b>930</b>	<b>14,300</b>	<b>6</b>
Western Downs (R)	Chinchilla	4,450	360	4,800	7
	Dalby	11,100	290	11,380	3
	Miles	1,260	80	1,330	6
	Tara (L)	810	20	830	2
	Wandoan (L)	420	40	460	9
	<i>LGA remainder</i>	<i>14,040</i>	<i>470</i>	<i>14,510</i>	<i>3</i>
<b>Total</b>		<b>32,070</b>	<b>1,250</b>	<b>33,320</b>	<b>4</b>
Toowoomba (R)	Oakey	3,960	60	4,020	1
	Pittsworth	2,840	30	2,870	1
	Toowoomba	106,740	230	106,970	0
	<i>LGA remainder</i>	<i>48,510</i>	<i>40</i>	<i>48,550</i>	<i>0</i>
<b>Total</b>		<b>162,060</b>	<b>360</b>	<b>162,420</b>	<b>0</b>
<b>SURAT BASIN TOTAL*</b>		<b>207,500</b>	<b>2,540</b>	<b>210,040</b>	<b>1</b>

(R) – Regional Council (L) – Locality

p = preliminary

Figures in table have been rounded to the nearest 10; internal discrepancies are due to rounding.

\* The total FTE population shown for the Surat Basin represents the aggregate FTE populations of all LGAs in the region. This total may include a small number of non-resident workers in each LGA who live elsewhere within the Surat Basin.

Note: Non-resident worker populations shown for UC/Ls represent all non-resident workers living within these centres. UC/Ls with fewer than 20 non-resident workers are included in the LGA remainder. Non-resident workers shown in LGA remainder are those living in WAV accommodation near mines or gas fields, or in commercial accommodation in smaller centres.

Source: OESR, *Survey of Accommodation Providers*, 2010.



## Technical notes

This report has been prepared by the Office of Economic and Statistical Research (OESR), Queensland Treasury. The primary source of data for this report is the *Survey of Accommodation Providers* for the Surat Basin, which was conducted by OESR in June–July 2010. This survey collected details of accommodation provided for non-resident workers staying in WAVs, hotels, motels and caravan parks. Other data sources were the *Resource Operations Employment Survey* and *Resource Projects Employment Survey* conducted by OESR in August 2010. These surveys collected data from resource companies on employment and worker accommodation in significant coal, gas and infrastructure projects and operations in the Surat Basin.

WAV respondents were asked to report the number of people who stayed in their accommodation on an average night during the week of 28 June to 2 July 2010. Live-in employees of WAVs were included in the count of non-resident workers because few live locally. Caravan park and motel operators were asked to include guests who were medium to long-term occupants of their establishments during the specified week. Short-term and overnight guests were excluded from the count of non-resident workers.

ERP figures were sourced from *Regional Population Growth, Australia, 2009–10* (ABS, 2010). The 2011 edition *Queensland Government population projections* provide low, medium and high series projections for the resident population to 2031 (OESR, 2011).

The FTE population data in this report supersede those given in the 2008 edition of the *Surat Basin Population Report*. While the non-resident worker component of previously published FTE populations remains unchanged, the resident population components are updated to account for revised ERP data released by the ABS since initial publication.

The statistical geography current at the time of the Census in August 2006 was the Australian Standard Geographical Classification, 2006 (ASGC 2006). In March 2008, a major reform of LGA boundaries occurred, and the reformed LGA boundaries have been included in the Australian Standard Geographical Classification, 2008 (ASGC 2008). In this publication all FTE estimates and accommodation statistics for LGAs are reported on ASGC 2008 boundaries. ASGC 2006 boundaries and projections data are provided as Appendices D–G. Note that in July 2010, the names of Dalby (R) and Roma (R) LGAs were changed to Western Downs (R) and Maranoa (R) respectively.



## 1 Introduction

### 1.1 About this report

Reliable estimates of the current population and projections of the future population of the Surat Basin are needed to plan for the infrastructure and service requirements of this rapidly developing area.

The *Surat Basin Population Report, 2010* has been prepared by the Office of Economic and Statistical Research (OESR) to bring together non-resident worker and resident population data for the region. Each are presented separately and then combined to provide estimates of full-time equivalent (FTE) populations for the Surat Basin in 2010. It is intended that this report will be updated annually.

Projections of the non-resident workforce are provided to 2017 and resident population estimates are provided to 2031.

### 1.2 Background

Rapid expansion of resource industries including coal seam gas (CSG) and coal mining is occurring across the Surat Basin. Located to the west of South East Queensland (SEQ), the region comprises the local government areas (LGAs) of Toowoomba (R)<sup>1</sup>, Western Downs (R) and Maranoa (R), containing the main urban centres of Toowoomba, Dalby, Chinchilla and Roma.

The Surat Basin contains large resources of thermal coal readily accessible by open cut mining, making it attractive to develop for domestic and overseas markets. Proposed gas pipeline projects to Gladstone have increased the viability of the Surat Basin, leading to increased resource sector development since the previous edition of the Surat Basin Population Report produced by OESR in 2008<sup>2</sup>. The next three years will see major advances in the development of the liquefied natural gas (LNG) industry in Queensland with the first exports of LNG expected to leave Gladstone in 2014–15.

Three major proposed gas pipeline projects connecting the Surat Basin to Gladstone have already received approval from the Coordinator-General. Together with the proposed Wandoan coal mine and the Surat Basin railway, these projects are anticipated to generate significant numbers of construction jobs as well as ongoing operational jobs.

Many of these jobs will be filled by non-resident workers not included in official estimated resident population counts. Information relating to the location and types of accommodation used by these non-resident workers is required to inform infrastructure and service delivery planning.

### 1.3 Methodology and data sources

The non-resident worker data presented in this report are sourced from three surveys conducted by the Office of Economic and Statistical Research (OESR) in 2010. The *Survey of Accommodation Providers* and the *Resource Operations Employment Survey* counted the current number of non-resident production, construction and maintenance workers directly employed by the resource industry, as well as the non-resident construction workforces of major infrastructure projects such as power stations. The *Resource Projects Employment Survey* gathered data on likely workforce

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<sup>1</sup> (R) – Regional Council

<sup>2</sup> OESR, *Surat Basin Population Report, 2008*



numbers and anticipated scheduling of resource projects directly from proponents, which informed the development of non-resident workforce projections to 2017.

The *Survey of Accommodation Providers* is a census of accommodation providers in the Surat Basin, which collected information about non-resident workers staying in worker accommodation villages (WAVs)<sup>3</sup>, hotel, motels and caravan parks. The *Resource Operations Employment Survey* collected data from resource companies on non-resident workers employed in existing mining and gas operations. Finally, the *Resource Projects Employment Survey* collected data on expected construction and operation workforces, providing an estimate of workforce numbers in future projects. Further details regarding the scope, definitions and methodology of these surveys are provided in Appendix I and the Glossary.

Estimated resident population figures were sourced from *Regional Population Growth, Australia, 2009–10* (ABS, 2010). The 2011 edition *Queensland Government population projections* provide low, medium and high series projections for the resident population to 2031 (OESR, 2011).

The methodology adopted for this study follows that used previously for estimating the FTE population of the Surat Basin (OESR, 2008) and similar studies for the Bowen Basin.<sup>4</sup> More information on the survey methodologies and FTE population methodology is available in Appendix J.

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<sup>3</sup> WAV accommodation is typically a form of hostel that usually consists of demountable dwellings arranged in a large camp, although some establishments also contain permanent and semi-permanent dwellings. Refer to Glossary.

<sup>4</sup> OESR, *Bowen Basin Population Report, 2010*



## 2 Non-resident worker population

### 2.1 Introduction

The term 'non-resident worker' is used in this report to distinguish workers and contractors associated with mining, gas production, or the construction of associated infrastructure, who fly-in/fly-out or drive-in/drive-out (FIFO/DIDO) from where they usually live, staying in the local area for the duration of their roster. A non-resident worker differs from other short-term or casual visitors to the area in that:

- The duration of their stay in the area is extended and regular. This usually takes the form of a period of work followed by a rest interval at their place of usual residence.
- While living in the area, the worker stays in commercial accommodation (hotels, motels or caravan parks) or in worker accommodation. WAVs are a commonly used accommodation solution, and may be located in town centres or on a mining or resource lease.
- Non-resident workers are often categorised according to their means of travel between home and place of work, either as FIFO or DIDO.

Non-resident workers do not meet the ABS criteria for a 'usual resident' of the area where they work, and so are not included in the area's estimated resident population (ERP). Nevertheless, the non-resident worker population creates additional demand for goods, services and infrastructure while living in the area, which must be planned for and provided by both government and the private sector (Cook, 1996).

Additional information on non-resident worker characteristics is provided in Appendix H.

### 2.2 Non-resident workers on-shift, 2010

Summary results of the 2010 *Survey of Accommodation Providers* reveal that a total of 2,540 non-resident workers stayed in commercial accommodation (hotels, motels or caravan parks) or in WAVs in the Surat Basin in June 2010 (Table 2). These figures represent the number of non-resident workers living in the area at a given point in time (on-shift). Note that this number differs from the total non-resident workforce in that a proportion of the non-resident workforce will always be absent from the area when off-shift.

**Table 2: Non-resident workers by accommodation type, Surat Basin LGAs, June 2010**

LGA	Number of non-resident workers			Total
	WAVs	Hotel/motels	Caravan parks	
	— number —			
Maranoa (R)	490	370	70	930
Western Downs (R)	770	370	120	1,250
Toowoomba (R)	0	340	20	360
<b>SURAT BASIN TOTAL</b>	<b>1,260</b>	<b>1,070</b>	<b>210</b>	<b>2,540</b>

(R) – Regional Council

Figures in table have been rounded to the nearest 10; internal discrepancies are due to rounding.

Source: OESR, *Survey of Accommodation Providers*, 2010



The LGA of Western Downs (R) had the largest number (1,250) of non-resident workers in 2010, representing almost half of the Surat Basin total. Maranoa (R) accounted for a further 930 non-resident workers (37 per cent), while Toowoomba (R) housed the remaining 360 (14 per cent) non-resident workers in the Surat Basin.

As Table 2 shows, the mix of accommodation types catering for non-resident workers varies across the Surat Basin. WAV accommodation housed most workers in Western Downs (R) and Maranoa (R), where significant gas field development is now occurring. In contrast, hotels and motels were used by most non-resident workers who stayed in Toowoomba (R).

In Maranoa (R) and Western Downs (R), WAVs housed 1,260 non-resident workers or approximately half of the total number in the Surat Basin. Hotels and motels accounted for 1,070 occupants (42 per cent) while caravan parks accounted for 210 non-resident workers or 8 per cent of the total.

Non-resident workers reported in the 2010 *Survey of Accommodation Providers* were located either 'in town' – living in accommodation located within urban centres and localities; or 'not in town' – living in WAVs or temporary camps located on mine sites and gas fields some distance from population centres. (See Appendix A for the distribution of CSG and mining activity in the region.) The majority of non-resident worker accommodation within towns was provided by hotels, motels and caravan parks (Table 3). These accounted for more than three-quarters (79 per cent) of all non-resident workers staying within towns in the Surat Basin.

**Table 3: Number of non-resident workers by location and accommodation type, June 2010**

LGA	Non-resident workers				Total non-resident workers
	WAVs in town	Hotels/motels and caravan parks in town	Total in town — number —	WAVs outside town	
Maranoa (R)	0	440	<b>440</b>	490	<b>930</b>
Western Downs (R)	350	490	<b>840</b>	420	<b>1,250</b>
Toowoomba (R)	0	360	<b>360</b>	0	<b>360</b>
<b>SURAT BASIN TOTAL</b>	<b>350</b>	<b>1,280</b>	<b>1,630</b>	<b>910</b>	<b>2,540</b>

(R) – Regional Council

Figures in table have been rounded to the nearest 10; internal discrepancies are due to rounding.

Source: OESR, *Survey of Accommodation Providers*, 2010

In contrast, most of the occupied WAV accommodation was situated in out-of-town locations, with 72 per cent of WAV occupants (or 910 workers) staying in worker camps outside towns compared with only 350 WAV occupants living in towns. Western Downs (R) contained the only WAVs in the Surat Basin that were located within town boundaries.

Table 4 provides a summary of the number of non-resident workers reported in all three LGAs in the Surat Basin, including numbers for selected urban centres and localities (UC/Ls). More than half (490 workers or 53 per cent) of all non-resident workers staying in Maranoa (R) were located out of town. Around one-third (300 workers or 32 per cent) were located in the urban centre of Roma, while the remainder stayed in smaller localities such as Mitchell (50 workers) and Injune (40 workers).

**Table 4: Number of non-resident workers by location, Surat Basin LGAs and UC/Ls, June 2010**

LGA	Location	UC/L	Total non-resident workers
			number
Maranoa (R)	In town	Injune (L)	40
		Mitchell (L)	50
		Roma	300
		Wallumbilla (L)	30
		<i>Other towns</i>	20
	Not in town	490	
<b>Total</b>			<b>930</b>
Western Downs (R)	In town	Chinchilla	360
		Dalby	290
		Miles	80
		Tara (L)	20
		Wandoan (L)	40
		<i>Other towns</i>	50
	Not in town	420	
<b>Total</b>			<b>1,250</b>
Toowoomba (R)	In town	Oakey	60
		Pittsworth	30
		Toowoomba	230
		<i>Other towns</i>	40
	Not in town	0	
<b>Total</b>			<b>360</b>
<b>SURAT BASIN TOTAL</b>			<b>2,540</b>

(R) – Regional Council (L) – Locality

Figures in table have been rounded to the nearest 10; internal discrepancies are due to rounding.

Note: Non-resident worker populations shown for UC/Ls are for all non-resident workers living within these centres. Non-resident workers shown 'not in town' are those living in WAV accommodation near mines or gas fields.

Source: OESR, *Survey of Accommodation Providers*, 2010

In Western Downs (R), around half (52 per cent) of all non-resident workers in the LGA stayed in the principal urban centres of Chinchilla and Dalby. A total of 420 non-resident workers (34 per cent) were reported outside defined UC/Ls.

In Toowoomba (R), 230 non-resident workers, or around two-thirds (64 per cent) of the LGA total, stayed in the urban centre of Toowoomba. Oakey accommodated a further 60 workers. Few mining and gas operations are presently operating in Toowoomba (R), and all non-resident workers recorded in the LGA in 2010 were counted in towns.

### 2.3 Growth in non-resident worker numbers, 2008–2010

Comparison of the findings from the *Survey of Accommodation Providers* in 2008 and 2010 provides a measure of the growth in non-resident worker numbers in the Surat Basin over that period. In the two years to 2010, the number of non-resident workers in the Surat Basin increased by 37 per cent from 1,850 to 2,540 (Table 5). Note that numbers for 2008 do not include Toowoomba (R) as data were not collected for this LGA in that survey.



**Table 5: Non-resident workers by location and accommodation type, Maranoa (R) and Western Downs (R), 2008 and 2010**

LGA	Year	Non-resident workers				Total non-resident workers
		WAVs in town	Hotels/motels and caravan parks in town	Total in town	WAVs outside town	
		— number —				
Maranoa (R)	2008	30	160	190	460	650
	2010	0	440	440	490	930
Western Downs (R)	2008	260	480	740	470	1,210
	2010	350	490	840	420	1,250
Toowoomba (R)	2008*	n.a.	n.a.	n.a.	n.a.	n.a.
	2010	0	360	360	0	360
<b>SURAT BASIN TOTAL</b>	2008*	290	640	930	920	1,850
	2010	350	1,280	1,630	910	2,540

(R) – Regional Council

n.a. – not available

Figures in table have been rounded to the nearest 10; internal discrepancies are due to rounding.

\* Data for non-resident workers in Toowoomba (R) were not collected in 2008. Therefore the total number of non-resident workers in the Surat Basin does not include any non-resident workers that may have been in Toowoomba (R) during the survey period.

Source: OESR, *Survey of Accommodation Providers*, 2008, 2010

In Maranoa (R), there was a 41 per cent increase in non-resident worker numbers from 650 to 930 between 2008 and 2010. With the expansion in mining and gas operations between 2008 and 2010, the number of non-resident workers within towns in Maranoa (R) more than doubled from 190 people to 440, while the number of non-resident workers in WAVs located on gas fields increased from 460 people to 490.

The number of non-resident workers in Western Downs (R) increased slightly from 1,210 in 2008 to 1,250 in 2010, an increase of 4 per cent. While numbers of non-resident workers within towns increased, overall growth was offset by a decline in numbers of non-resident workers staying in worker camps out of town on the gas fields. A contributing factor to this decline was the completion of several power station construction projects between 2008 and 2010.

## 2.4 Projections of non-resident worker population

OESR has prepared estimates of the non-resident worker population to 2017 based on the *Resource Project Employment Survey* conducted in mid 2010. Resource companies were asked to report the anticipated size, timing and location of construction and production workforces for future resource industry projects planned for the Surat Basin. When considered along with the baseline non-resident workforce estimates gained from the *Survey of Accommodation Providers* and *Resource Operations Employment Survey*, these data form the basis for projecting the peak number of non-resident workers on-shift in the Surat Basin to 2017. Refer to Appendices I and K for further details.

These projections should be interpreted carefully in view of the following caveats:

- The projections are based on the assumption that all projects considered will proceed within the timeframes reported by the proponent, and that the estimated workforce numbers given are



representative of the actual numbers. In that sense, the projections represent the upper range of cumulative growth, and should be considered as having a high level of uncertainty.

- The timing of individual projects is a major influence on cumulative workforce totals. Changes to the indicative timeframes for larger projects are likely to result in changes to the peak levels of projected workforce numbers as well as the duration of these peaks.
- The information on which these projections are based is the best available to OESR at the time of collection. While efforts have been made by OESR to ensure the most reliable and up to date source material is considered, the volatile nature of the resource sector means that workforce numbers are subject to change and no guarantee can be given that any of these projects will proceed in the timeframe or on the scale reported by the proponent.
- Non-resident worker numbers are projected for the period 2011–2017 only, as it is considered that the reliability of information regarding future projects diminishes considerably beyond that point.
- OESR's population projections account for the cumulative impacts of the project workforces only, and do not factor in the extent of flow-on or indirect employment. In the absence of detailed information regarding supply chains, it is not currently possible to accurately determine the likely extent and location of cumulative flow-on employment. Further research into this issue will be undertaken by OESR.

The projected number of non-resident workers on-shift are likely to increase sharply in 2012 as large-scale construction activity begins on CSG and coal projects (Table 6, Figure 1). Numbers are expected to peak at around 4,930 in 2013 and then decline steadily as large construction workforces are reduced and smaller operational workforces take over completed mining and gas projects. The largest number of non-resident workers will be based in Western Downs (R), which has the most abundant proven coal and gas resources in the region.

**Table 6: Non-resident workers on-shift, 2010, and projected non-resident workers on-shift, Surat Basin LGAs, 2011–2017**

LGA	Non-resident workers on-shift							2017
	2010*	2011	2012	2013	2014	2015	2016	
	— number —							
Maranoa (R)	930	860	1,590	1,370	930	1,020	1,360	1,210
Western Downs (R)	1,250	1,710	2,590	3,120	3,310	3,040	2,590	2,350
Toowoomba (R)	360	360	440	440	440	460	510	520
<b>SURAT BASIN TOTAL</b>	<b>2,540</b>	<b>2,930</b>	<b>4,620</b>	<b>4,930</b>	<b>4,680</b>	<b>4,510</b>	<b>4,460</b>	<b>4,080</b>

(R) – Regional Council

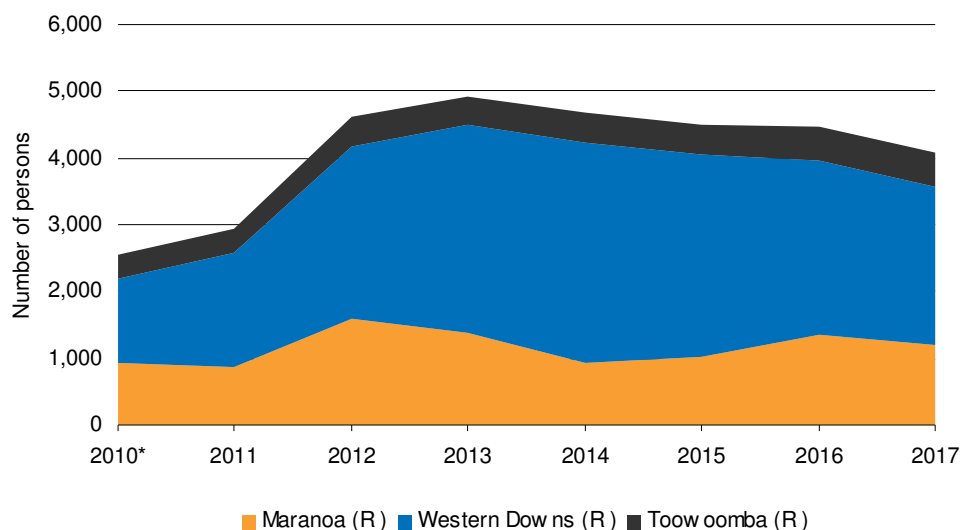
Figures in table have been rounded to the nearest 10; internal discrepancies are due to rounding.

\* 2010 data are sourced from the *Survey of Accommodation Providers*.

Source: OESR, *Survey of Accommodation Providers*, 2010; OESR, *Resource Projects Employment Survey*, 2010



**Figure 1: Non-resident workers on-shift, 2010, and projected non-resident workers on-shift, Surat Basin LGAs, 2011–2017**



\* 2010 data are sourced from the *Survey of Accommodation Providers*.

Source: OESR, *Survey of Accommodation Providers*, 2010; OESR, *Resource Projects Employment Survey*, 2010

Based on reported estimates from project proponents, a large proportion of construction jobs will be filled by non-resident workers who will fly or drive to work from their place of usual residence and reside in WAVs for the duration of their roster or shift. Accordingly, estimates of non-resident workers in Table 6 are the result of adjustments to the sizes of reported project workforces to account for shift arrangements in which only 50–80 per cent of total workforces may be present on-site at any given time.

## 2.5 Characteristics of resource industry workers

The 2010 *Resource Operations Employment Survey* was conducted by OESR to collect employment and worker accommodation data directly from resource companies operating in the Surat Basin in June 2010. The survey collected data on the location and characteristics of project workforces for all resource projects currently operating in the region. These data represent the number of resource company employees and primary contractors directly engaged in production and construction of existing coal and gas operations. They do not include indirect employment associated with these industries, or construction workforces of other infrastructure projects.

Information gathered from the *Resource Operations Employment Survey* categorises the production workforces of resource operations into resident and non-resident components. Survey results do not allow for a similar distinction for construction workforces, although these tend to comprise a higher proportion of non-resident workers than production workforces. This information supplements the results gathered from OESR's *Survey of Accommodation Providers*, which does not gather information on resident workforces or differentiate non-resident workers according to workforce components or industry.



In total, 1,510 production workers were counted in the Surat Basin in 2010, comprising 810 workers resident in the region and a further 710 non-resident workers (Table 7). Western Downs (R) had the largest number of production workers (900 workers), with the majority resident in the LGA (62 per cent). By contrast, resident workers accounted for only a quarter (25 per cent) of production workers in Toowoomba (R) and around half (51 per cent) in Maranoa (R).

There were a further 1,130 construction workers in the Surat Basin, making up 43 per cent of the total resource industry workforce in 2010. Construction workers accounted for a greater proportion in Maranoa (R) (60 per cent) than in Western Downs (R) (40 per cent). This balance is likely to change over time as new projects begin construction.

**Table 7: Production and construction workforces, Surat Basin LGAs, June 2010**

LGA	Production workforce			Construction workforce	Total workforce
	Resident workers	Non-resident workers	Total		
	— number —				
Maranoa (R)	180	170	350	520	870
Western Downs (R)	560	340	900	600	1,500
Toowoomba (R)	70	200	270	0	270
<b>SURAT BASIN TOTAL</b>	<b>810</b>	<b>710</b>	<b>1,510</b>	<b>1,130</b>	<b>2,640</b>

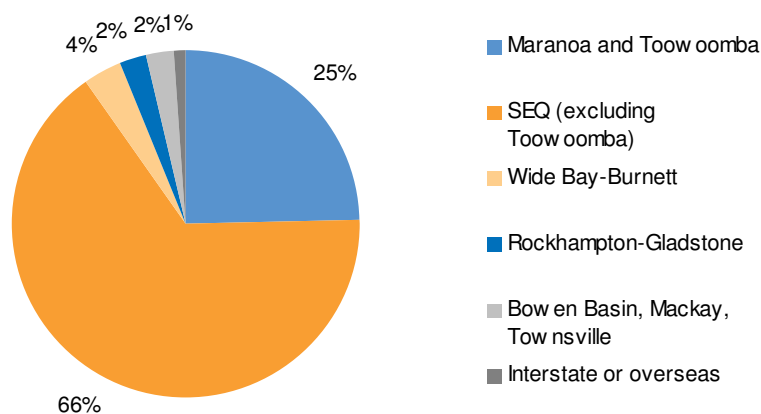
(R) – Regional Council

Figures in table have been rounded to the nearest 10; internal discrepancies are due to rounding.

Source: OESR, *Resource Operations Employment Survey*, 2010.

Of the non-resident production workers who were employed in Western Downs (R), two-thirds (66 per cent) were residents of SEQ. Another 25 per cent of the non-resident production workforce lived elsewhere in the Surat Basin, either in Maranoa (R) or Toowoomba (R) (Figure 2).

**Figure 2: Non-resident production workers by place of usual residence, Western Downs (R), June 2010**

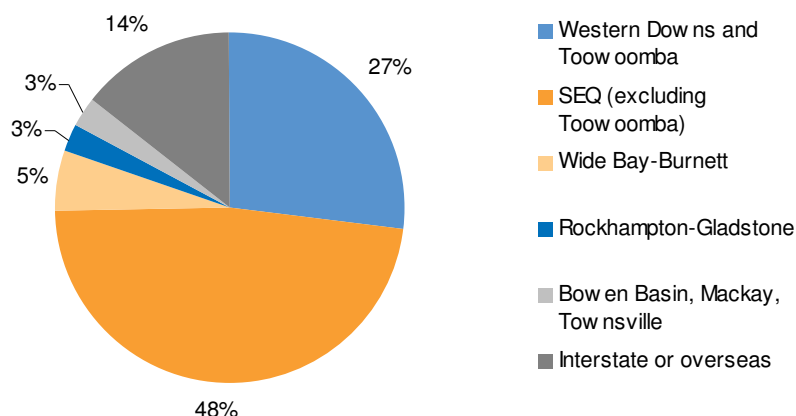


Source: OESR, *Resource Operations Employment Survey*, 2010



SEQ was also the largest source of non-resident production workers in Maranoa (R) (48 per cent), although to a lesser extent than in Western Downs (R) (Figure 3). Non-resident workers from interstate or overseas accounted for a further 14 per cent of non-resident workers in Maranoa (R), substantially more than in Western Downs (R) (1 per cent). These figures reflect the large proportion of workers in Maranoa (R) who FIFO from more distant population centres, compared with the higher incidence of DIDO workers in Western Downs (R).

**Figure 3: Non-resident production workers by place of usual residence, Maranoa (R), June 2010**



Source: OESR, *Resource Operations Employment Survey*, 2010



### 3 Resident population trends and projections

#### 3.1 Background

The ABS prepares annual estimates of the resident population (ERP) for a range of geographical regions in Australia. ERPs are derived from data on population indicators at the sub-state level, including dwelling approvals, Medicare change of address records and electoral enrolments.

ERP figures were sourced from *Regional Population Growth, Australia, 2009–10* (ABS, 2010). The 2011 edition *Queensland Government population projections* provide low, medium and high series projections for the resident population to 2031 (OESR, 2011).

The population projections presented in this report represent the outcome from modelling certain assumptions concerning the main components of population change (fertility, mortality and migration) and how they will change in the future. As such they reflect one possible set of outcomes, which will not eventuate if changes occur in fertility, mortality and migration other than those assumed. Other factors not able to be modelled (for example, the establishment of an industrial project or mine that is yet to be announced) may also influence the actual change in population that occurs over the coming years.

#### 3.2 Estimated resident population

The ERP of the Surat Basin region was estimated at 207,497 people at 30 June 2010 (Table 8). More than three-quarters (78 per cent) of the resident population lived in Toowoomba (R), with the balance living in Western Downs (R) (15 per cent) and Maranoa (R) (6 per cent).

Between 2001 and 2010, the Surat Basin's resident population increased by 28,017 people or 16 per cent. Average annual population change between 2006 and 2010 (3,238 people) was greater than the change between 2001 and 2006 (3,013 people), due to stronger population growth in Western Downs (R) in the four years to 2010. In contrast, Toowoomba (R)'s population increase between 2006 and 2010 (2,690 people) was slightly lower than the increase in the previous five years (2,741 people). A total of 83 per cent of resident population growth in the Surat Basin in the period between 2006 and 2010 occurred in Toowoomba (R) where most of the population resides. Appendix B contains resident population statistics at the UC/L level.

**Table 8: Estimated resident population, Surat Basin LGAs, 2001–2010p**

LGA	Estimated resident population						Average annual population change	
	2001	2006	2007r	2008r	2009r	2010p	2001–06	2006–10p
	— number —						— number —	
Maranoa (R)	12,610	13,070	13,120	13,189	13,222	13,369	92	75
Western Downs (R)	29,277	30,180	30,425	30,973	31,468	32,071	181	473
Toowoomba (R)	137,593	151,297	153,467	155,644	159,097	162,057	2,741	2,690
<b>SURAT BASIN TOTAL</b>	<b>179,480</b>	<b>194,547</b>	<b>197,012</b>	<b>199,806</b>	<b>203,787</b>	<b>207,497</b>	<b>3,013</b>	<b>3,238</b>

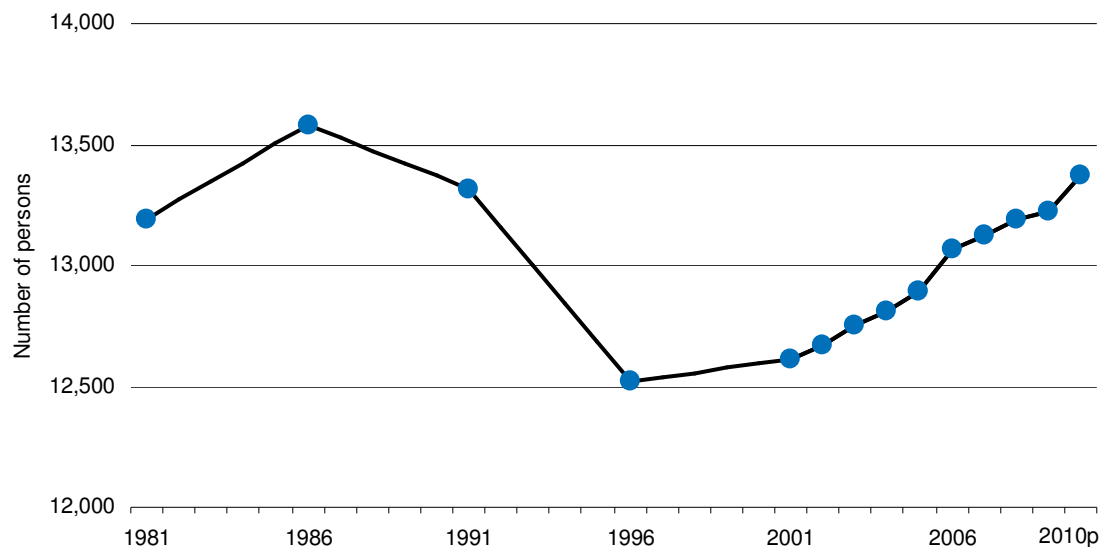
(R) – Regional Council  
r = revised p = preliminary

Source: ABS, *Regional Population Growth, Australia, 2009–10*, cat. no. 3218.0



Resident population estimates show the population of Maranoa (R) declined between 1986 and 1996 (Figure 4). This trend has since been reversed with consistent population increases since 2001. Between 2001 and 2010, the estimated resident population grew by an average of less than 1 per cent annually. The resident population of Maranoa (R) in 2010 (13,369 people) was at a similar level to that recorded in 1991, but higher than the resident population in 1996 (12,523 people).

**Figure 4: Estimated resident population, Maranoa (R), 1981–2010p**



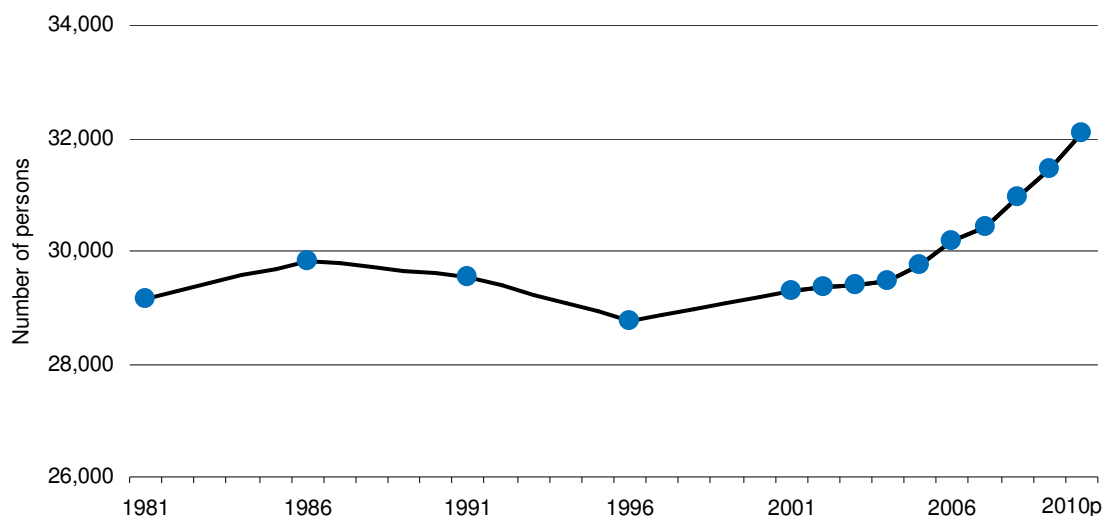
(R) – Regional Council  
p = preliminary

Source: ABS, *Regional Population Growth, Australia, 2009–10*, cat. no. 3218.0

The population of Western Downs (R) remained relatively stable between 1981 and 2001, fluctuating between approximately 29,000 and 30,000 people (Figure 5). However, since 2001 the area has experienced sustained population growth, with more than 300 people (or 1 per cent) per year being added to the resident population from 2001 to 2010. This growth has been more pronounced in the four years since 2006, with average annual growth of more than 470 people (1.5 per cent) per year compared with around 180 people (less than 1 per cent) per year between 2001 and 2006. This growth was primarily due to strong population increases in the urban centres of Dalby and Chinchilla in the four years to 2010 (Appendix B). Dalby’s resident population increased by an annual average of 173 people or 2 per cent in this period, while the corresponding increases for Chinchilla were 134 people and 3 per cent. At 30 June 2010, the ERP of Western Downs (R) was 32,071 people.



**Figure 5: Estimated resident population, Western Downs (R), 1981–2010p**

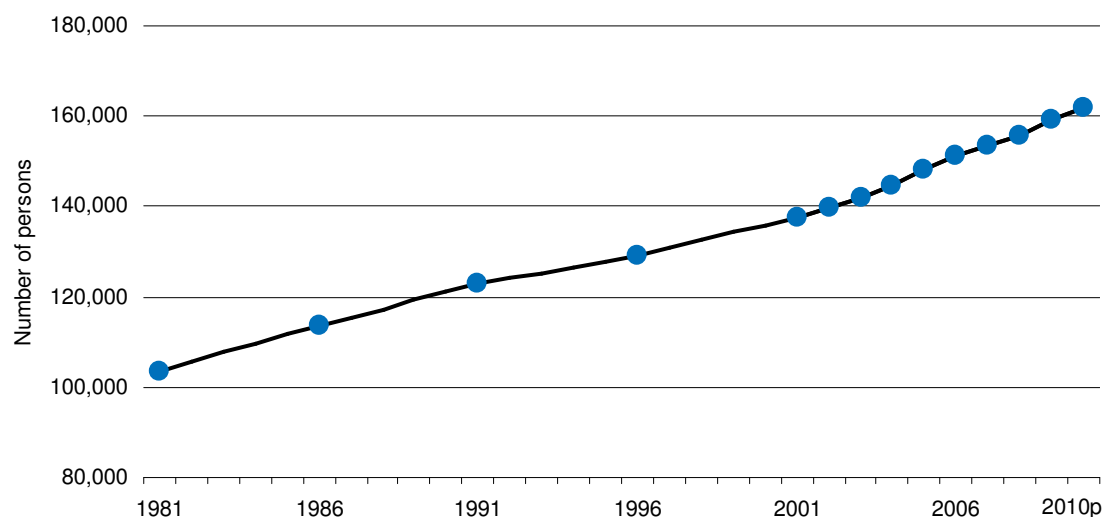


(R) – Regional Council  
p = preliminary

Source: ABS, *Regional Population Growth, Australia, 2009–10*, cat. no. 3218.0

Unlike population trends in Maranoa (R) and Western Downs (R), the population of Toowoomba (R) increased consistently by approximately 1,700 people (or 1.4 per cent) per year on average between 1981 and 2001 (Figure 6). Since 2001, population growth in Toowoomba (R) increased to around 2,700 people (1.8 per cent) per year. Toowoomba (R)'s ERP was 162,057 people at 30 June 2010.

**Figure 6: Estimated resident population, Toowoomba (R), 1981–2010p**



(R) – Regional Council  
p = preliminary

Source: ABS, *Regional Population Growth, Australia, 2009–10*, cat. no. 3218.0



The population growth in Toowoomba (R) between 2006 and 2010 was shared almost equally between the urban centre of Toowoomba (1,302 people per annum or 48 per cent of regional population growth) and the LGA remainder (1,307 people per annum or 49 per cent) (Appendix B). The LGA remainder includes rural areas, smaller towns and more densely settled rural residential areas around the former city of Toowoomba (C) (Appendix D).

### 3.3 Resident population projections

Between 2011 and 2031, the resident population of the Surat Basin is projected to grow by 44 per cent from 209,960 to 301,910 according to the medium series population projections (Table 9). Over the next 20 years, average annual population growth in the Surat Basin (1.8 per cent) is expected to be equal to the state average. Most of the resident population in the Surat Basin will continue to be based in Toowoomba (R), which is expected to increase its share of regional population from 78 per cent in 2011 to 81 per cent in 2031.

**Table 9: Resident population projections, medium series, Surat Basin LGAs, 2011–2031**

LGA	Projected resident population					Average annual population growth	
	2011	2016	2021	2026	2031	2011–2031	
	— number —					number	%
Maranoa (R)	13,300	14,090	15,300	16,200	17,170	190	1.3
Western Downs (R)	32,160	34,490	36,500	38,450	40,400	410	1.1
Toowoomba (R)	164,500	180,050	198,590	220,570	244,340	3,990	2.0
<b>SURAT BASIN TOTAL</b>	<b>209,960</b>	<b>228,640</b>	<b>250,400</b>	<b>275,220</b>	<b>301,910</b>	<b>4,600</b>	<b>1.8</b>
<b>Queensland</b>	<b>4,611,490</b>	<b>5,092,860</b>	<b>5,588,620</b>	<b>6,090,550</b>	<b>6,592,860</b>	<b>99,070</b>	<b>1.8</b>

(R) – Regional Council

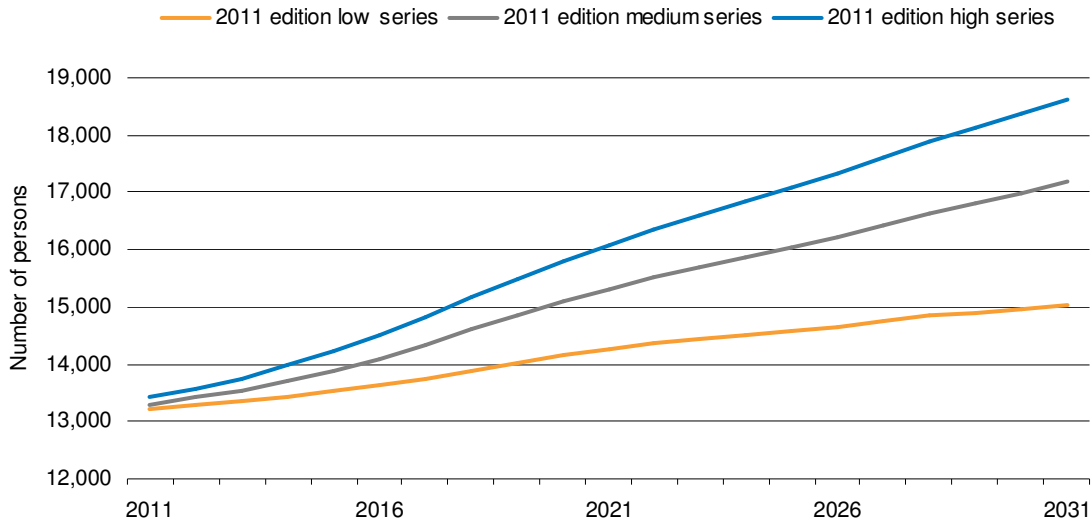
Source: Queensland government population projections 2011 edition

Medium, low and high series projections of the resident population in the Surat Basin have been prepared by OESR and are provided in Appendices E, F and G.

The resident population of Maranoa (R) is projected to increase by approximately 3,900 people between 2011 and 2031 according to medium series projections (Figure 7). Population growth is expected to be greater during the first half of the projection period, from 2011 to 2021, when the development of major resource projects will occur. The low, medium and high series projected populations of Maranoa (R) in 2031 are 15,000, 17,200 and 18,600 respectively. The majority of growth in the resident population is expected to occur in the former LGA of Roma (T), accounting for 120 people per annum or almost three-quarters of the expected growth in Maranoa (R) between 2006 and 2031 (Appendix E).



**Figure 7: Resident population projections, Maranoa (R), 2011–2031**

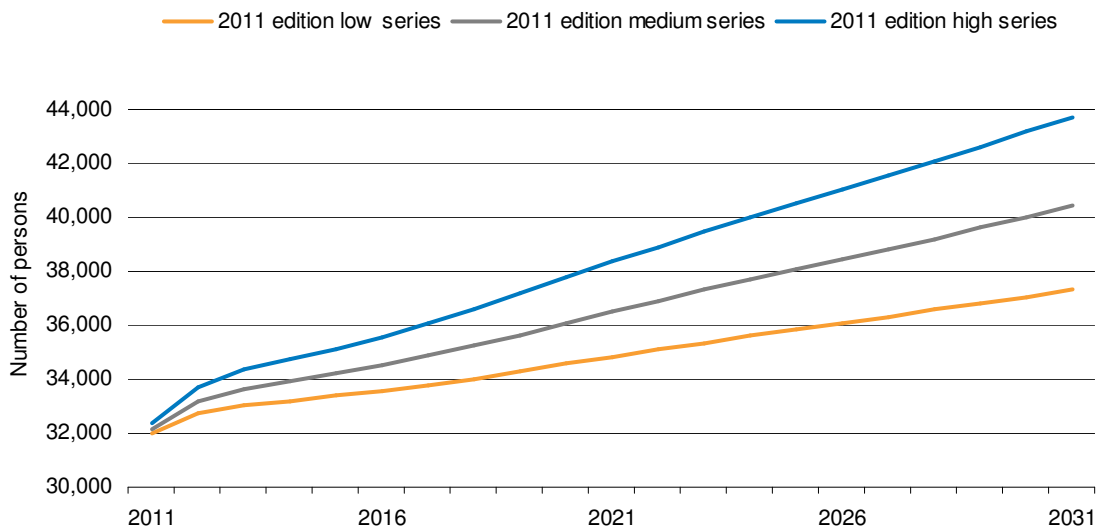


(R) – Regional Council

Source: Queensland government population projections 2011 edition

Medium series population projections indicate that the resident population of Western Downs (R) will increase 26 per cent from around 32,200 in 2011 to nearly 40,400 in 2031 (Figure 8). By 2031, the resident population of Western Downs (R) is expected to lie between 37,300 (low series) and 43,700 (high series) with average annual growth rates for 2011–2031 of 0.8 per cent and 1.5 per cent for the low and high series respectively. Resident population growth in Western Downs (R) is expected to be concentrated in the former LGAs of Chinchilla (S) and Dalby (T), accounting for nearly two-thirds (or 270 people) of average annual population growth (410 people) in the LGA between 2006 and 2031 (Appendix E).

**Figure 8: Resident population projections, Western Downs (R), 2011–2031**



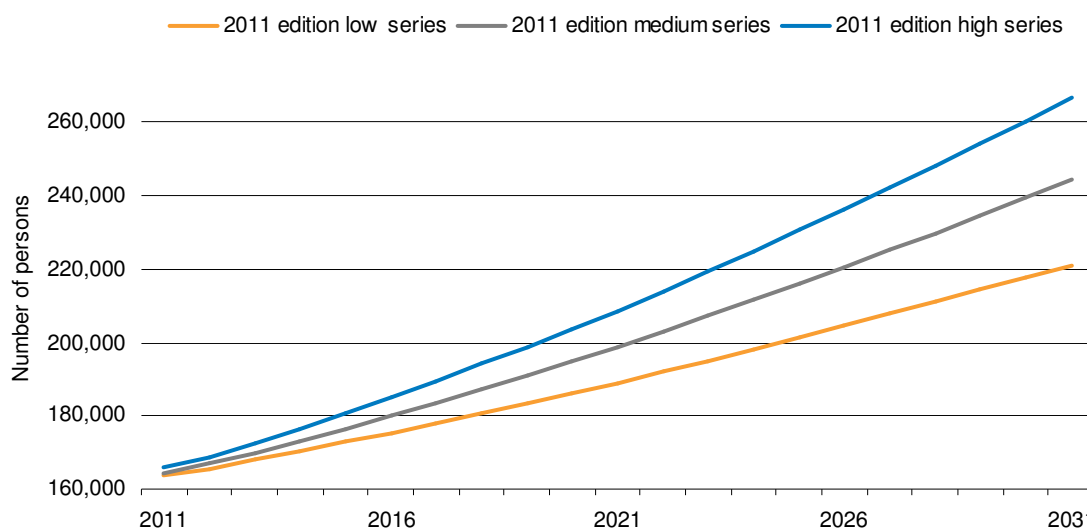
(R) – Regional Council

Source: Queensland government population projections 2011 edition



The projected resident population of Toowoomba (R) is expected to range between 221,200 (low series) and 266,500 (high series) by 2031 (Figure 9). According to the medium series, the resident population is projected to increase by more than 79,800 people to reach more than 244,300 by 2031. This growth will account for 87 per cent of total projected resident population growth in the Surat Basin between 2011 and 2031. Additionally, Toowoomba (R) is predicted to experience the fastest growth in resident population of all three LGAs in the Surat Basin, with the medium series assuming a growth rate of 1.9 per cent. Resident population growth is expected to increase over the projection period, with average annual growth of 3,400 people expected during the 10 years to 2021, increasing to 4,600 people per year between 2021 and 2031.

**Figure 9: Resident population projections, Toowoomba (R), 2011–2031**



(R) – Regional Council

Source: Queensland government population projections 2011 edition

In the next 20 years, significant population growth in Toowoomba (R) is expected to continue in the former LGA of Toowoomba (C) and the surrounding former LGAs of Crow’s Nest (S), Jondaryan (S), Cambooya (S) and Rosalie (S) (see Appendices D and E). These five areas are expected to account for 94 per cent of population growth in Toowoomba (R) between 2006 and 2031 under the medium series.



## 4 FTE population estimates for the Surat Basin, 2010

### 4.1 Introduction

This chapter presents full-time equivalent (FTE) population estimates for LGAs and selected UC/Ls across the Surat Basin in 2010. The FTE population measure has two components:

- the usual resident population – people who live in the area permanently
- non-resident workers – those who stay in the area for extended periods when working, but who are not counted as usual residents.

The concept was developed to provide a more complete picture of the service population of an area as estimated resident population numbers published by the ABS exclude non-resident workers. The FTE population estimate provides a better measure of total demand for goods, services and infrastructure in regions where there is a high incidence of FIFO/DIDO workers.

Note that the FTE population data in this report supersede those given in the 2008 edition of the Surat Basin Population Report. While the non-resident worker component of previously published FTE populations remains unchanged, the resident population components are updated to account for any revised estimated resident population data released by the ABS since initial publication.

Further details regarding the methodology used to calculate FTE population estimates are provided in Appendix J.

### 4.2 FTE population estimates for the Surat Basin

The FTE population for the Surat Basin in 2010 was 210,040, comprising 207,500 usual residents and 2,540 non-resident workers (Table 10). In 2010, non-resident workers made up 6 per cent of the FTE population in Maranoa (R) and 4 per cent in Western Downs (R). Due to the large resident population in Toowoomba (R), the total share of non-resident workers in the Surat Basin was only 1 per cent of the FTE population. Large numbers of non-resident workers were recorded in the towns of Chinchilla (360 workers), Roma (300 workers) and Dalby (290 workers). Even larger numbers were present in areas outside selected UC/Ls in Maranoa (R) (510 workers) and Western Downs (R) (470 workers), which reflects the geographical distribution of mining and gas workforces.

**Table 10: FTE population for Surat Basin LGAs and selected UC/Ls, June 2010**

LGA	UC/L	2010p ERP	Total non-resident workers	FTE population estimate	Per cent of non-resident workers
		— number —			%
Maranoa (R)	Injune (L)	370	40	420	10
	Mitchell (L)	1,030	50	1,080	5
	Roma	6,520	300	6,820	4
	Wallumbilla (L)	300	30	330	8
	<i>LGA remainder</i>	<i>5,150</i>	<i>510</i>	<i>5,660</i>	<i>9</i>
<b>Total</b>		<b>13,370</b>	<b>930</b>	<b>14,300</b>	<b>6</b>
Western Downs (R)	Chinchilla	4,450	360	4,800	7
	Dalby	11,100	290	11,380	3
	Miles	1,260	80	1,330	6
	Tara (L)	810	20	830	2
	Wandoan (L)	420	40	460	9
	<i>LGA remainder</i>	<i>14,040</i>	<i>470</i>	<i>14,510</i>	<i>3</i>
<b>Total</b>		<b>32,070</b>	<b>1,250</b>	<b>33,320</b>	<b>4</b>
Toowoomba (R)	Oakey	3,960	60	4,020	1
	Pittsworth	2,840	30	2,870	1
	Toowoomba	106,740	230	106,970	0
	<i>LGA remainder</i>	<i>48,510</i>	<i>40</i>	<i>48,550</i>	<i>0</i>
<b>Total</b>		<b>162,060</b>	<b>360</b>	<b>162,420</b>	<b>0</b>
<b>SURAT BASIN TOTAL*</b>		<b>207,500</b>	<b>2,540</b>	<b>210,040</b>	<b>1</b>

(R) – Regional Council (L) – Locality  
p = preliminary

Figures in table have been rounded to the nearest 10; internal discrepancies are due to rounding.

\* The total FTE population shown for the Surat Basin represents the aggregate FTE populations of all LGAs in the region. This total may include a small number of non-resident workers in each LGA who live elsewhere within the Surat Basin.

Note: Non-resident worker populations shown for UC/Ls represent all non-resident workers living within these centres. UC/Ls with fewer than 20 non-resident workers are included in the LGA remainder. Non-resident workers shown in LGA remainder are those living in WAV accommodation near mines or gas fields, or in commercial accommodation in smaller centres.

Source: OESR, *Survey of Accommodation Providers*, 2010.



## 5 Glossary of terms and abbreviations

### **ABS**

The Australian Bureau of Statistics.

### **Accommodation centre**

Refer to worker accommodation village (WAV).

### **Australian Standard Geographical Classification (ASGC)**

The Australian Standard Geographical Classification (ASGC) is a convention developed by the ABS for the collection and dissemination of geographic statistics on a national basis. It is a hierarchically structured classification of defined spatial units that satisfy different statistical purposes. See also local government area and statistical local area.

### **Construction workers**

Construction workers are company employees or contractors who are engaged in the planning, construction and commissioning of a new resource project, or in the expansion or decommissioning of one.

### **Estimated Resident Population (ERP)**

The number of people estimated to be usually resident in an area (see usual residence).

During population census years, estimates of the resident population are based on census counts by place of usual residence, to which are added the estimated net undercount and the number of Australian residents estimated to have been temporarily overseas at the time of the Census. Overseas visitors in Australia are excluded from this calculation. These census year estimates become the base on which estimates of natural increase and migration are added (or subtracted) over the following years.

People are deemed usual residents of the address at which they have lived (or intend to live) for six months or more during the census year.

### **Fly-in/fly-out or drive-in/drive-out (FIFO/DIDO)**

An arrangement whereby workers live for an extended period in an area removed from their usual place of residence while on-shift and commute by air or road between home and place of work. Flexible work schedules and accommodation arrangements in the mining industry have made FIFO/DIDO more feasible, to the point where it has now supplanted provision of local housing as a condition of employment for many operations. See non-resident workers.

### **Full-time equivalent (FTE) population**

A measure derived by OESR that approximates the total population living in an area at a given point in time. The FTE is based on two components – the number of non-resident workers, and the resident population component estimated to be present in the area. See also estimated resident population and non-resident workers.



## Head-lease

A form of rental tenancy arrangement whereby a company obtains the lease for one or more rental properties, which are then used to provide employee accommodation. Occupants of head-leased housing may enter into sub-tenancy arrangements directly with the employer; otherwise, tenancy agreements are managed by a third party such as a real estate agent. Head-leasing arrangements differ from private rental arrangements, whereby the occupant enters into a direct agreement with the dwelling owner or agent.

## Local government area (LGA)

According to the Australian Standard Geographical Classification (ASGC), the local government area (LGA) is a spatial unit that represents the geographical area under the responsibility of an incorporated local government council, or an Aboriginal or Island Council. An LGA may be a City (C), Regional Council (R), Shire (S) or Town (T).

In the statistical geography current at the time of the Census in August 2006 (Australian Standard Geographical Classification, 2006), LGAs were equal to or larger than statistical local areas (SLAs) and collection districts (CDs). In March 2008, LGA boundaries were changed as the result of administrative reforms in Queensland and the reformed LGA boundaries were included in the 2008 standard geographic classification (ASGC 2008).

## Non-resident workers

Employees of mining companies, contractors and construction workers who live in an area for extended periods when working but have a permanent place of residence in another area. This group includes workers engaged in FIFO/DIDO arrangements and who live locally in non-private dwellings such as WAVs, hotels, motels and caravan parks while on-shift. Although many non-resident workers may actually spend a total of more than six months of the year in their area of work, they are generally not regarded as being residents by the ABS and are omitted from estimates of the resident population. See FIFO/DIDO, ERP.

## Office of Economic and Statistical Research (OESR)

The Office of Economic and Statistical Research (OESR), a portfolio office of Queensland Treasury, is the principal economic, demographic and social research agency for the Queensland Government.

## Population projection

An estimate of the future resident population of a given area. The Queensland Government produces updated population projections for all LGAs within Queensland on a regular basis.

## Production workers

Production workers are permanent company employees or contract staff who provide management, administration, technical services, routine maintenance and production activities associated with the day to day operation of the resource project. Part-time contractors, visitors and short-term workers employed for less than one week during the specified month are not included.



## **South East Queensland (SEQ)**

All local governments within the Brisbane, Gold Coast, Sunshine Coast and West Moreton statistical divisions. The regional planning area of South East Queensland also includes Toowoomba statistical district, which is the former LGA of Toowoomba (C). See also map in Appendix D.

## **Statistical local area (SLA)**

The statistical local area (SLA) is a defined area under the ASGC. In Queensland, many SLAs share the same boundaries as LGAs. In the Surat Basin many former LGAs became SLAs following local government reforms in 2008 without any further boundary changes. The exception was Taroom Shire. The northern part of Taroom Shire was included in Banana Shire, and the balance was transferred to Western Downs (R). SLAs cover, in aggregate, the whole of Australia without gaps or overlaps. See also Australian Standard Geographical Classification, and Local Government Area.

## **Urban Centre / Locality (UC/L)**

Term used by the Australian Standard Geographical Classification to define a population cluster greater than 200 people. In broad terms, an urban centre is a population cluster of 1,000 or more people while a locality is a population cluster of between 200 and 999 people.

## **Usual residence**

For the purposes of the Census and this report, usual residence refers to the location where the person lives for the majority of the time, and is the definition used to estimate the usual resident (UR) population derived from the Census of Population and Housing. The Census establishes usual residence according to the place where the person has lived or intends to live for six months or more in the Census year.

For most people, the family home is the place where they live for the majority of the time, and that dwelling may be considered to be their place of usual residence. An exception occurs in the case of mining and construction workers, who live for extended periods in non-private accommodation near the work site but fly or drive to their family home when off-roster. It is likely that many of these workers would consider the family home to be their usual place of residence, despite spending more than half of the given year at the location of their workplace.

## **Worker accommodation village (WAV)**

A term used to describe a particular type of non-private accommodation, usually provided to accommodate unaccompanied non-resident workers of mining companies and associated contractors. WAV accommodation is typically a form of hostel that usually consists of demountable dwellings arranged in a large camp, although some establishments also contain permanent and semi-permanent dwellings. WAV accommodation is arranged with common messing, laundry and entertainment facilities and rooms that are cleaned and serviced by the operator. Occupants of WAVs are usually provided with all meals.



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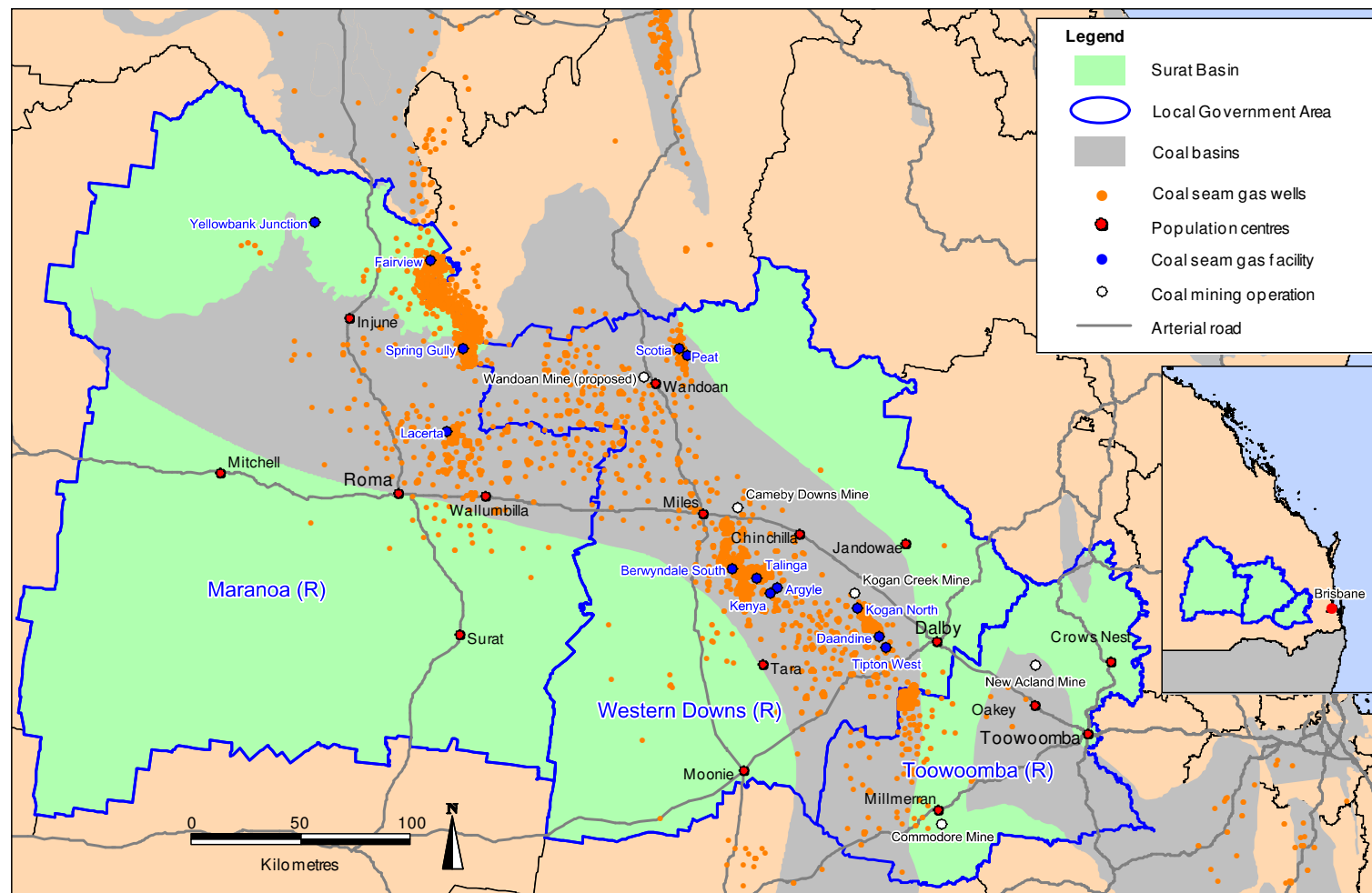
OESR (2011), *Queensland Government population projections to 2031: local government areas 2011 edition*, Office of Economic and Statistical Research, Brisbane.



## 7 Appendices

## Appendix A

### Location of coal seam gas and mining activity in the Surat Basin<sup>(a)</sup>



(R) – Regional Council (a) proven and unproven gas wells as at June 2010

Source: OESR, 2011; DEEDI, 2011

## Appendix B

### Estimated resident population, Surat Basin LGAs and selected UC/Ls, 2001–2010p

LGA	UC/L	Estimated resident population						Average annual population change		Average annual population change	
		2001	2006	2007r	2008r	2009r	2010p	2001–2006		2006–2010p	
		— number —						number	%	number	%
	Injune (L)	345	383	358	366	371	374	8	2	-2	-1
	Mitchell (L)	989	998	1,025	1,028	1,010	1,027	2	0	7	1
	Roma	6,250	6,402	6,394	6,439	6,438	6,524	30	0	31	0
	Surat (L)	468	460	476	481	465	462	-2	0	1	0
	Wallumbilla (L)	256	301	298	287	288	298	9	3	-1	0
	<i>LGA remainder</i>	<i>4,302</i>	<i>4,526</i>	<i>4,569</i>	<i>4,588</i>	<i>4,650</i>	<i>4,684</i>	45	1	40	1
<b>Maranoa (R)</b>		<b>12,610</b>	<b>13,070</b>	<b>13,120</b>	<b>13,189</b>	<b>13,222</b>	<b>13,369</b>	<b>92</b>	<b>1</b>	<b>75</b>	<b>1</b>
	Chinchilla	3,564	3,909	4,022	4,151	4,241	4,445	69	2	134	3
	Dalby	10,113	10,405	10,459	10,621	10,846	11,097	58	1	173	2
	Jandowae (L)	806	831	815	814	844	837	5	1	2	0
	Miles	1,175	1,238	1,268	1,252	1,253	1,259	13	1	5	0
	Tara (L)	857	868	861	832	791	807	2	0	-15	-2
	Wandoan (L)	490	413	410	425	421	420	-15	-3	2	0
	<i>LGA remainder</i>	<i>12,272</i>	<i>12,516</i>	<i>12,590</i>	<i>12,878</i>	<i>13,072</i>	<i>13,206</i>	49	0	173	1
<b>Western Downs (R)</b>		<b>29,277</b>	<b>30,180</b>	<b>30,425</b>	<b>30,973</b>	<b>31,468</b>	<b>32,071</b>	<b>181</b>	<b>1</b>	<b>473</b>	<b>2</b>
	Crows Nest	1,434	1,524	1,491	1,537	1,571	1,592	18	1	17	1
	Millmerran	1,545	1,293	1,274	1,286	1,324	1,348	-50	-3	14	1
	Oakey	3,687	3,873	3,854	3,867	3,901	3,964	37	1	23	1
	Pittsworth	2,427	2,727	2,719	2,717	2,791	2,839	60	2	28	1
	Toowoomba	93,970	101,536	102,353	103,289	104,926	106,743	1,513	2	1,302	1
	<i>LGA remainder</i>	<i>34,530</i>	<i>40,344</i>	<i>41,776</i>	<i>42,948</i>	<i>44,584</i>	<i>45,571</i>	1,163	3	1,307	3
<b>Toowoomba (R)</b>		<b>137,593</b>	<b>151,297</b>	<b>153,467</b>	<b>155,644</b>	<b>159,097</b>	<b>162,057</b>	<b>2,741</b>	<b>2</b>	<b>2,690</b>	<b>2</b>
<b>SURAT BASIN TOTAL</b>		<b>179,480</b>	<b>194,547</b>	<b>197,012</b>	<b>199,806</b>	<b>203,787</b>	<b>207,497</b>	<b>3,013</b>	<b>2</b>	<b>3,238</b>	<b>2</b>

(R) – Regional Council (L) – Locality

r = revised p = preliminary

LGA boundaries are based on the 2008 Australian Standard Geographical Classification.

Source: ABS, unpublished statistics

## Appendix C

### FTE population, Surat Basin LGAs and selected UC/Ls, June 2008

LGA	UC/L	2008r ERP	Total non-resident workers	FTE population estimate	Per cent of non-resident workers
		— number —			— % —
	Injune (L)	370	50	410	11
	Mitchell (L)	1,030	0	1,030	0
	Roma	6,440	110	6,550	2
	Wallumbilla (L)	290	30	320	10
	<i>LGA remainder</i>	<i>5,070</i>	<i>460</i>	<i>5,530</i>	<i>8</i>
<b>Maranoa (R)</b>		<b>13,190</b>	<b>650</b>	<b>13,840</b>	<b>5</b>
	Chinchilla	4,150	160	4,310	4
	Dalby	10,620	420	11,040	4
	Miles	1,250	60	1,310	4
	Tara (L)	830	40	870	4
	Wandoan (L)	430	40	470	9
	<i>LGA remainder</i>	<i>13,690</i>	<i>500</i>	<i>14,190</i>	<i>4</i>
<b>Western Downs (R)</b>		<b>30,970</b>	<b>1,210</b>	<b>32,180</b>	<b>4</b>
	Oakey	3,870	n.a.	n.a.	n.a.
	Pittsworth	2,720	n.a.	n.a.	n.a.
	Toowoomba	103,290	n.a.	n.a.	n.a.
	<i>LGA remainder</i>	<i>45,770</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
<b>Toowoomba (R)</b>		<b>155,640</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>
<b>SURAT BASIN TOTAL*</b>		<b>199,810</b>	<b>1,850**</b>	<b>201,660**</b>	<b>1</b>

(R) – Regional Council (L) – Locality

r = revised

Figures in table have been rounded to the nearest 10; internal discrepancies are due to rounding.

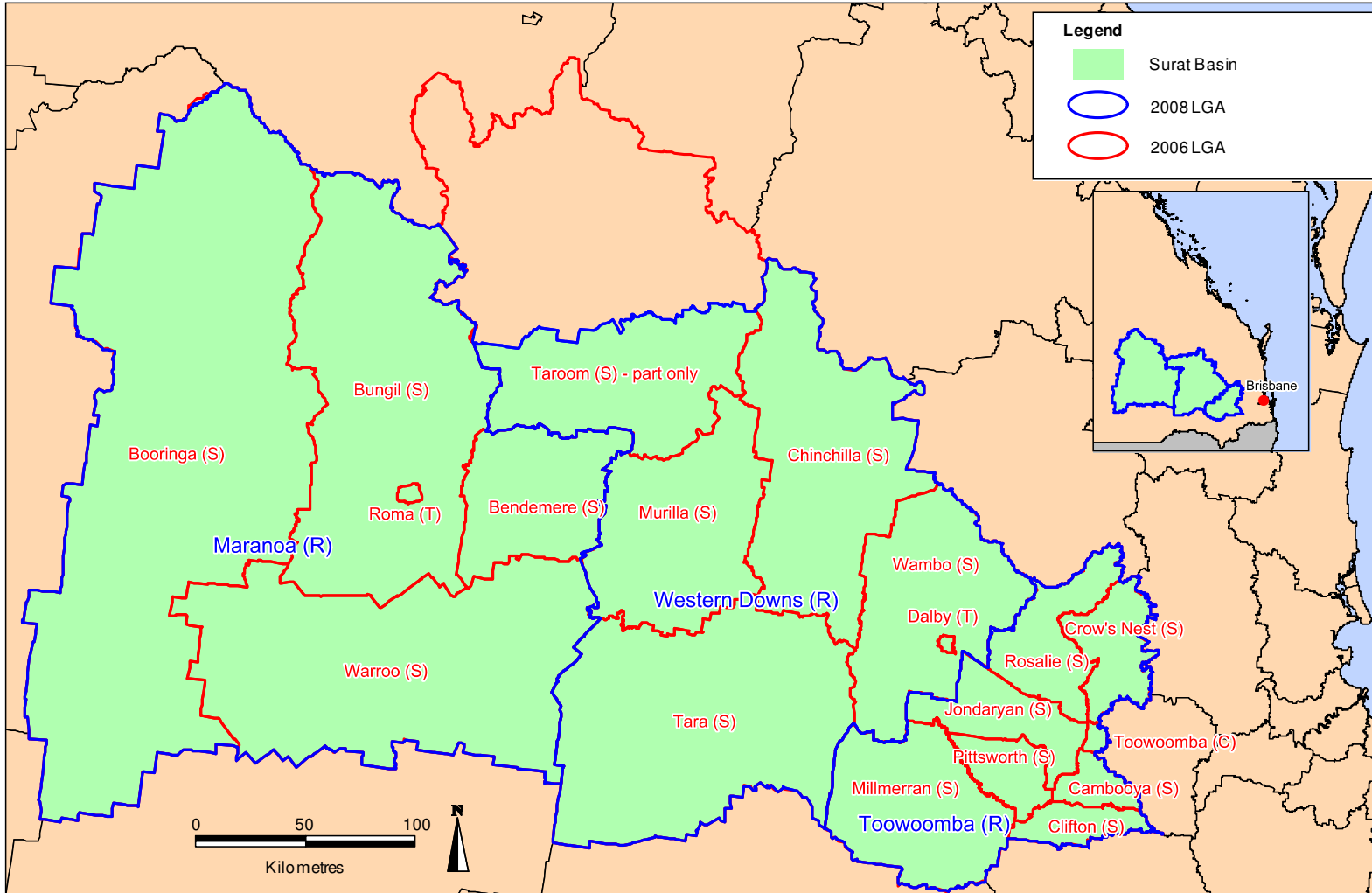
\* The total FTE population shown for the Surat Basin represents the aggregate FTE populations of all LGAs in the region. This total may include a small number of non-resident workers in each LGA who live elsewhere within the Surat Basin.

\*\* Data for non-resident workers in Toowoomba (R) was not collected in 2008, therefore the total number of non-resident workers in the Surat Basin and the FTE population does not include any non-resident workers that may have been in Toowoomba (R) during the survey period.

Source: ABS, *Regional Population Growth, Australia, 2009–10*, cat. no. 3218.0; OESR, *Survey of Accommodation Providers, 2008*

## Appendix D

### 2006 and 2008 LGA boundaries, Surat Basin



(R) – Regional Council (S) – Shire (T) – Town

Source: Queensland government population projections 2011 edition

## Appendix E

### Medium series resident population projections, 2006 and 2008 LGAs, 2006–2031

		ERP	Medium series projected resident population					Total population change		Average annual population change	
2008 LGA	2006 LGA	2006	2011	2016	2021	2026	2031	2006–2031		2006–2031	
		— number —					number	%	number	%	
	Bendmere (S)	1,044	1,020	1,087	1,164	1,241	1,319	275	26.3	11	0.9
	Booringa (S)	1,805	1,825	1,830	1,834	1,841	1,850	45	2.5	2	0.1
	Bungil (S)	2,163	2,222	2,310	2,413	2,523	2,643	480	22.2	19	0.8
	Roma (T)	6,963	7,153	7,764	8,719	9,338	10,005	3,042	43.7	122	1.5
	Warroo (S)	1,095	1,075	1,100	1,171	1,256	1,355	260	23.7	10	0.9
<b>Maranoa (R)</b>		<b>13,070</b>	<b>13,296</b>	<b>14,091</b>	<b>15,301</b>	<b>16,200</b>	<b>17,172</b>	<b>4,102</b>	<b>31.4</b>	<b>164</b>	<b>1.1</b>
	Chinchilla (S)	6,302	7,034	7,598	8,133	8,606	9,065	2,763	43.8	111	1.5
	Dalby (T)	10,405	11,125	11,940	12,743	13,559	14,387	3,982	38.3	159	1.3
	Murilla (S) inc. Taroom (S) part in WD	4,051	4,147	4,675	4,992	5,303	5,628	1,577	38.9	63	1.3
	Tara (S)	3,896	3,890	4,001	4,050	4,096	4,137	241	6.2	10	0.2
	Wambo (S)	5,526	5,968	6,279	6,585	6,883	7,180	1,654	29.9	66	1.1
<b>Western Downs (R)</b>		<b>30,180</b>	<b>32,164</b>	<b>34,494</b>	<b>36,503</b>	<b>38,447</b>	<b>40,397</b>	<b>10,217</b>	<b>33.9</b>	<b>409</b>	<b>1.2</b>
	Cambooya (S)	6,160	7,551	9,276	10,955	12,958	15,038	8,878	144.1	355	3.6
	Clifton (S)	2,766	3,122	3,477	3,865	4,295	4,744	1,978	71.5	79	2.2
	Crow's Nest (S)	13,345	16,847	20,564	24,445	29,599	35,514	22,169	166.1	887	4.0
	Jondaryan (S)	14,958	16,439	18,887	21,870	25,036	28,262	13,304	88.9	532	2.6
	Millmerran (S)	3,276	3,458	3,715	3,946	4,176	4,406	1,130	34.5	45	1.2
	Pittsworth (S)	5,082	5,461	6,003	6,554	7,124	7,733	2,651	52.2	106	1.7
	Rosalie (S)	9,551	10,784	12,167	13,624	15,204	16,817	7,266	76.1	291	2.3
	Toowoomba (C)	96,159	100,838	105,964	113,332	122,179	131,827	35,668	37.1	1,427	1.3
<b>Toowoomba (R)</b>		<b>151,297</b>	<b>164,501</b>	<b>180,052</b>	<b>198,591</b>	<b>220,571</b>	<b>244,340</b>	<b>93,043</b>	<b>61.5</b>	<b>3,722</b>	<b>1.9</b>
<b>SURAT BASIN TOTAL</b>		<b>194,547</b>	<b>209,961</b>	<b>228,637</b>	<b>250,395</b>	<b>275,218</b>	<b>301,909</b>	<b>107,362</b>	<b>55.2</b>	<b>4,294</b>	<b>1.8</b>

(R) – Regional Council (S) – Shire (T) – Town

Source: Queensland government population projections 2011 edition

## Appendix F

### Low series resident population projections, 2006 and 2008 LGAs, 2006–2031

		ERP	Low series projected resident population					Total population change		Average annual population change	
		2006	2011	2016	2021	2026	2031	2006–2031		2006–2031	
2008 LGA	2006 LGA	— number —					number	%	number	%	
	Bendemere (S)	1,044	1,011	1,034	1,058	1,088	1,115	71	6.8	3	0.3
	Booringa (S)	1,805	1,816	1,765	1,700	1,653	1,605	-200	-11.1	-8	-0.5
	Bungil (S)	2,163	2,214	2,237	2,254	2,295	2,337	174	8.0	7	0.3
	Roma (T)	6,963	7,131	7,536	8,176	8,489	8,819	1,856	26.6	74	0.9
	Warroo (S)	1,095	1,065	1,048	1,066	1,113	1,169	74	6.7	3	0.3
<b>Maranoa (R)</b>		<b>13,070</b>	<b>13,236</b>	<b>13,621</b>	<b>14,255</b>	<b>14,638</b>	<b>15,045</b>	<b>1,975</b>	<b>15.1</b>	<b>79</b>	<b>0.6</b>
	Chinchilla (S)	6,302	6,989	7,391	7,752	8,068	8,368	2,066	32.8	83	1.1
	Dalby (T)	10,405	11,076	11,649	12,189	12,737	13,280	2,875	27.6	115	1.0
	Murilla (S) inc. Taroom (S) part in WD	4,051	4,118	4,460	4,655	4,846	5,037	986	24.3	39	0.9
	Tara (S)	3,896	3,872	3,892	3,881	3,872	3,857	-39	-1.0	-2	0.0
	Wambo (S)	5,526	5,945	6,158	6,361	6,558	6,750	1,224	22.1	49	0.8
<b>Western Downs (R)</b>		<b>30,180</b>	<b>32,000</b>	<b>33,551</b>	<b>34,839</b>	<b>36,081</b>	<b>37,292</b>	<b>7,112</b>	<b>23.6</b>	<b>284</b>	<b>0.9</b>
	Cambooya (S)	6,160	7,466	8,849	10,157	11,682	13,224	7,064	114.7	283	3.1
	Clifton (S)	2,766	3,100	3,352	3,617	3,910	4,208	1,442	52.1	58	1.7
	Crow's Nest (S)	13,345	16,648	19,555	22,485	26,278	30,498	17,153	128.5	686	3.4
	Jondaryan (S)	14,958	16,348	18,188	20,342	22,608	24,862	9,904	66.2	396	2.1
	Millmerran (S)	3,276	3,446	3,626	3,781	3,935	4,085	809	24.7	32	0.9
	Pittsworth (S)	5,082	5,438	5,819	6,194	6,581	6,984	1,902	37.4	76	1.3
	Rosalie (S)	9,551	10,709	11,689	12,687	13,765	14,839	5,288	55.4	212	1.8
	Toowoomba (C)	96,159	100,661	104,426	109,638	115,858	122,485	26,326	27.4	1,053	1.0
<b>Toowoomba (R)</b>		<b>151,297</b>	<b>163,817</b>	<b>175,503</b>	<b>188,901</b>	<b>204,615</b>	<b>221,184</b>	<b>69,887</b>	<b>46.2</b>	<b>2,795</b>	<b>1.5</b>
<b>SURAT BASIN TOTAL</b>		<b>194,547</b>	<b>209,054</b>	<b>222,675</b>	<b>237,995</b>	<b>255,334</b>	<b>273,521</b>	<b>78,974</b>	<b>40.6</b>	<b>3,159</b>	<b>1.4</b>

(R) – Regional Council (S) – Shire (T) – Town

Source: Queensland government population projections 2011 edition

## Appendix G

### High series resident population projections, 2006 and 2008 LGAs, 2006–2031

		ERP	High series projected resident population					Total population change		Average annual population change	
2008 LGA	2006 LGA	2006	2011	2016	2021	2026	2031	2006–2031		2006–2031	
		— number —					number	%	number	%	
	Bendemere (S)	1,044	1,036	1,139	1,260	1,378	1,497	453	43.4	18	1.5
	Booringa (S)	1,805	1,846	1,894	1,949	2,001	2,053	248	13.8	10	0.5
	Bungil (S)	2,163	2,245	2,382	2,544	2,710	2,884	721	33.3	29	1.2
	Roma (T)	6,963	7,204	7,942	9,078	9,862	10,696	3,733	53.6	149	1.7
	Warroo (S)	1,095	1,091	1,145	1,247	1,364	1,495	400	36.5	16	1.3
<b>Maranoa (R)</b>		<b>13,070</b>	<b>13,423</b>	<b>14,502</b>	<b>16,077</b>	<b>17,315</b>	<b>18,624</b>	<b>5,554</b>	<b>42.5</b>	<b>222</b>	<b>1.4</b>
	Chinchilla (S)	6,302	7,097	7,845	8,578	9,221	9,845	3,543	56.2	142	1.8
	Dalby (T)	10,405	11,188	12,283	13,386	14,491	15,609	5,204	50.0	208	1.6
	Murilla (S) inc. Taroom (S) part in WD	4,051	4,176	4,873	5,303	5,721	6,158	2,107	52.0	84	1.7
	Tara (S)	3,896	3,918	4,104	4,220	4,329	4,418	522	13.4	21	0.5
	Wambo (S)	5,526	5,998	6,427	6,854	7,264	7,670	2,144	38.8	86	1.3
<b>Western Downs (R)</b>		<b>30,180</b>	<b>32,378</b>	<b>35,532</b>	<b>38,342</b>	<b>41,027</b>	<b>43,701</b>	<b>13,521</b>	<b>44.8</b>	<b>541</b>	<b>1.5</b>
	Cambooya (S)	6,160	7,681	9,682	11,671	14,066	16,564	10,404	168.9	416	4.0
	Clifton (S)	2,766	3,153	3,625	4,149	4,722	5,320	2,554	92.3	102	2.7
	Crow's Nest (S)	13,345	17,180	21,436	26,010	32,202	39,398	26,053	195.2	1,042	4.4
	Jondaryan (S)	14,958	16,563	19,537	23,279	27,225	31,252	16,294	108.9	652	3.0
	Millmerran (S)	3,276	3,471	3,818	4,137	4,450	4,762	1,486	45.4	59	1.5
	Pittsworth (S)	5,082	5,491	6,214	6,963	7,728	8,541	3,459	68.1	138	2.1
	Rosalie (S)	9,551	10,891	12,570	14,382	16,335	18,330	8,779	91.9	351	2.6
	Toowoomba (C)	96,159	101,319	108,157	118,008	129,657	142,330	46,171	48.0	1,847	1.6
<b>Toowoomba (R)</b>		<b>151,297</b>	<b>165,749</b>	<b>185,039</b>	<b>208,599</b>	<b>236,385</b>	<b>266,496</b>	<b>115,199</b>	<b>76.1</b>	<b>4,608</b>	<b>2.3</b>
<b>SURAT BASIN TOTAL</b>		<b>194,547</b>	<b>211,549</b>	<b>235,073</b>	<b>263,018</b>	<b>294,728</b>	<b>328,821</b>	<b>134,274</b>	<b>69.0</b>	<b>5,371</b>	<b>2.1</b>

(R) – Regional Council (S) – Shire (T) – Town

Source: Queensland government population projections 2011 edition

## Appendix H

### Characteristics of non-resident workers

#### Introduction

The characteristics of non-resident workers in the Surat Basin differ according to the nature of their employment, and the types of accommodation that they occupy when living in the area. While most non-resident workers are company staff or contractors who are directly engaged in mining or gas production, there are other groups of FIFO/DIDO workers who fall outside of that narrow definition. These include maintenance contractors, exploration crews, project construction workforces, and miscellaneous workers.

The most apparent differences between these groups are their accommodation arrangements. Some live in WAVs on the mine site for the entire duration of their shift, and do not use local accommodation services. Others are more reliant on commercial accommodation such as hotels, motels and caravan parks located in population centres.

#### Non-resident production staff and contractors

In their day to day operations, many resource industries in the Surat Basin utilise a mix of company staff and contract workers. Depending on the resource location and the contractor's accommodation policy, production contract workers may be usual residents of the region or FIFO/DIDO from elsewhere. In more remote operations some staff and contractors, whether resident or non-resident in the area, live in the on-site WAV while rostered on. Where employed in mining operations close to service centres, non-resident contractors are also known to occupy other accommodation types, including houses that are head-leased from the rental market by their employers.

#### Maintenance contractors

There is a large group of regular maintenance contractors and sub-contractors who service mining and gas plant equipment during shutdown periods. Operations in the region conduct scheduled maintenance on an ongoing basis, so that the demand for this group's services is more or less ongoing. Accordingly, many maintenance contractors live in the Surat Basin as usual residents, while others FIFO/DIDO from outside of the region. Depending on the location of their current project, maintenance contractors may live in on-site WAVs for the duration of the shutdown, or in hotels, motels, caravan parks or head-leased rental houses.

#### Exploration crews

This group includes surveyors, geologists and drilling crews involved in mining and gas exploration. They usually live in temporary work camps or informal dwellings at remote locations, but could also occupy commercial accommodation. Where it has been possible to identify and quantify them, exploration crews are included in the count of non-resident workers.

#### Project construction workforces

Large projects such as new mines, plant extensions or major infrastructure usually employ a temporary construction workforce, which can vary in size and duration according to the scale of the project. Construction workforces are usually housed near the project in temporary work camps, but can also utilise existing accommodation such as caravan parks. Where construction projects utilise FIFO/DIDO arrangements, their workforce is included in the count of non-resident workers.

## **Miscellaneous workers**

This group consists of those not directly employed by mining activities, and are mainly people who provide infrastructure and support services. They include employees of government agencies and government owned corporations, workers in the residential construction industry, professionals and para-professionals, and service industry staff.

While this group utilises accommodation on a short to medium-term basis, it is often difficult to identify their residency status. Some are regular FIFO/DIDO workers whose costs are subsidised by employers, and are included in the FTE population estimates as non-resident workers, e.g. catering and service staff of WAVs and other non-private accommodation.

Others include unaccompanied workers who have yet to find suitable private housing for their families in the region, regular visitors who stay for only a short time, and those who work in the region for protracted but irregular durations. These are likely to be classified either as usual residents or short-term visitors, and are not counted as non-resident workers in the FTE population estimates.

## Appendix I

### Survey concepts and scope

Three data collections were conducted by OESR in mid 2010 to obtain information about current and future non-resident workers in the Surat Basin. The Surat Basin was defined as the LGAs of Maranoa (R), Western Downs (R) and Toowoomba (R) and each collection was a census of the relevant companies or establishments.

Details of the concepts, scope and methodology used in each collection are provided below and additional definitions are provided in the Glossary.

### Survey of Accommodation Providers

The 2010 *Survey of Accommodation Providers* was conducted in the Surat Basin to collect information about the non-resident worker population. All operators of WAVs, hotels, motels and caravan parks in the region were asked to report the number of non-resident workers staying at their establishment on a typical day during the week of 28 June to 2 July 2010. The 'typical day' concept was used to avoid undercounting due to shift changes or maintenance periods.

Non-resident workers were defined as:

- staying for the working week or longer
- including mining employees, contractors, construction crews and other workers who FIFO/DIDO to the region
- including live-in staff of WAVs
- excluding overnight and short-term guests
- excluding seasonal agricultural workers and itinerants
- excluding permanent residents of the LGA.

Accommodation operators not catering for workers, such as bed and breakfast dwellings, boarding houses and farm stay locations, were not included in the collection.

The collection methodology used was:

- an initial phone call to determine the most appropriate contact person, mail and email address for each establishment
- self-completion questionnaire and cover letter mailed out with an electronic option provided by email
- phone follow up of non-respondents.

### Resource Operations Employment Survey

OESR's 2010 *Resource Operations Employment Survey* gathered information from all resource companies with operations in the Surat Basin. Companies were asked to report the size of their production and construction workforce in June 2010 according to the residential status of workers (resident or non-resident), the region where non-resident workers lived, and the accommodation provided for workers by the company. Respondents were asked to provide the number of company employees and contractors for the month of June 2010 excluding visitors or short-term contractors employed for a total of one week or less.

The collection methodology used was:

- an initial phone call to determine the most appropriate contact person, mail and email address for each company
- self-completion questionnaire and cover letter mailed out with an electronic option provided by email
- phone follow up of non-respondents.

### **Resource Projects Employment Survey**

OESR's 2010 *Resource Projects Employment Survey* gathered information from all resource companies intending to develop projects in the Surat Basin. Companies were asked to report employment details for future projects, including new projects and expansion of existing projects, planned in the Surat Basin. Respondents were asked to provide the anticipated size, timing and location of each project's construction and production workforces.

The collection methodology used was:

- an initial phone call to determine the most appropriate contact person, mail and email address for each company
- self-completion questionnaire and cover letter mailed out with an electronic option provided by email
- phone follow up of non-respondents

Respondents were asked to complete one questionnaire for each project planned in the Surat Basin.

Note that this collection reports on planned projects, which are subject to substantial change. All data reported from this collection must therefore be treated with caution.

## Appendix J

### FTE population methodology

The full-time equivalent (FTE) population of an area is calculated by adding non-resident worker counts to the estimated residential population. The concept was developed to provide a more complete picture of the service population of an area as estimated resident population numbers published by the ABS exclude non-resident workers. In resource areas, non-resident workers can add significantly to the demand for goods, services and infrastructure.

The 2010 FTE population of the Surat Basin has been calculated by adding non-resident worker numbers to the estimated resident population. In this report, the non-resident workforce has been determined using the results of the 2010 *Survey of Accommodation Providers* and the 2010 *Resource Operations Employment Survey*. The non-resident workforce has then been scaled by a factor of 0.7 to get the estimated 'on-shift' non-resident workers, or number of workers present at a point in time.

A more detailed discussion paper covering service population methodologies may be downloaded from <http://www.oesr.qld.gov.au/products/presentations-papers/towards-est-service-pop/index.php>.

## Appendix K

### Non-resident worker projections methodology

OESR's projections of the non-resident worker population of the Surat Basin provide an estimate of the maximum number of construction and operations workers who would be present in the area at a given point in time, extending to 2017. They are based on the non-resident worker population estimates established by OESR in 2008 and 2010, and take into account future workforce growth arising from resource industry and infrastructure projects planned for the region.

It is important to note that OESR's projections of the non-resident population denote only the number of FIFO/DIDO workers who would be present in the area when rostered on, and do not include those non-resident workers who would be off-shift and therefore absent from the region at the same point in time. Furthermore, the projections should not be confused with forward estimates of job numbers and workforces created by resource projects, which represent the number of additional jobs that they may generate, rather than their impact on regional population growth, both resident and non-resident.

The methodology to develop the non-resident worker population projections can be summarised thus:

- Baseline estimates of the current non-resident workforce of the Surat Basin are established using two annual data collections conducted by OESR – the *Survey of Accommodation Providers* and the *Resource Operations Employment Survey*. The *Survey of Accommodation Providers* counts all non-resident workers living in commercial accommodation (hotels, motels, caravan parks and WAVs), and includes both construction and operations workers of all projects, including non-resource industry projects. The *Resource Operations Employment Survey* collects workforce numbers of current mining and gas operations, split according to resident and non-resident workers.
- Future growth in non-resident workforces is estimated through another OESR data collection, the *Resource Projects Employment Survey*. This annual survey gathers workforce information directly from proponents of future projects, extending to a seven year time horizon. Data gathered include estimates of workforces for construction and operational phases of each project, the likely makeup of workforces (resident and non-resident) and estimated timeframes for the development sequence. Some of these data have since been supplemented or updated from other sources, including Environmental Impact Statements (EIS), Social Impact Management Plans (SIMP) and company sources.
- Resident and non-resident workforce splits for future projects are further differentiated according to advice from project proponents, industry and regionally specific propensities. The number of non-resident workers on-shift is estimated according to shift roster patterns advised by proponents or commonly used within the industry/area. Projected non-resident worker population totals for LGAs are established by accumulating quarter/year totals for the components of all projects that will be accommodated in that area.
- Further adjustments were made to non-resident worker estimates to account for the workforces of construction projects under way in 2010, and which have been completed since the time of survey or are expected to be completed between 2011 and 2017.
- The output of the model reflects the population and workforce impacts based on the best available data at the time of preparation (March 2011).

These projections should be interpreted carefully in view of the following caveats:

- The projections are based on the assumption that all projects considered will proceed within the timeframes reported by the proponent, and that the workforce numbers given are representative of the actual numbers. In that sense, the projections are likely to be somewhat optimistic, and should be considered as having a high level of uncertainty.

- The timing of individual projects is a major influence on cumulative workforce totals. Changes to the indicative timeframes for larger projects are likely to result in changes to the peak levels of projected workforce numbers as well as the duration of these peaks.
- The information on which these projections are based is the best available to OESR at the time of collection. While efforts have been made by OESR to ensure the most reliable and up to date source material is considered, the volatile nature of the resource sector means that no guarantee can be given that any of these projects will proceed in the timeframe or manner reported by the proponent.
- Non-resident worker numbers are projected for the period 2011–2017 only, as it is considered that the reliability of information regarding future projects diminishes considerably beyond that point.
- OESR’s population projections account for the cumulative impacts of the project workforces only, and do not factor in the extent of flow-on or indirect employment. In the absence of detailed information regarding supply chains, it is not currently possible to accurately determine the likely extent and location of cumulative flow-on employment.



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