Darling Downs
Economic and Infrastructure Framework

Background Paper
June 2013

NOT GOVERNMENT POLICY
The Department of State Development, Infrastructure and Planning leads a coordinated Queensland Government approach to planning, infrastructure and development across the state.

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1. Executive summary

The Darling Downs region is being transformed by the considerable economic development opportunities emanating from global and national markets including the increasing economic power of emerging markets. Asia’s increasingly wealthy and mobile middle class is creating a wide range of trade and investment opportunities for Australia.¹

The region’s competitive strengths and economic future largely centre on its energy and mineral resources, agricultural production and food processing.

The Darling Downs region is a large producer and exporter of agricultural goods, accounting for around a quarter of the state’s agricultural production. The large reserves of thermal coal and coal seam gas (CSG) in the Surat Basin continue to attract international investment. This investment is increasing demand for services to resources and energy, construction and engineering, metal-based manufacturing and transport. Associated population growth (including non-resident workers) is also creating opportunities for an expanded services sector in the region. In the decade to 2010–11, the Darling Downs economy experienced average annual growth in gross regional product of 3.1 per cent in real or volume terms to reach $14.2 billion (5.3 per cent of the total Queensland economy).

The regional economic baseline (Section 3) highlights a number of key trends and drivers, including:

- The Darling Downs economy has experienced significant structural changes over the past decade. In particular, the mining; electricity, gas, water and waste services; and construction industries have increased their contributions to the region’s economy. This was partly driven by increased CSG output. While agriculture’s share of the regional economy has diminished, it is still the largest industry in the region.

- Employment growth has been relatively strong over the last five years. A key driver was mining, accounting for almost one quarter of total employment growth over this period. Other industries that have significantly increased employment include electricity, gas, water and waste services; professional, scientific and technical services; construction; accommodation and food services; and transport.

- Over the next 20 years, the population growth of the Darling Downs is projected to average 1.7 per cent per annum. However, this growth will not be consistent across the region with some areas growing faster than others. The region’s resident population level is expected to approach 370 000 in 2031.

¹ Australian Government, Australia in the Asian Century White Paper, October 2012
The Darling Downs is well positioned to take advantage of key global economic trends including growing global demand for energy, food and services. The investment pipeline in the region is strong with almost $30 billion worth of known major projects as at December 2012 (the bulk of which are in mining related investment).

The regional economic baseline analysis also highlighted the Darling Downs’ competitive strengths (summarised in Table 1).

Table 1 Competitive strengths

<table>
<thead>
<tr>
<th>Competitive strengths</th>
<th>Overview of competitive strengths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>Darling Downs accounted for over a quarter of Queensland’s agricultural production in 2010–11. The agriculture base in the region is highly diversified with regional strengths across a range of agricultural commodities.</td>
</tr>
<tr>
<td>Mining and energy</td>
<td>The region is fast becoming a major energy hub as large resources of thermal coal and coal seam gas attract investment. The investment pipeline is strong and this should stimulate growth over the medium term, in particular along the mining and energy supply chains in the region.</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>A major employer in the region with the largest segments being food processing and machinery and equipment manufacturing. Within these segments, areas of high regional specialisation and significant employment include meat and meat product manufacturing, agricultural machinery and equipment, and mining and construction machinery.</td>
</tr>
<tr>
<td>Construction</td>
<td>Strong investment in the energy and resources sector and the resulting demand for new housing is driving strong construction activity in some regional centres. Over the 10 years to 2010–11, construction made the largest contribution to growth in real industry gross value added in the region.</td>
</tr>
<tr>
<td>Tourism</td>
<td>The Darling Downs has attracted relatively strong visitor growth over the last 10 years. Increasing activity in the resources and energy sector is expected to stimulate tourism-related investment in accommodation and transport infrastructure. Niche strengths also exist in segments such as food and wine tourism and drive tourism.</td>
</tr>
<tr>
<td>Business, professional and health services</td>
<td>The Darling Downs’ growing population base will increase demand for a wide range of business and personal services. A number of service industries have experienced strong employment growth in the region, including health and social assistance.</td>
</tr>
<tr>
<td>Education</td>
<td>The region offers extensive and high quality education and training services for both national and international students. Education is an important source of human capital development in the region and a large provider of jobs.</td>
</tr>
</tbody>
</table>

An infrastructure baseline analysis (Section 4) was also undertaken to identify the key economic infrastructure supporting the region and its economy, as well as related issues and challenges that could hold back economic development and growth.

Section 5 provides an economic development strategy to help the Darling Downs capitalise on these competitive strengths and progress a number of major growth opportunities. High level strategies were developed in consultation with stakeholders to provide broad direction for economic development in the region (Table 2).
<table>
<thead>
<tr>
<th>Economic Development Opportunities</th>
<th>High level strategies</th>
</tr>
</thead>
</table>
| **Agriculture and Food** | • Helping agribusinesses and their supply chains to capture value-adding opportunities in domestic and global markets  
                       • Increasing productivity, competitiveness and resilience of agribusinesses and their supply chains through innovation, cutting edge technologies, practices and processes, and commercialisation  
                       • Attracting business and industry investment in agricultural production and food processing  
                       • Diversifying through the development of agri-tourism products including food and wine tourism in the Granite Belt and farm stay  
                       • Proactively mitigating and managing biosecurity threats (pests, diseases, weeds etc) to protect agricultural assets |
| **Coal, CSG extraction and other energy development and services** | • Facilitating and advocating for required infrastructure developments  
                       • Supporting local businesses to capture supply chain opportunities in areas such as transport, logistics and services  
                       • Improving local firms’ competitiveness and resilience through the application of existing, and adoption of new, technologies, as well as the commercialisation of coal to liquids, engineering, drilling, and transport and containment technologies.  
                       • Attracting business and industry investment  
                       • Transferring skills developed in mining to other industries |
| **Resources and agriculture supply chains – metals, equipment and other manufacturing** | • Supporting local businesses to capture opportunities  
                       • Improving local firms’ competitiveness and sustainability through continued capability development in practices and processes, innovation, adoption of cutting-edge technologies and commercialisation  
                       • Attracting business and industry investment  
                       • Fostering cross-regional collaboration to meet resource sector demand and fill supply chain gaps |
| **Tourism and events** | • Facilitating tourism (infrastructure and accommodation) investment  
                       • Promoting and marketing the region to targeted markets and supporting development of new experiences while improving existing tourism products  
                       • Supporting initiatives to boost the supply of available workers  
                       • Improving local firms’ competitiveness through cutting-edge technologies, including digital technologies, and adaptive and flexible practices and processes  
                       • Recognising the importance of the natural environment in supporting tourism markets as well as generating economic opportunities and improving the liveability of the region |
| **Construction** | • Supporting local businesses to capture opportunities  
                       • Improving local firms’ competitiveness and resilience through innovation, cutting edge technologies, continued capability development in practices and processes and commercialisation  
                       • Fostering cross-regional collaboration to meet resource sector demands and fill supply chain gaps |
| **Education and training** | • Facilitating industry input to the provision of skills training  
                       • Attracting investment into specialised capabilities |
| **Information and communications technology** | • Supporting local businesses to capture opportunities  
                       • Improving local firms’ competitiveness through innovation, business process and practices, commercialisation and market access  
                       • Attracting business and industry investment |
More detailed priority actions are presented in the economic development strategy section of this report although it should be noted that these are not an action plan for government, rather a direction for regional stakeholders to help progress and co-ordinate economic development activities in the region.

Despite these opportunities, the region’s future economic development is currently constrained by the capacity of existing infrastructure, conflicts over resource allocation, and the availability of skilled labour. In particular, the current and future infrastructure requirements and demands imposed by the region’s rapidly growing mining and energy sector present significant challenges.

In response to these requirements, the following infrastructure priorities are identified in Section 6 to provide strategic direction for planning activities. Realising these priority infrastructure outcomes could have significant benefit for the region and smooth the path for economic development.

<table>
<thead>
<tr>
<th>Priority infrastructure outcomes for public and private sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Prioritise transport programs to improve freight movement and reduce conflicts through urban areas and with other network users.</td>
</tr>
<tr>
<td>• Facilitate the transportation of workers in an environment with a growing non-resident workforce and population.</td>
</tr>
<tr>
<td>• Improve the security and reliability of community water supplies in the region and their preparedness for future industry and population growth.</td>
</tr>
<tr>
<td>• Reinforce electricity generation, transmission and distribution networks in response to forecast population and industry growth, with consideration of neighbouring regions, and energy efficiency efforts.</td>
</tr>
<tr>
<td>• Support community infrastructure needs including optimising the use of existing assets to improve community liveability and induce non-resident workers to relocate.</td>
</tr>
<tr>
<td>• Advocate and attract telecommunications infrastructure investments to support industry productivity through the use of technology and innovation.</td>
</tr>
</tbody>
</table>

Regional centres play an important economic development role supporting population and visitors, as well as providing connectivity in terms of infrastructure and the exchange of goods and services. Major regional centres in the Darling Downs include Toowoomba, Dalby, Roma, Chinchilla, Goondiwindi, Stanthorpe, Warwick, Miles-Wandoan and St George. There are also a number of smaller localities that play an important role for both residents and the Darling Downs region as a whole.

While largely focusing on the opportunities and challenges related to the region’s medium term outlook, the economic and infrastructure framework presented in this document also takes a longer term perspective. It canvasses opportunities and challenges beyond the current phase of the resource sector expansion, and highlights the need to boost productivity growth to foster future economic resilience.
Figure 1 provides a visual summary of the key components of the economic and infrastructure framework, which has been developed to help the region capitalise on its significant economic development opportunities, as well as address associated issues and challenges.

**Figure 1  Economic and Infrastructure Framework components**

**Where are we now?**

<table>
<thead>
<tr>
<th>Competitive Strengths</th>
<th>Major Regional Challenges</th>
<th>Infrastructure Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td></td>
<td>Doubles of the usual network in poor conditions and congestion for additional traffic loads</td>
</tr>
<tr>
<td>Mining and energy</td>
<td></td>
<td>Capacity and safety challenges present for highways around Proserpine</td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
<td>Water supply inadequate by annual factors, including irrigation, both well and rainwater</td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td>Airports/airspace upgrades on developments proposed across the region</td>
</tr>
<tr>
<td>Tourism</td>
<td></td>
<td>Energy and mineral demand to increase due to resource sector, population and industry growth</td>
</tr>
<tr>
<td>Health services</td>
<td></td>
<td>Water reliability challenges present in communities like Darby, Roma and Irmilingup</td>
</tr>
<tr>
<td>Location</td>
<td></td>
<td>Increasing reliance and demand for telecommunications infrastructure</td>
</tr>
</tbody>
</table>

**Where do we want to be in future?**

**Vision**

A productive and resilient Darling Downs regional economy, capitalising on its competitive strengths and growth potential, particularly in resources and agriculture, to capture supply chain opportunities and retain and improve liveability.

**Strategic Economic Themes**

1. Promoting a shared vision of the region’s economic and social development potential through advocacy and leadership.
2. Strengthening supply chains and improving productivity by promoting business innovation, technology and entrepreneurship.
3. Building long term economic resilience via diversification and market expansion, capturing the benefits of linkages with other regions and globally.
4. Supporting skills, education and workforce development which will also contribute to the state’s unemployment target of four per cent.
5. Planning that reduces red tape and provides access to resources to meet emerging global opportunities.
6. Addressing resource allocation conflicts, capturing complementary land use opportunities and promoting co-existence.

---

**How are we going to get there?**

**Economic Development Opportunities**

- Prioritise transport programs to improve freight networks and reduce urban conflict
- Facilitate the transportation of workers in an environment with a growing non-resident workforce
- Improve the security and reliability of water supplies and preparedness for the future
- Reinforce electricity generation and transmission/distribution systems in response to growth
- Support community infrastructure needs while optimising the use of existing assets to improve liveability
- Advocate and attract telecommunications infrastructure investment to support innovation and enhance productivity
2. Introduction

Context

The Queensland Government is developing statutory regional plans that foster economic opportunities, address land use issues and build communities. These plans are being prepared in collaboration with key industry and community groups, local government, and state government agencies. The Department of State Development, Infrastructure and Planning (DSDIP) is leading the preparation of the plans.

The Queensland Government is committed to creating strong and diverse regional economies and unlocking the four pillars of the Queensland economy: the agriculture, resources, construction, and tourism sectors. These sectors drive economic growth, employment and prosperity – through the jobs and incomes they generate; through resulting economic effects along their supply chains; and, in the demand generated for a wide range of goods and services in the state’s regions. There is also a focus on streamlining regulatory barriers and creating certainty to help regions achieve their economic potential, and developing new strategies and policies to support long-term productive growth in Queensland.

Purpose

This Economic and Infrastructure Framework (the framework) identifies opportunities for the Darling Downs economy to grow with the support of strategic infrastructure planning. By highlighting the economic potential of the Darling Downs, the framework aims to encourage private sector investment in the region, as well as inform infrastructure planning, investment and delivery decisions. More specifically, the framework provides analytical and strategic guidance to the Darling Downs Statutory Regional Plan (‘the regional plan’) which has a land use planning focus. The regional plan defines Darling Downs to include six local government areas: Balonne, Goondiwindi, Maranoa, Southern Downs, Toowoomba and Western Downs.

It is important to note that this framework can not provide a single or definitive pathway for economic development and growth in the region. Whilst it draws on the latest available economic data and rigorous analysis, and has been widely consulted and considered by regional stakeholders, it can not precisely predict the exact economic future of the region. Similarly, it is important to note that it is not intended to be a single definitive guide in planning for the region’s future infrastructure. Whilst it identifies regionally significant economic infrastructure and proposes priority infrastructure outcomes for the region, it recognises other initiatives are important for detailed infrastructure planning.
For the purposes of this framework, infrastructure is the basic physical structures that enable the delivery of essential goods and services to communities and businesses. This framework focuses on economic infrastructure which supports economic development through the supply of energy and water, and the transportation of goods, workers and information (e.g., electrical grids, water supplies, and roads).

The framework is intended to provide the economic development and infrastructure context within which the regional plan is situated and to provide some of the detail to complement the regional plan’s concise format. It is also important to remember that the framework is just one of a number of local, regional and state planning and strategy documents that have helped shape the regional plan.

The framework seeks to create a collaborative approach to economic development. It also aims to improve the environment for business investment by providing a strategic positioning statement for the future and highlighting priority areas for coordinated action.

The framework is non-statutory and will be reviewed every five years in line with the regional plan to ensure it remains consistent with changing market forces and community expectations.

**Approach**

The framework has been developed through a process of understanding where we are, where we want to be and how we can get there. An economic baseline study was undertaken to identify the region’s competitive strengths, growth drivers and the role of major regional centres in supporting and facilitating economic development. In conjunction with this study, an infrastructure baseline analysis was undertaken to get an understanding of the key economic infrastructure supporting the region and its economy, as well as the significant challenges that may impede the economic development of the region as a whole.

Central to the framework is the economic development strategy which establishes a vision and supporting strategic economic themes to help guide the region’s future economic development. It broadly identifies how the region can capitalise on its major growth opportunities and address a range of economic development issues that may impede this growth. This is supported by infrastructure outcomes which highlight opportunities and provide guidance to infrastructure planning and prioritisation activities to help address the challenges identified. Realising these economic development opportunities and infrastructure outcomes will increase the efficiency, productivity and growth potential of the region’s economy.

By taking this approach, the framework logically works through the central issues confronting the Darling Downs economy and its prospects. The major findings and outcomes from each stage of the process are presented in this document.
The economic development strategy was developed based on evidence presented in the economic baseline coupled with an assessment of whole of region opportunities and challenges, and in consultation with stakeholders and Department of State Development, Infrastructure and Planning (DSDIP) regional offices.

Similarly, the infrastructure baseline was prepared through consultation with state government agencies, industry and local government. This process developed a shared understanding of the region’s current stock of economic infrastructure and the related challenges to economic development.

Figure 2 summarises the approach taken to develop the framework.

**Figure 2 Economic and Infrastructure Framework approach**

<table>
<thead>
<tr>
<th>Approach</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where is the region and its economy now?</td>
<td>Provide data, key trends and projections to establish the current economic baseline of the region including competitive strengths and key drivers</td>
</tr>
<tr>
<td>What infrastructure is supporting this?</td>
<td>Undertake an infrastructure baseline analysis to identify the key economic infrastructure supporting the region and its economy, as well as significant issues and challenges that may impede regional economic development</td>
</tr>
<tr>
<td>Where do we want to be and how can we get there?</td>
<td>Develop high level strategies and more detailed actions to progress growth opportunities and address economic development issues.</td>
</tr>
<tr>
<td>What should we consider next for infrastructure?</td>
<td>Identify priority infrastructure outcomes to support economic development in the region and help guide infrastructure planning and prioritisation activities</td>
</tr>
</tbody>
</table>
### 3. Economic baseline

#### Key trends and drivers

The analysis presented in this section is based largely on a number of publically available information sources, including Queensland Treasury and Trade, Government Statistician, as well as the Australian Bureau of Statistics (and in particular, the recently released census data, which provides a rich profile of regions). In some cases, this analysis is based on varying timelines but the overall aim is to provide a detailed baseline that reflects longer-term historical trends and identifies regional competitive strengths, as well as any emerging developments on top of the baseline projections.

#### Growing economy

The Darling Downs economy has recorded solid growth despite the negative effects of some major external events, most notably the global financial crisis in 2008 and severe flooding in late 2010 and the early part of 2011, which followed a prolonged period of drought. In the decade to 2010–11, the Darling Downs economy experienced average annual growth in gross regional product (GRP) of 3.1 per cent in real or volume terms (after adjusting for price movements) to reach $14.2 billion (5.3 per cent of the total Queensland economy). This growth out-paced the rest of Australia (excluding Queensland) but was below the state average (Table 3).

#### Table 3 Gross regional product, Darling Downs—South West, 2001–2011

<table>
<thead>
<tr>
<th></th>
<th>Levels</th>
<th>Average annual per cent growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Darling Downs – South West Statistical Divisions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal GRP $M</td>
<td>7,418</td>
<td>11,387</td>
</tr>
<tr>
<td>Real GRP $M^</td>
<td>10,438</td>
<td>12,692</td>
</tr>
<tr>
<td>Real GRP per capita $^</td>
<td>43,977</td>
<td>49,879</td>
</tr>
<tr>
<td><strong>Total Queensland</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal GRP $M</td>
<td>116,561</td>
<td>212,853</td>
</tr>
<tr>
<td>Real GRP $M^</td>
<td>180,444</td>
<td>252,650</td>
</tr>
<tr>
<td>Real GRP per capita $^</td>
<td>49,724</td>
<td>60,485</td>
</tr>
<tr>
<td><strong>Rest of Australia</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal GRP $M</td>
<td>590,331</td>
<td>870,449</td>
</tr>
<tr>
<td>Real GRP $M^</td>
<td>852,724</td>
<td>1,020,127</td>
</tr>
<tr>
<td>Real GRP per capita $^</td>
<td>54,024</td>
<td>60,582</td>
</tr>
</tbody>
</table>


Notes: ^ Measured in chain volume terms (2010–11) and the above is based on ASGC 2006 with Darling Downs and South West statistical divisions a proxy for region.
The region’s growth over the last decade was much stronger in nominal terms (current prices), equalling that of the rest of Australia but once again coming in below the state average. Nominal growth was boosted by higher prices in a number of industries, including electricity, gas, water and waste services; construction; and mining.

Assuming that the 3.1 per cent historical long term real growth rate continues, the Darling Downs economy would be worth close to $20 billion in 2020–21 (valued in 2010–11 dollars). This does not take into account the potential for stronger growth derived from current and future capital investment, particularly in mining.

On a per capita basis the region experienced higher growth than both the state and the rest of Australia, on average, over the last ten years.

Analysis of economic growth provides useful insights into the Darling Downs economy, including:

- structural changes (taking into account both price and quantity effects), as well as driver industries (focusing on underlying volume growth)
- regional specialisations (regional industries that account for a larger share of economic output when compared with the state).

**Changing industry composition highlights structural change**

The regional economy has experienced significant structural changes over the past decade (see Figure 3). In particular, the mining; electricity, gas, water and waste services; and construction industries have each increased their contributions to gross value added (GVA) in the region. This was partly driven by increased coal seam gas output.

Despite experiencing a significant decrease in industry share (due largely to a series of natural disasters), agriculture is still the largest industry in the region accounting for 13.5 per cent of nominal GVA in 2010–11. Other large industries in the region included construction; manufacturing; health care and social assistance; and mining (all of which have increased their nominal GVAs significantly over this period).

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3 Gross value added is the term used to describe gross product by industry and by sector. It measures the value of output (by industry or sector) less the value of intermediate consumption needed to produce that output.
Key growth industries driving regional specialisation

Between 2000–01 and 2010–11, the construction industry made the largest contribution to GVA growth in the Darling Downs at 0.5 percentage points (Table 4). This was followed by agriculture, forestry and fishing, and finance and insurance services (each with 0.4 percentage points). The mining and electricity, gas, water and waste services industries both contributed 0.3 percentage points to overall GVA growth in the region. The Darling Downs accounts for more than one-quarter of Queensland’s agriculture, forestry and fishing production, further highlighting the region’s dominance in this industry.
Table 4  Darling Downs — South West industry growth, real GVA

<table>
<thead>
<tr>
<th>Industry</th>
<th>Growth in real GVA 2000–01 to 2010–11 (%)</th>
<th>Contribution to growth in real GVA 2000–01 to 2010–11 (pp)</th>
<th>Share of Queensland industry real GVA in 2010-11 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry and fishing</td>
<td>3.5</td>
<td>0.4</td>
<td>26.4</td>
</tr>
<tr>
<td>Mining</td>
<td>5.1</td>
<td>0.3</td>
<td>3.3</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>-0.7</td>
<td>-0.1</td>
<td>4.7</td>
</tr>
<tr>
<td>Electricity, gas, water and waste services</td>
<td>9.8</td>
<td>0.3</td>
<td>9.7</td>
</tr>
<tr>
<td>Construction</td>
<td>6.8</td>
<td>0.5</td>
<td>5.4</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>0.6</td>
<td>0.0</td>
<td>4.8</td>
</tr>
<tr>
<td>Retail trade</td>
<td>4.2</td>
<td>0.2</td>
<td>5.9</td>
</tr>
<tr>
<td>Accommodation and food services</td>
<td>0.4</td>
<td>0.0</td>
<td>4.4</td>
</tr>
<tr>
<td>Transport, postal and warehousing</td>
<td>3.8</td>
<td>0.2</td>
<td>4.4</td>
</tr>
<tr>
<td>Information media and telecommunications</td>
<td>-1.6</td>
<td>0.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Financial and insurance services</td>
<td>9.1</td>
<td>0.4</td>
<td>4.4</td>
</tr>
<tr>
<td>Rental, hiring and real estate services</td>
<td>5.6</td>
<td>0.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Professional, scientific and technical services</td>
<td>3.6</td>
<td>0.1</td>
<td>2.7</td>
</tr>
<tr>
<td>Administrative and support services</td>
<td>2.2</td>
<td>0.0</td>
<td>2.8</td>
</tr>
<tr>
<td>Public administration and safety</td>
<td>1.8</td>
<td>0.1</td>
<td>5.2</td>
</tr>
<tr>
<td>Education and training</td>
<td>1.3</td>
<td>0.1</td>
<td>6.5</td>
</tr>
<tr>
<td>Health care and social assistance</td>
<td>3.0</td>
<td>0.2</td>
<td>5.7</td>
</tr>
<tr>
<td>Arts and recreation services</td>
<td>4.3</td>
<td>0.0</td>
<td>2.7</td>
</tr>
<tr>
<td>Other services</td>
<td>1.5</td>
<td>0.0</td>
<td>4.9</td>
</tr>
<tr>
<td>Gross Value Added</td>
<td>3.3</td>
<td></td>
<td>5.3</td>
</tr>
</tbody>
</table>


Notes: Based on ASGC 2006 with Darling Downs and South West statistical divisions a proxy for region.

Specialisation analysis can be used to help identify high level industry strengths in the region by benchmarking industry growth relative to the performance of the industry in the state as a whole. This analysis highlights those industries that are more concentrated in the region as well as how this performance has changed over time when benchmarked to the state. Over the ten years to 2010–11, the region has become more specialised in agriculture, forestry and fishing, and electricity, gas, water and waste services (Figure 4). The mining industry has also experienced an increase in specialisation, although the Darling Downs economy remains less exposed to the mining industry than the state as a whole.

It should be noted that this analysis is high level in the sense that a number of the industries analysed are diverse (in particular agriculture and manufacturing) and consequently these are explored in further detail in the Competitive Strengths section of this report.
Figure 4  Regional industry specialisation, 2000–01 and 2010–11
(GVA chain volume measure)

Notes: Based on ASGC 2006 with Darling Downs and South West statistical divisions a proxy for region. The industry specialisation ratio is calculated by dividing the industry’s percentage share of total GVA in the region (Darling Downs) by the industry’s percentage share of total GVA in Queensland.

Population change is a key long term driver
The Darling Downs resident population is projected to increase from over 250,000 persons in 2011 to almost 310,000 persons in 2021 and just under 370,000 persons in 2031 (Figure 5). Darling Downs’ resident population is expected to grow at an annual average 1.7 per cent between 2011 and 2021, below the projected Queensland average of 1.9 per cent (Table 5). This growth rate is expected to be maintained in the period 2021–2031, matching a projected slowdown in the Queensland population growth to 1.7 per cent.
Figure 5  Projected population growth, 2011–2031


Notes: The new edition of the population projections is currently being prepared based on revised estimated resident population and assumptions around future population changes and expected to be released in late 2013.

This resident population growth, on top of a projected increase in the non-resident population, will drive activity in housing and construction, retail trade and other services including health care and education, as well as electricity, water and other utilities. It will also bring challenges on top of those associated with an ageing population.

The strongest population growth is expected to occur in the Toowoomba local government area, increasing its share of the region’s population from 62 per cent to 66 per cent over the next 20 years. The smaller, more remote regions (such as Balonne and Goondiwindi) are projected to see slower population growth out to 2031.
Table 5  Projected population growth by Local Government Area to 2031

<table>
<thead>
<tr>
<th>Local Government Area</th>
<th>Projected Population as at 30 June</th>
<th>Average Annual Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2021</td>
<td>2031</td>
</tr>
<tr>
<td></td>
<td>- number -</td>
<td>- percent -</td>
</tr>
<tr>
<td>Balonne (S)</td>
<td>5,183</td>
<td>5,663</td>
</tr>
<tr>
<td>Goondiwindi (R)</td>
<td>12,352</td>
<td>13,140</td>
</tr>
<tr>
<td>Maranoa (R)</td>
<td>15,301</td>
<td>17,172</td>
</tr>
<tr>
<td>Southern Downs (R)</td>
<td>41,824</td>
<td>47,402</td>
</tr>
<tr>
<td>Toowoomba (R)</td>
<td>198,591</td>
<td>244,340</td>
</tr>
<tr>
<td>Western Downs (R)</td>
<td>36,503</td>
<td>40,397</td>
</tr>
<tr>
<td>Darling Downs</td>
<td>309,754</td>
<td>368,114</td>
</tr>
<tr>
<td>Queensland</td>
<td>5,588,617</td>
<td>6,592,857</td>
</tr>
</tbody>
</table>


Notes: The new edition of the population projections is currently being prepared based on revised estimated resident population and assumptions around future population changes and expected to be released in late 2013.

An ageing population poses considerable policy challenges for most developed economies, and Queensland (and the Darling Downs region) is no exception. By 2031, over one fifth of the Darling Downs’ population will be aged 65 or above. The ageing trend will be even more evident in Goondiwindi and Southern Downs, where one in four residents is expected to exceed what is considered working age by 2031.

Surat Basin non-resident population projections

In addition to their resident populations, resource regions can contain large numbers of non-residents who live in the area only while on-shift, particularly during the construction phase of projects. Fly-in/fly-out and drive-in/drive-out (FIFO/DIDO) work practices have been established to cater for these workers.

In recent years, the Surat Basin’s non-resident population (combining the Maranoa, Western Downs and Toowoomba local government areas) has been boosted by a growing FIFO/DIDO workforce associated with the development of the CSG industry, estimated at 6,440 in 2012. As the construction phase of the various CSG projects currently under development in the Surat Basin tapers off, the non-resident population will fall as smaller operational workforces take over.

According to projections published by Queensland Treasury and Trade, Government Statistician, the Surat Basin’s non-resident population will peak at 8,590 in June 2013. Assuming no additional proposed projects reach a Final Investment Decision (FID), the non-resident population of the Surat Basin is then expected to fall to 2,660 people by 2018 (series A in Table 6), as the large construction workforces of the first three CSG projects tapers off. However, if all CSG and coal projects proposed for the Surat Basin reach FID (series D in Table 6), then the non-resident population of the Surat Basin may pick up again to 8,020 by 2017, before falling to 5,500 by 2019.

---

The Western Downs local government area accounts for the majority of resource activity in the Surat Basin and nearly two-thirds of its total non-resident population (as at June 2012). The Western Downs' dominance in CSG development is expected to see its non-resident population peak at 5,280 in 2013, before declining steeply from 2014. Depending on how many proposed projects reach FID, (including the large Wandoan Coal project and associated Surat Basin Rail project), the Western Downs' non-resident population is then expected to fall to between 1,500 and 4,250 by 2019.

The non-resident population of the Maranoa local government area is expected to fall sharply from a peak of 3,120 in June 2013 to between 1,480 and 1,680 people in June 2015 as current projects move from construction to operation. It is then projected to gradually decline to between 830 and 890 people by June 2019.

The non-resident population associated with the resource sector in the Toowoomba local government areas is relatively small, estimated at just 190 people in 2012. Most resource workers are drawn from Toowoomba city’s large population base rather than externally. Growth in non-resident population associated with future resource industry operations is therefore expected to be modest, reaching 330–360 people by 2019.

### Table 6: Projected non-resident workers on-shift, Surat Basin

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>6,440</td>
<td>8,590</td>
<td>7,420</td>
<td>5,650</td>
<td>3,680</td>
<td>2,990</td>
<td>2,660</td>
<td>2,660</td>
</tr>
<tr>
<td>B</td>
<td>6,440</td>
<td>8,590</td>
<td>7,490</td>
<td>6,210</td>
<td>4,690</td>
<td>4,710</td>
<td>4,350</td>
<td>3,930</td>
</tr>
<tr>
<td>C</td>
<td>6,440</td>
<td>8,590</td>
<td>7,490</td>
<td>6,210</td>
<td>5,150</td>
<td>5,240</td>
<td>4,790</td>
<td>4,370</td>
</tr>
<tr>
<td>D</td>
<td>6,440</td>
<td>8,590</td>
<td>7,490</td>
<td>7,030</td>
<td>8,020</td>
<td>6,660</td>
<td>5,500</td>
<td></td>
</tr>
</tbody>
</table>

Source: Government Statistician, Surat Basin non-resident population projections, 2012-13

Notes: projections cover the local government areas of Maranoa, Western Downs and Toowoomba and may include a small number of non-resident workers in each local government area who live elsewhere in the Surat Basin. The four different series represent a range of possible outcomes arising from the future development of resource projects and operations as 30 June of each year. Given the level of uncertainty associated with these projects, the projections should be regarded as indicative scenarios rather than probabilistic predictions.

Series A: includes the construction and operational workforces of projects that have commenced construction at the time that the projections were prepared. Series forms the baseline for projecting growth in the non-resident population for the other three series.

Series B: includes Series A plus projected growth arising from projects that have an Environmental Impact Statement (EIS) approved, but have yet to reach FID, including the Wandoan Coal project and associated Surat Basin Rail project, as well as the Arrow Energy LNG pipeline and Braemar 3 Power Station.

Series C: Includes Series A and B projections plus projected growth arising from projects that have lodged an EIS, but which have yet to proceed through to final approval.

Series D: includes Series A, B and C projections, plus the projected growth arising from projects that have yet to publish an EIS and therefore relies to some extent on preliminary information.
Regional centres

Regional centres are important from an economic development perspective in terms of the role they provide in supporting their own populations, non-residents and visitors, as well as surrounding areas in the region. This includes the connections they provide and facilitate (including infrastructure), as well as goods and services that are exchanged both within and outside of the Darling Downs region. Major regional centres in the Darling Downs include Toowoomba, Dalby, Roma, Chinchilla, Goondiwindi, Stanthorpe, Warwick, Miles-Wandoan and St George. The role and outlook of these major regional centres, including their contributions to resident and non-resident population growth in the Darling Downs, is provided in Appendix A.

Favourable labour market

Over the past three years, the Darling Downs labour market has generally matched the performance of the state as a whole in terms of employment growth. However, while the state’s employment growth eased to 0.5 per cent in the year to December 2012, the region’s employment growth accelerated to a relatively strong 3.8 per cent. The Darling Downs also recorded a lower unemployment rate than the state average in December 2012 (5.3 per cent compared with 5.8 per cent). Table 7 highlights some regional variations in labour market outcomes across the local government areas in the Darling Downs.

Table 7 Labour market outcomes (smoothed series)

<table>
<thead>
<tr>
<th>Local Government Area</th>
<th>Employed persons</th>
<th>Average annual employment growth</th>
<th>UE rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dec-09 Dec-11 Dec-12</td>
<td>Dec-09 – Dec-12 Dec-11 – Dec-12</td>
<td>Dec-12</td>
</tr>
<tr>
<td>Balonne (S)</td>
<td>2,910 2,891 2,983</td>
<td>0.8 3.2</td>
<td>6.9</td>
</tr>
<tr>
<td>Goondiwindi (R)</td>
<td>6,145 6,135 6,375</td>
<td>1.2 3.9</td>
<td>4.5</td>
</tr>
<tr>
<td>Maranoa (R)</td>
<td>8,173 8,247 8,610</td>
<td>1.8 4.4</td>
<td>2.6</td>
</tr>
<tr>
<td>Southern Downs (R)</td>
<td>17,005 16,801 17,224</td>
<td>0.4 2.5</td>
<td>8.1</td>
</tr>
<tr>
<td>Toowoomba (R)</td>
<td>82,267 81,902 85,050</td>
<td>1.1 3.8</td>
<td>5.2</td>
</tr>
<tr>
<td>Western Downs (R)</td>
<td>16,590 16,513 17,238</td>
<td>1.3 4.4</td>
<td>4.6</td>
</tr>
<tr>
<td>Darling Downs</td>
<td>133,090 132,489 137,480</td>
<td>1.1 3.8</td>
<td>5.3</td>
</tr>
<tr>
<td>Queensland</td>
<td>2,255,729 2,324,710 2,337,091</td>
<td>1.2 0.5</td>
<td>5.8</td>
</tr>
</tbody>
</table>

Source: Queensland Treasury and Trade (Government Statistician) Queensland Regional Database as at 11 April 2013. Data based on Department of Education, Employment and Workplace Relations Small Labour Market Area series as at December 2012 (four quarter smoothed series). UE=unemployment rate
Regional employment trends

Examining trends in employment by industry provides insight into key drivers of employment growth in the Darling Downs economy (Table 8). In 2011, the six largest industries in terms of employment were health care and social assistance; agriculture, forestry and fishing; retail trade; education and training; manufacturing; and construction. Each of these six industries directly employed over 9,000 people and together comprised almost 60 per cent of total employment in the region in 2011 (of just over 112,000 people).

Mining has been a key driver of employment growth in the region. In the five years to 2011, mining employment in the Darling Downs nearly tripled, accounting for almost one-quarter of total employment growth in the region. Other industries that have significantly increased employment in the region include, electricity, gas, water and waste services; professional, scientific and technical services; construction; accommodation and food services; and transport. It is likely that much of this employment growth was driven by expanding mining sector activity and related investment over this period. Employment decreases in manufacturing partially reflect aspects of the ‘two speed’ economy at play. Employment will also likely continue to increase in mining in the future as these projects move into the operations phase.

Other industries that experienced strong employment increases include non-market industries including health care and social assistance and education and training.

Specialisation analysis can be used to point to industries where the region has established industry strengths as well as emerging industries compared with the state average. The agriculture, forestry and fishing industry has a high specialisation ratio, with a share of employment in the Darling Downs almost four times as high as the state average in 2011. Mining has significantly increased its specialisation in the region in line with the expanding thermal coal and CSG activities, as has electricity, gas, water and waste services, and other services.

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5 The term ‘two speed’ economy typically refers to a situation where some sectors (such as manufacturing) and regions are struggling while other sectors (such as mining) and regions are booming. These trends can result in serious sectoral and regional imbalances in times of overall economic growth.
<table>
<thead>
<tr>
<th>Industry</th>
<th>Employment (persons)</th>
<th>Employment growth (%)</th>
<th>Specialisation relative to Queensland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health care and social assistance</td>
<td>11,053</td>
<td>13,361</td>
<td>20.9%</td>
</tr>
<tr>
<td>Agriculture, forestry and fishing</td>
<td>13,422</td>
<td>12,169</td>
<td>-9.3%</td>
</tr>
<tr>
<td>Retail trade</td>
<td>12,107</td>
<td>12,081</td>
<td>-0.2%</td>
</tr>
<tr>
<td>Education and training</td>
<td>9,130</td>
<td>9,906</td>
<td>8.5%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>10,694</td>
<td>9,291</td>
<td>-13.1%</td>
</tr>
<tr>
<td>Construction</td>
<td>7,795</td>
<td>9,247</td>
<td>18.6%</td>
</tr>
<tr>
<td>Public administration and safety</td>
<td>6,755</td>
<td>6,818</td>
<td>0.9%</td>
</tr>
<tr>
<td>Accommodation and food services</td>
<td>5,669</td>
<td>6,659</td>
<td>17.5%</td>
</tr>
<tr>
<td>Transport, postal and warehousing</td>
<td>4,741</td>
<td>5,356</td>
<td>13.0%</td>
</tr>
<tr>
<td>Professional, scientific and technical services</td>
<td>3,507</td>
<td>4,514</td>
<td>28.7%</td>
</tr>
<tr>
<td>Other services</td>
<td>3,934</td>
<td>4,176</td>
<td>6.2%</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>3,798</td>
<td>3,808</td>
<td>0.3%</td>
</tr>
<tr>
<td>Mining</td>
<td>1,029</td>
<td>2,884</td>
<td>180.3%</td>
</tr>
<tr>
<td>Financial and insurance services</td>
<td>2,499</td>
<td>2,471</td>
<td>-1.1%</td>
</tr>
<tr>
<td>Administrative and support services</td>
<td>1,859</td>
<td>2,210</td>
<td>18.9%</td>
</tr>
<tr>
<td>Electricity, gas, water and waste services</td>
<td>1,051</td>
<td>1,549</td>
<td>47.4%</td>
</tr>
<tr>
<td>Rental, hiring and real estate services</td>
<td>1,287</td>
<td>1,318</td>
<td>2.4%</td>
</tr>
<tr>
<td>Information media and telecommunications</td>
<td>946</td>
<td>921</td>
<td>-2.6%</td>
</tr>
<tr>
<td>Arts and recreation services</td>
<td>777</td>
<td>867</td>
<td>11.6%</td>
</tr>
<tr>
<td>Total^</td>
<td>104,474</td>
<td>112,215</td>
<td>7.4%</td>
</tr>
</tbody>
</table>


Notes: Total includes inadequately described and not stated. The industry specialisation ratio is calculated by dividing the industry’s percentage share of total employment in the region (Darling Downs) by industry’s percentage share of total employment in Queensland.
Exports and investment are integral to facilitating economic development

Queensland and its regions are benefitting greatly from the enormous transformation in the world economy as the Asia Pacific region (particularly China) takes over as the engine of global growth from the West.

Population and income growth in low and middle income countries such as India, China and Indonesia, is resulting in growing demands for energy, materials, protein in diets (e.g. meat and livestock products), variety and quality (e.g. of foodstuffs), convenience, education, experiences, environmental amenity, and services.

The Darling Downs region is well placed to meet these growing demands. The region’s climate, soil and available water support a diverse agricultural industry with strong established links to Asian markets. The Darling Downs can potentially benefit from a range of new export opportunities for agriculture and food processing (including grains, vegetables, fruit, beef, lamb and wine) and increased investment.

The Darling Downs is also well positioned to take advantage of global developments in energy markets. The region’s CSG reserves in the Surat Basin will provide the feedstock for Queensland’s new liquefied natural gas (LNG) export industry, while further development of its massive thermal coal resources is also proposed.

Three LNG projects with a combined capital cost of more than $60 billion are currently under construction in Gladstone, supported by substantial direct foreign investment. A final investment decision on a fourth major CSG to LNG project is due in 2013. These projects will process CSG from the Surat and Bowen Basins and export the refined LNG to major Asian markets via the Port of Gladstone.

The Darling Downs of course faces increasing competition from emerging economies, including Indonesia and Malaysia, to supply the world’s energy markets. While better placed than many regions, the Darling Downs is not immune from the resulting structural adjustment pressures resulting from global shifts in energy supply and demand.

Figure 6 shows the value of projects located in the region as listed in the Deloitte Access Economics Investment Monitor as at December 2012. This highlights that a considerable portion of the investment pipeline is linked to development of the resources sector in the region and that a large share of this investment is already under construction (with the bulk of this expenditure planned to occur by 2015).
Figure 6    Value of major projects in Darling Downs — South West

Notes: Projects are assigned to regions by Deloitte Access Economics based on Statistical Divisions. Darling Downs and South West statistical divisions are used as a proxy for the Darling Downs region. No projects were listed as ‘under consideration’ as at December 2012, while only $156M was considered ‘committed’.

Competitive strengths

A part of the Economic Baseline study an industry analysis was undertaken to provide an understanding of the Darling Downs’ competitive strengths.

Agriculture

Agriculture is an established competitive strength in the region, reflecting developments over the last 100 years and the region’s ability to capitalise on highly productive soils, access to water, temperate climate and relatively easy access to ports. These factors support broad agricultural production, as well as associated food processing and value adding services.

For certain crops, including sorghum, cotton and wheat, the region’s contribution to Queensland’s production more than 70 per cent (Figure 7). Over the five years to 2011, the total gross value of agriculture production in the region increased by 6 per cent to over $2.5 billion (accounting for over a quarter of Queensland’s agricultural production in 2010–2011). The increase was broad-based across all major commodities in the region, with the exception of cattle and calves slaughtered. The Darling Downs’ diverse agriculture base is further evidenced in Figure 8.
Figure 7  Darling Downs percentage contribution to Queensland agricultural production, 2010–11

![Graph showing percentage contribution to Queensland agricultural production, 2010–11.](image)

Source: ABS, Value of Agricultural Commodities Produced, Australia, 2010–11, Cat. No. 7503.0
Note: Agriculture values were concorded to LGA based simply on a population concordance from the broader functional areas of the ABS ASGS 2011 Statistical Area Level 2 (SA2) geographical boundaries to LGA. As a result, these numbers for LGA production should be treated as indicative only.

Figure 8  Value of agricultural production in Darling Downs, 2010–11

![Pie chart showing value of agricultural production in Darling Downs, 2010–11.](image)

Source: ABS, Value of Agricultural Commodities Produced, Australia, 2010–11, Cat. No. 7503.0
Note: Agriculture values were concorded to LGA based simply on a population concordance from the broader functional areas of the ABS ASGS 2011 Statistical Area Level 2 (SA2) geographical boundaries to LGA. As a result, these numbers for LGA production should be treated as indicative only.
Agricultural production in the region is diverse, including vegetables and fruit (particularly in Southern Downs) as well as livestock products (mainly eggs and milk with the bulk produced in Toowoomba).

The region also produces around 80 per cent, 10 per cent and 5 per cent of Queensland’s cypress, hardwood and softwood forestry production, respectively. Most forestry lands, native cypress and hardwood, are grazed and managed as silvopastoral systems – production systems that combine forestry and grazing in a mutually beneficial way.

While Toowoomba and Western Downs are the largest regions in terms of value, agriculture is the economic mainstay for other local government areas in the region including Balonne, Goondiwindi, Maranoa and Southern Downs.

The region’s agricultural base also has strong supply chain linkages with downstream food manufacturing industries, as well as wholesale trade, transport and food services.

Research undertaken by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) has shown that a large proportion of farms in the Darling Downs region are small in term of their business size. In 2009–10, around 50 per cent of farms in the Darling Downs region had an estimate value of agricultural operations (EVAO) or turnover, of less than $50,000. These farms accounted for only 6 per cent of the region’s total EVAO, while larger farms with an EVAO of more than $350 000 (14 per cent of total farms in the region) accounted for an estimated 64 per cent.

This research also showed that beef cattle and cropping enterprises dominate broadacre farming in the Darling Downs. For the 10 years ending 2010–11, beef cattle and broadacre cropping accounted for around 80 per cent of average total cash receipts for farms in the Darling Downs. Winter crops (such as wheat and barley) have been much more prevalent in the Western Darling Downs, while the Eastern Darling Downs has had a higher proportion of summer crops (such as grain sorghum and sunflowers).

The viability of Australia’s agricultural industries has been underpinned by long-term productivity growth. Another recent study by ABARES found that Australian agriculture has experienced rapid productivity growth over four decades. This has improved Australia’s productivity level relative to Canada and maintained it relative to the United States in the long run. Both agricultural productivity and changes in relative input prices are major determinants of international competitiveness of agricultural products on world markets.

7 ABARES excludes specialist cotton farms from its definition of the broadacre industry.
8 Source: ABARES, Comparing agricultural total factor productivity between Australia, Canada and the United States, Conference Paper 13.5, February 2013
Australia has a relatively small, remote agricultural sector and a highly variable climate – factors which detract from productivity growth.9 However, Australia, like Canada and the United States, has been able to drive productivity improvements through capital deepening (increasing the ratio of capital to labour inputs mainly through technological advances), increases in farm size and investment in agricultural research and development. Australia will need to continue these efforts to maintain international competitiveness.

**Mining and energy**

While the region currently only accounts for a relatively small share of Queensland’s mining production (see Figure 9), it is fast becoming a major energy hub as large resources of thermal coal and coal seam gas continue to attract investment.

**Figure 9  Value of mining production in Darling Downs-South West**

Source: Data provided by OESR and DNRM.
Notes: Based on ASGC 2001 and 2006. Darling Downs and South West statistical divisions used as a proxy for the Darling Downs region

There is a large pipeline of resources and energy developments currently proposed for the region, particularly in the Western Downs. These projects have considerable potential to drive the region’s future economic development.

As an example, the largest proposed coal development (conditional environmental approval granted in March 2011) is the Wandoan Project which includes an open cut mine, a coal handling and preparation plant, and support facilities. Should the project proceed, it will produce around 30 million tonnes of coal annually and have a life of more than 30 years. It therefore has the potential to significantly stimulate economic growth in the Darling Downs region.

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9 ABARES research has found evidence of a slowdown in broadacre agricultural productivity in Australia after the mid 1990s, partly attributable to poor seasonal conditions.
Furthermore, the region is experiencing growth from exploration in the energy and resource sectors. The Darling Downs holds one of Australia’s largest undeveloped energy resources with over 10 per cent of Queensland’s coal deposits and an estimated 65 per cent of Queensland’s known CSG reserves. There is potential for a wide range of new energy developments utilising the abundance of coal, CSG, solar and wind resources in the region, close to established energy infrastructure.

**Manufacturing**

Key manufacturing activities in the region include food processing (in particular meat and meat products), non-metallic mineral products, transport machinery and equipment, and metal products (Figure 10).

**Figure 10** Structure of the Darling Downs manufacturing sector, 2006–07

![Structure of the Darling Downs manufacturing sector, 2006–07](image)

Source: Australian Bureau of Statistics, Manufacturing Industry, Australia, 2006–07, Cat No: 8221.0
Notes: Shares represents sales of goods and services. The Darling Downs and South West statistical divisions are used as a proxy for the Darling Downs region.

More recent and detailed employment data based on the 2011 ABS census (Table 9) shows that the region is highly specialised in agricultural machinery and equipment manufacturing (specialisation ratio of 7.7[^10]), meat and meat product manufacturing (2.7), dairy product manufacturing (1.4) and mining and construction machinery manufacturing (1.4). Nearly 40 per cent of the Queensland employees working in the agricultural machinery and equipment manufacturing group were based in the Darling Downs.

[^10]: The industry specialisation ratio is calculated by dividing the industry’s percentage share of employment in the region (Darling Downs) with a reference economy (Queensland).
<table>
<thead>
<tr>
<th>Industry</th>
<th>2011 (employed persons)</th>
<th>Share of Queensland (%)</th>
<th>Specialisation ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food product manufacturing</td>
<td>2861</td>
<td>7.8</td>
<td>1.5</td>
</tr>
<tr>
<td>Meat and meat products</td>
<td>1817</td>
<td>13.5</td>
<td>2.7</td>
</tr>
<tr>
<td>Bakery products</td>
<td>500</td>
<td>5.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Dairy product manufacturing</td>
<td>134</td>
<td>7.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Other food products</td>
<td>410</td>
<td>3.4</td>
<td>0.7</td>
</tr>
<tr>
<td>Beverage and tobacco products manufacturing</td>
<td>122</td>
<td>4.3</td>
<td>0.9</td>
</tr>
<tr>
<td>Textile, leather, clothing and footwear products</td>
<td>281</td>
<td>5.4</td>
<td>1.1</td>
</tr>
<tr>
<td>Wood products</td>
<td>599</td>
<td>7.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Pulp, paper and converted paper products</td>
<td>26</td>
<td>1.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Printing</td>
<td>206</td>
<td>4.3</td>
<td>0.8</td>
</tr>
<tr>
<td>Petroleum and coal products</td>
<td>28</td>
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<td>0.3</td>
</tr>
<tr>
<td>Basic chemical and chemical products</td>
<td>188</td>
<td>3.0</td>
<td>0.6</td>
</tr>
<tr>
<td>Polymer product and rubber products</td>
<td>106</td>
<td>1.6</td>
<td>0.3</td>
</tr>
<tr>
<td>Non-metallic mineral products</td>
<td>195</td>
<td>2.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Primary metal and metal products</td>
<td>447</td>
<td>2.7</td>
<td>0.5</td>
</tr>
<tr>
<td>Fabricated metal products</td>
<td>585</td>
<td>4.3</td>
<td>0.9</td>
</tr>
<tr>
<td>Transport equipment manufacturing</td>
<td>758</td>
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<td>1.0</td>
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<tr>
<td>Motor vehicle and motor vehicle parts</td>
<td>502</td>
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<td>1.4</td>
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<tr>
<td>Other transport equipment</td>
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<tr>
<td>Aircraft manufacturing and repair services</td>
<td>194</td>
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<td>1.4</td>
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<tr>
<td>Machinery and equipment manufacturing</td>
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<td>1.1</td>
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<td>Specialised machinery and equipment</td>
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<td>2.2</td>
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<tr>
<td>Agricultural machinery and equipment</td>
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<td>7.7</td>
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<tr>
<td>Mining and construction machinery</td>
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<td>6.9</td>
<td>1.4</td>
</tr>
<tr>
<td>Furniture and other manufacturing</td>
<td>205</td>
<td>2.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Total manufacturing^</td>
<td>8295</td>
<td>4.9</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Source: ABS 2011 Census of population and housing, ANZSIC 2006, ASGS 2011. Data is based on place of work.
Notes: ^Total includes inadequately described and not stated. Total employment reported here is slightly different from total manufacturing employment reported in table 2 because table 2 is based on place of enumeration. Data represents ANZSIC 2, 3 and 4 digit classifications.
Construction

The construction industry encompasses residential, non-residential and engineering related construction as well as construction services. Surging investment in the energy and resources sector is expected to boost the construction industry in the Darling Downs, particularly engineering related construction, as projects ramp up.

While building approvals remain subdued in the region, this is also the case for the state and nation as a whole, reflecting continuing investment uncertainty in the wake of the global financial crisis (Figure 11). Strong projected population growth should support future activity in residential and non-residential construction in the Darling Downs region over the long-term.

Figure 11  Value of building approvals, Darling Downs

![Value of building approvals, Darling Downs](image)

Source: Australian Bureau of Statistics, Building Approvals, Australia, June 2012, Cat No. 8731

Tourism

Traditionally, the tourism industry has not been a major sector in the Darling Downs region, although it plays a significant role in certain centres such as Stanthorpe in the Southern Downs. Increasing activity in the resources and energy sector will stimulate future demand in tourism intensive industries such as accommodation.

The region as a whole is currently experiencing increased numbers of visitors (see Figure 12) and visitor growth to the region is among the strongest in Queensland, although from a small base. The number of domestic and international visitors both increased, while domestic day visitors have been stable since 2009–10. Across all three visitor types, the number of visitors remains significantly higher on average compared with 10 years ago.
The purpose of travel differs markedly across the region, with Toowoomba and particularly Western Downs recording among the highest shares of business visitation across the state, likely linked to the surging resources and energy related investment occurring in these areas.

The Southern Downs local government area recorded the highest share of holiday visitors across the Darling Downs, for both domestic and international visitors. Southern Downs is a well known wine and food region, and a large share of holiday visitation is likely linked to this segment of the tourism market.

**Figure 12**  Total visitors to the Darling Downs tourism region

![Graph showing total visitors to the Darling Downs tourism region](image)

Source: Queensland Treasury and Trade (Government Statistician) based on Tourism Research Australia 2011 data

**Business, professional and health services**

Economic and population growth brings with it growing demand for a wide range of business and professional services, health and social services, as well as consumer-oriented manufacturing.

Mainly located in larger population centres, these activities can transform the economic base – and liveability – of many towns, giving rise to a “virtuous cycle” that attracts more people and more businesses to thriving communities.

Globalisation and the growing use of online business applications mean that many of these services can now be provided and accessed from anywhere – including from the Darling Downs. This is creating a range of opportunities and competitive challenges for new and existing businesses, both of which will be accentuated by the expanding National Broadband Network.

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11 Source: Tourism Queensland Summary Visitor Statistics, based on Visitor Surveys conducted by Tourism Research Australia, March 2012.
The Darling Downs has a large regional population base, and projected growth will bring a wide range of opportunities for already well established services industries, including property and business services, health and social services, professional, scientific and technical services, and education and training. It is evident that the region’s employment growth in all these industries increased in the 10 years to 2011. Moreover, gross value added in the finance and insurance services industry grew strongly over this period.

**Education**

The Darling Downs region offers extensive and high standard education and training services for both national and international students. It provides both academic and vocational training. Existing educational facilities include the University of Southern Queensland (USQ), Dalby Agricultural College, Queensland College of Wine Tourism and Southern Queensland Institute of TAFE.

USQ is based in Toowoomba and offers on-campus and distance education. The university includes campuses at Fraser Coast and Springfield and is home to a number of leading Australian research centres including the Australian Centre for Sustainable Catchments, the National Centre for Engineering in Agriculture and the Centre of Excellence in Engineered Fibre Composites. The university provides a range of tertiary degree opportunities and generates wealth and investment within Toowoomba and other parts of the Darling Downs.

Southern Queensland Institute of TAFE has a number of campuses across the Darling Downs. Courses include building and construction, information technology and engineering, specialist studies in horticulture and agriculture, and hospitality.

The Queensland College of Wine Tourism is a joint venture between the Queensland Department of Education and Training and USQ and provides an education and training facility for the Queensland wine tourism industry. The college facilitates education and training at secondary, TAFE and tertiary levels through its education partners, such as Southern Queensland Institute of TAFE, and USQ – Faculty of Sciences.

The percentage of the adult population with a post-school qualification has grown strongly in the Darling Downs region over the past decade, from around 37 per cent in 2001 to almost 50 per cent in 2011.12

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12 Source: ABS Census of population and housing, Time series profile: Table TC30, Non-school qualification. This is based on place of enumeration
4. Infrastructure baseline

The Darling Downs region has a number of strong transport linkages, both internally, with surrounding regions, and into NSW. These provide access routes for goods, including food, as well as travel between mines and major centres.

The region has a prominent electricity sector, with a number of power stations which are predominately located in the east. The majority of these are gas powered facilities, due to the region’s strong gas sector. The high voltage transmission grid is dominated by the Queensland-NSW Interconnector (QNI), which connects the transmission grids between the two states.

Telecommunications infrastructure in the region plays an integral role within modern businesses enabling access to the internet, real time communication between companies and also innovative use of technology like telemetry.

The public infrastructure supplying water for urban, industrial, mining and agricultural uses come primarily from six water schemes operating in the region. In addition to these, there are a number of dams owned and operate by local councils and weirs which supply local communities. Many water users also depend on groundwater for domestic, industrial and agricultural purposes.
Challenges summary

Significant challenges for the region are presented by the infrastructure requirements of growing industry sectors, and impacts of resource activities.

- There is growing demand on the infrastructure that supports the freight movement of agricultural and resource product towards the coast and the inwards logistics supporting the resources sector in particular. This growth is increasing conflicts between freight and other network users passing through some urban areas.

- Throughout the region there are also increasing numbers of non-resident workforce movements and growing traffic through urban areas as a result of population and industry growth.

- The region’s population growth, as well as the needs of the growing resources sector, will continue to present challenges in maintaining a reliable water supply for communities, particularly in resource rich areas.

- Power generation and transmission in the region faces challenges to meet future demand growth with consideration of proposed resource projects, the demands of neighbouring regions and energy efficiency.

- Telecommunications infrastructure in the region will increasingly become important for the region as businesses innovate through the use of technology.

- Growing and fluctuating non-resident workforces across the region are putting pressure on community infrastructure which is impacting upon local communities.

- The cumulative impacts of multiple resource sector projects starting in a short timeframe may also intensify some of these challenges.
Key infrastructure

Transport

The Darling Downs region has a number of strong transport linkages, both internally, with surrounding regions and into New South Wales (NSW) which are shown in Figure 13.

Figure 13  Map of key transport infrastructure in the Darling Downs

Road

The road network in the Darling Downs region is the principal mode of transport for passenger and freight movements. It contains a number of national highways and priority freight routes linking Brisbane through to Sydney, Melbourne and Darwin.

The Warrego Highway is the primary east-west arterial link in the region, providing a direct connection between the region’s major population centres and an eastern connection to Brisbane. Other key east-west links are the Gore Highway (Toowoomba to Goondiwindi) and Cunningham Highway (Ipswich-Goondiwindi).
Primary north-south road corridors are the New England Highway (Yarraman-Wallangarra), Leichhardt Highway (Wandoan-Goondiwindi), Carnarvon Highway (Mungindi-Rolleston) and Castlereagh Highway (St George-Hebel). These highways and other connections provide important interstate links to NSW and Victoria.

Generally, road traffic volumes are greater in eastern parts of the region, in particular in and around Toowoomba, although the Maranoa local government area shows higher daily traffic volumes coinciding with larger populations and close proximity to economic activity associated with the Surat Basin.

The major highways in the region carry a large number of heavy vehicles as a result of established industry sectors, such as agriculture, manufacturing and oil, gas and energy, in addition to regular vehicular movements associated with the local population and tourist movements. High heavy vehicle movements are recorded on the Warrego Highway (Toowoomba – Roma), Gore Highway (Toowoomba and Goondiwindi), Cunningham Highway (Inglewood and Goondiwindi) and Leichhardt Highway (Taroom to Miles to Goondiwindi).

Traffic conditions
While the majority of roads in the region have good traffic conditions, some road sections in the region show significant challenges.

The Warrego Highway is constrained due to its route passing through a number of town centres (such as Toowoomba, Dalby, Chinchilla and Miles) and the Great Dividing Range. The existing road corridor has high levels of congestion and a very poor safety record, in particular between Toowoomba and Oakey.

In Toowoomba city, local trip needs of urban residents combined with long distance freight transport, cause congestion and reduce safety, amenity and efficiency of the roads. Traffic volumes on James Street (Warrego Highway) and Anzac Avenue (Gore Highway) in Toowoomba are exceeding capacity, impacting on both travel time and safety. The Warrego Highway east of Toowoomba also carries high traffic volumes. Although this portion of the highway is not contained within the region’s boundaries, its influence upon Toowoomba is significant.

The Chinchilla-Tara Road south of Chinchilla past Kogan Condamine Road also shows inefficiencies. Traffic volumes are not significant compared to other regional roads, but may exceed the road’s capacity. This length of road also has a poor road rutting (a depression or groove worn into a road) rating, which could be an influencing factor.

Road infrastructure
The region’s growing economies have seen greater heavy vehicle traffic contributing to increasing challenges related to road construction, maintenance and safety. A number of key challenges have arisen in regard to road infrastructure.

Many road sections in the Surat Basin have seal widths narrower than recommended standards for safe and efficient roads.
Several heavily-used highways, such as the Warrego, Gore, and Leichardt highways have sections with poor pavement condition due to increases in heavy vehicle traffic. There is also poor road ride quality\textsuperscript{13} on sections of the Warrego Highway, including sections in Toowoomba (James Street and Tor Street).

A large number of bridges in the region are considered to be in poor condition. In determining future planning priorities, consideration for bridge upgrades must be made to ensure bridges continue to be fit for purpose, particularly bridges on main freight routes.

Major periodic flooding in the region results in high maintenance and on-going repair costs. Many bridges, culverts and other structures have poor flood immunity, resulting in long road closures.

**Road transport demand task**

The major highways in the region carry a large number of heavy vehicles as a result of established industry sectors in addition to regular vehicular movements associated with the local population.

Growth pressures will affect future capacity, safety and efficiency of the road network. Maintaining or improving travel times for both freight and passenger vehicles between major centres, and to destinations beyond the boundaries of the region, will be important.

Key road transport challenges:

- The cumulative impact of new and expanding resource projects (e.g. Surat Basin coal projects) will put increasing pressure on major road links, resulting in heavy vehicle and non-resident workforce traffic safety and efficiency challenges.
- There is a high necessity for heavy vehicle movements (including over-mass, over-dimension vehicles) requiring more on road support. Heavy vehicle routes may alter over time as different projects commence and progress (e.g. move from a construction to an operational phase).
- Growing conflict between private and freight services on the existing road network, including conflict between road and rail services at open level crossings. Increasing freight movements that pass through urban areas and towns in the region can present safety, noise and amenity challenges for local residents.
- Investigations indicate existing freight networks will come under increasing pressure, requiring significant improvements as traffic volumes grow, particularly in and around Toowoomba. Future land for expansion to cater for transport network growth is not available along some parts of the current urban route.

\textsuperscript{13}Road ride quality is a road quality assessment measurement which weights the roughness of the road against the traffic volume experienced along that section of road.
While industrial growth around Toowoomba is concentrated to the west along the Warrego Highway, it may be expected that future residential growth will continue to be concentrated along the north-south spine of the New England Highway. This may cause capacity challenges as shorter distance trips compete with long distance movements.

**Rail**

The regional rail network includes the Western and South Western Rail lines (and branches). The Western Rail line extends from Rosewood through Toowoomba, Miles and Charleville to Quilpie. It includes branch lines to Jandowae, Glenmorgan, Wandoan and Cunnamulla. The South Western Rail Line runs from Toowoomba to Thallon via Warwick and includes branch lines to Millmerran and to Wallangarra on the New South Wales border.

The rail lines serve an important role supporting the movement of outputs from the agricultural, mining and energy sector. Key commodities transported along the line include coal, grain, cotton, livestock and molasses.

**Network challenges**

The proximity of the Western Rail line to the Surat Basin coal deposits – especially between Dalby and Miles – may see the capacity of the rail line continue to be dominated by coal as new deposits come online or existing operations are expanded. However, potential growth in coal exports through Brisbane is constrained by several factors including alignment restrictions, rail capacity and port capacity limitations.

The majority of train paths via the Toowoomba range crossing are contracted to coal trains. However in the past, the line fulfilled a major role transporting more traditional agricultural outputs such as grain, livestock and cotton. This means that the road freight network faces increasing pressure as agricultural commodities are forced off rail and on to the road.

A number of local arterial roads are impacted by rail crossings, and this may become more critical as traffic grows, particularly in urban areas. In addition, towns with rail lines running through them (such as Dalby and Chinchilla) face challenges from large coal trains with regard to traffic flow and emergency services.

While it is possible to travel between Brisbane and Toowoomba by rail, the travel time penalty imposed by the circuitous range crossing (an additional two hours compared to coach) makes it unsuitable for commuter services.

**Network development**

The private sector is upgrading existing rail systems or developing new rail links to meet demand growth.
Surat Basin Rail project
The privately funded Surat Basin Railway plans to facilitate the movement of coal from the proposed coal mine at Wandoan (and potentially other Surat Basin mines) to the Port of Gladstone for export.

The Western Rail Line between Miles and Drillham has a branch line to Wandoan. This 70 kilometre line is classed as 'seldom used', but is strategically important as it has the potential to connect the Western Rail Line to the proposed Surat Basin Railway. Dependent on its proposed use, consideration may need to be given to upgrading the line.

Melbourne to Brisbane Inland Rail project
The South Western rail line predominantly supports the movement of agricultural commodities (primarily cotton, grain and molasses) to the Port of Brisbane. The proposed Melbourne to Brisbane inland rail may replace the function of the South Western Rail line; however, the timing for delivery of this line is dependent on future increases in total freight demand and funding. The viability of the South Western and Southern lines will need to be reviewed when the inland rail is built.

Aviation
Given the long distances required to access communities and employment, air travel serves an important public transport role in the region. There are four certified aerodromes for regular public transport flights in the region at Oakey (a military aerodrome), Roma, St. George and Toowoomba. There are a further five registered aerodromes at: Chinchilla, Dirranbandi, Goondiwindi, Stanthorpe and Warwick.

Airport challenges
The existing Toowoomba Airport runway is constrained by encroachment of incompatible land uses, and is only accessible by smaller aircraft.

Lack of a centralised airport in the Toowoomba area with the capacity to service this growing region as a whole by catering for the local population, workforces (including permanent, itinerant and FIFO) and industry suppliers.

While Toowoomba Airport supports a wide range of economic activities, the long-term impact of FIFO on the airport is unclear given the feasibility of drive-in, drive-out (DIDO) workforces from SEQ to some projects.

Lack of a well articulated regional aviation strategy that focuses on long-term planning and investment for the whole region. There is a risk that if left unmanaged, there will be a proliferation of smaller aerodromes constructed throughout the region by mine proponents.

Airport development
The Darling Downs region is experiencing unprecedented demand for aviation services from the energy and resources sector.
Toowoomba Airport is constrained and a larger airport is needed to support regional development. Greenfield sites to the south and south-west of Toowoomba have long been under consideration, including a private airport in the Charlton Wellcamp industrial area.

Roma Airport is currently a well equipped regional aerodrome. However, it may require future infrastructure upgrades as it is expected to continue to cater to FIFO workforces. The state government also announced airlines interested in operating between Roma and Toowoomba will not require a government service contract.

Proponents of significant resource sector projects may seek approval to construct and operate additional aerodromes to meet demand. Potential sites include the centrally located Chinchilla, and Wandoan or Taroom (north of the region).

**Challenges summary**

The region’s transport challenges relate to growth in the movement of freight and non-resident workforces, and also growing traffic through urban areas:

- Sections of the road network are in poor condition and unsuitable to accommodate additional traffic loads, in particular heavy vehicle movements. Cumulative impacts of new and expanding resource projects will put increasing pressure on major road links and causing heavy vehicle and non-residential workforce traffic safety and efficiency challenges.

- Economic development of the region is increasingly causing capacity, safety, noise and amenity challenges on main roads in the Toowoomba area including the Warrego, Gore and New England Highways.

- The Western Rail corridor is constrained by several factors including alignment restrictions, rail capacity and port capacity limitations. Due to growth of coal transport on this rail line, agricultural outputs are being pushed onto the road network. This means that the road freight network faces increasing pressure.

- Toowoomba Airport is constrained and several options for a larger airport are under consideration. Airport upgrades and new (on-site) airstrips are proposed across the region to support resource projects.
Electricity

Electricity infrastructure

Power generation
Queensland had a projected generating capacity of 12,209 megawatts for summer 2012–2013, with the Darling Downs region providing approximately 30 per cent of this. Major coal and gas fired electricity generators in the region can be found in the vicinity of Kogan (Chinchilla-Tara-Dalby triangle), Millmerran, Oakey and Roma.

High voltage transmission grid
The high voltage transmission grid in the Darling Downs region is key infrastructure relating to electricity generation. The high voltage transmission grid is owned and operated by Powerlink Queensland. The distribution network (owned by Ergon Energy Corporation Limited and ENERGEX Limited) connects customers to the transmission network and energy generators.

Figure 14  Map of key energy infrastructure in the Darling Downs
The high voltage transmission grid for the Darling Downs is dominated by the Queensland-NSW Interconnector (QNI), a 330 kilovolt transmission line connecting the transmission grids of Queensland and New South Wales. The 275 kilovolt transmission grid, running roughly east-west, connects the majority of the region’s generating plants with the rest of Queensland’s transmission grid. Together with the 132 kilovolt transmission lines in the region, this grid connects key economic areas and regional centres.

Powerlink has a number of proposed regulated and non-regulated\textsuperscript{14} transmission projects in varying stages of progress to connect large customers, meet the growing demand from the resources sector and cater for emerging growth.

Queensland is also part of the National Electricity Market (NEM), which is a wholesale electricity market operating on the interconnected power system between Queensland, New South Wales, South Australia, ACT and Victoria.

**Electricity demand**

The region’s electricity requirements are escalating due to population growth, industrial and mining/resources developments (e.g. CSG expansion) and economic growth. Electricity demand in Powerlink’s South West region is anticipated to more than double over the next five years, from 2013 megawatts in 2010–11 to 5804 megawatts in 2015–16\textsuperscript{15}. Added pressure is occurring from changing consumer practices, such as the use of air conditioners and other high energy use items.

It is important that the region supports growth by increasing energy efficiency per capita. There are a number of energy efficiency programs currently in place with the focus on easing the upward pressure on electricity prices by slowing the current growth in electricity use and peak demand e.g. Queensland Energy Management Plan (QEMP).

**Challenges summary**

The generation and transmission of sufficient power to meet future demand growth with consideration of proposed resource projects, neighbouring regions and energy efficiencies, will be a key challenge.

- Strong electricity demand is expected from population growth, industrial and resource sector developments.
- Changing consumer practices result in a growth in electricity use and peak demand and thus putting upward pressure on electricity prices.
- The high voltage transmission grid requires upgrades requiring Powerlink to work with the private sector on power supply and generation projects.

\textsuperscript{14} Non-regulated transmission projects are paid by an industrial customer (such as a generator or mine)

\textsuperscript{15} Source: Powerlink - Annual Planning Report 2012
Telecommunications

Telecommunications infrastructure plays an integral role in a modern economy. It enables access to the internet, real time communication between businesses and also innovative use of technology like telemetry. In a community context telecommunications infrastructure also plays a significant role in bridging physical distances for remote communities, improving safety and enabling a variety of services to be delivered, including distance education, health and banking services.

The Australian Government is constitutionally responsible for telecommunications services, while the Queensland Government advocates the benefits of telecommunications infrastructure for the Queensland economy.

Network challenges

Effective communication infrastructure can strengthen regional economic development by enhancing productivity. Access to mobile services and high speed internet will become increasingly important for the region as businesses innovative through the use of technology.

Network development

Toowoomba was one of the earlier National Broadband Network (NBN) sites and progress has also since been made along the Warrego Highway toward Dalby and the Gore Highway towards Millmerran. However the NBN rollout schedule for the next three years only indicates areas in Toowoomba that are planned to commence, and some green field sites in Roma which will be enabled. Roma will also host an NBN satellite ground station, which is expected to commence construction in early 2013.

Stakeholders have also raised concerns about black spots and limited services in some areas. This can affect productivity and efficiency improvements made through the inability to access services remotely and adopt some technologies.

Challenges summary

Telecommunications infrastructure will increasingly become important for the region as businesses innovate through the use of technology.

Water

There is major public and private investment in water supply infrastructure for urban, industrial and agricultural use in the region. The main water sources are publicly owned dams and weirs, stream and overland flow harvesting, and groundwater. Groundwater bores are mainly privately owned except for those supplying urban communities.
Floodplain storages are privately owned, and represent a significant component of the region’s water supply infrastructure, having an aggregate capacity greater than that of publicly owned dams and weirs. Included in these storages is the considerable storage capacity at Cubby Station on the Culgoa River near Dirranbandi. Approximately 80 per cent of water use in the region is for agriculture, mainly irrigation.

The Wivenhoe Dam in South East Queensland (SEQ) is the region’s only external water supply source.

**Figure 15   Map of major dams in the Darling Downs**

The various water supply schemes across the region are understood to be fully committed: that is, the full volume of water entitlements available within the schemes has been sold.

**Water demand**
Increasing water demand (and wastewater treatment) is expected due to:

- The strong development of the CSG industry and businesses supplying this industry, resulting in population growth in existing communities and work camps. (The variable and changing pattern of development of the CSG industry in the region makes realistic forecasting of the timing, scale and location of such population changes difficult).
• Coal mining projects in the Surat Basin will result in strong demand to supply water for workforces and mining activities, such as dust suppression and mineral washing.

• Increases in agricultural production to support the Queensland Government’s target of doubling the value of food production in the state by 2040 will present challenges for the quality and quantity of water supply available for irrigation purposes.

**Water supply challenges**

• The security and reliability of supply sources for existing communities (e.g. Stanthorpe, Dalby and Roma) are concerning, in particular for communities which are experiencing or are expected to experience considerable population growth related to the CSG industry.

• The resources sector has a higher capacity to pay for water allocations. This can lead to the reallocation of water away from agriculture to an expanding resources sector.

• Lack of a regional water supply strategy to augment water supply sources in order to manage future drought periods.

• The impact of flooding on water supply infrastructure and the potential for in-stream infrastructure to exacerbate flooding in some areas as it necessarily disrupts the flow of water.

• The Federal Government’s draft Murray Darling Basin Plan currently requires a significant reduction in water use from surface water and groundwater in the Darling Downs region.

**Challenges summary**

The principal challenge within the region relating to water supply concerns the security and reliability of sources for existing communities, in particular in resource rich areas.

• Strong growth in water demand is expected across the region driven by population growth, gas and mining projects and the agricultural sector.

• The pattern of water demand for resource projects can also be highly variable which makes planning difficult.

• Impact of flooding and drought periods and growth in demand requires up-to-date water supply management plans.

**Community infrastructure**

The Darling Downs has a diverse range of essential social and local infrastructure servicing local needs and contributing to the liveability of the region’s communities. This includes education, health, emergency services, sporting, recreation and community facilities as well as roads, energy, telecommunications and sewerage infrastructure. The largest hospital in the Darling Downs is located in Toowoomba with other prominent hospitals in Roma and St George.
The regional economic focus of the Economic and Infrastructure Framework means this infrastructure baseline can not address the diverse range of social and local infrastructure that exists throughout the Darling Downs. It is important however to acknowledge the significance of social and local infrastructure in the region and the challenges faced by some communities in the region.

**Challenges summary**

Growing and fluctuating non-resident workforces across the region are putting pressure on community infrastructure which is impacting liveability for local communities.

- Impact of non-resident workforces on service levels and infrastructure requirements for resource towns. Moreover, residents and non-residents have different needs for services such as education.
- Cumulative impact of multiple resource developments and fluctuations in non-resident workforce size complicate the determination and provision of adequate levels of infrastructure.
5. Economic development strategy

Vision and strategic economic themes

In line with the objectives of the regional plan, this strategy was developed to propose a high level vision for future economic development and to help foster future economic development opportunities.

**Economic development vision**

A productive and resilient Darling Downs regional economy, capitalising on its competitive strengths and growth potential, particularly in resources and agriculture, to capture supply chain opportunities, and retain and improve liveability.

In addition, a number of strategic economic themes were identified to unlock the economic potential of the Darling Downs:

- continuing to promote a shared vision of the region’s economic and social development potential through advocacy and leadership
- strengthening supply chains and improving productivity by promoting business innovation, technology and entrepreneurship
- building long-term economic resilience via diversification and market expansion, capturing the benefits of linkages with other regions and globally
- supporting skills, education and workforce development which will also contribute to the state’s unemployment target of four per cent
- planning that reduces red tape and provides access to resources to meet emerging global opportunities
- addressing resource allocation conflicts, capturing complementary land use opportunities, and promoting co-existence.
Economic development opportunities

Agriculture and food

A projected 1.3 million increase in SEQ population by 2031, as well as the growing middle class population in countries such as China and India, will generate increased demand for quality food. The real value of global food demand is expected to rise by around 35 per cent by 2025 from 2007 levels, with Asia accounting for the bulk of this increase. China and India alone could account for almost 60 per cent of the global increase in food demand.16

The Queensland Government has adopted a target of doubling the value of food production in the state by 2040. As Queensland’s premier agricultural region, the Darling Downs will need to contribute substantially to meeting this target. This can be achieved by increasing exports, meeting the growing domestic demand, and improving productivity across the sector.

While the region’s production will continue to be dominated by agricultural commodities (e.g. meat, sorghum, cotton and wheat), a more open international trading environment and growth in tourism will create opportunities for higher value-added food products, including gourmet food and wine, as well as fruit and vegetables.

A large share of the region’s manufacturing businesses, are involved in food processing. These businesses range from small and medium-sized enterprises manufacturing premium food and wine products, to large, sophisticated businesses employing up to 1000 staff. In addition, a large volume of agricultural produce from outside the Darling Downs (including northern NSW) is processed within the region.

Planned projects for reuse of CSG water in agriculture may create new opportunities for expansion of irrigated agribusiness, albeit in competition with other sectors and in the context of environmental considerations.

Specific potential growth sectors include, but are not limited to:

- **fruit and vegetables** – increased market demand for fruit and vegetables will be driven by projected population in SEQ
- **cotton and grain sorghum** – new market opportunities continue to open up (e.g. biofuels). The production of cotton is resource intensive, particularly in regard to water. Water security and highly resilient farming systems will therefore be important factors in growing cotton production
- **high-protein wheat** – noodles (predominantly yellow alkaline noodles) and baked goods are a significant end use for high-protein, premium quality wheat, particularly in Japan, South Korea and Taiwan

16 Source: Australian Government, Australia in the Asian Century White Paper, October 2012
• intensive livestock, beef, sheep, piggeries, and poultry – the livestock industry is well established in the region. Rising global demand for quality meat means that the region has potential to expand into new markets, particularly emerging markets like China. Poultry production is expected to shift to the Darling Downs as residential development expands in SEQ.

• gourmet food and wine – growing tourist numbers in the Darling Downs are expected create greater opportunities for gourmet food (including indigenous food) and cellar-door wine sales.

• pulses – the Darling Downs is well positioned to grow pulse crops for expanding domestic and export markets.

• forestry and timber processing – there is an opportunity to increase silvopastoral (grazing and timber) production systems and downstream timber processing. Timber processing facilities are located throughout the region (mainly cypress, but Queensland’s largest hardwood processor is also located at Wandoan).

Coal, CSG extraction, and other energy development and services

The rising global demand for energy has created an opportunity for the region’s energy resources. Australia’s thermal coal exports are projected to grow at an annual rate of around 11 per cent to total 304 million tonnes in 2017–18, supported by rising consumption by China and India. By 2018, both India and China are expected to overtake Japan as Australia’s leading thermal coal export markets. Similarly, Australian exports of LNG are projected to reach 88 million tonnes in 2017–18 (up from an estimated 19 million tonnes in 2011-12) underpinned by the commissioning of several LNG projects that are currently under construction (including three at Gladstone). There is therefore considerable potential for the resources and energy sector to increase its contribution to the Darling Downs regional economy utilising the abundance of coal and CSG, as well as solar and wind resources, in the region.

Coal

The Surat Basin holds more than four billion tonnes of thermal coal resources. Very large areas of the coal measures in the Surat Basin are as yet unexplored and could potentially be a target for exploration and eventual development for several decades to come. However, the development of Surat Basin Rail project, often referred to as ‘Southern Missing Link’, is necessary to unlock Surat Basin’s coal reserves for export via the Port of Gladstone. Conversely, the timing and execution of the related mining projects, particularly the Wandoan project, are vital to the successful development of this new railway.

CSG

Approximately 65 per cent of Queensland’s known CSG reserves are located in the Surat Basin, presenting opportunities for the Darling Downs to supply Queensland’s new CSG to liquefied natural gas (LNG) export industry.

17 Source: Bureau of Energy and Resources Economics, Resources and Energy Quarterly, March Quarter 2013
CSG has attracted significant investment interest by major global resource companies, particularly in light of increased global demand for lower emission energy and gas-fired power generation. There is already significant gas production in the region which supplies existing industrial and domestic users and several gas fired power stations within, and external to, the region.

Future demand for CSG will be driven by major LNG projects either under construction or planned for Queensland. In addition to the extraction of CSG, these projects encompass the construction of field compression stations, gas pipelines, water treatment plants and water distribution, providing considerable potential for economic development.

Other energy development, power generation and services

Growth opportunities in the coal and CSG sectors may include commercial application of existing, and development of new, coal-to-liquids technologies, engineering, drilling, and transport and containment technologies. There are also large as yet untested areas with potential for unconventional petroleum exploration in the Surat and Eromanga Basin sequences.

The region is well positioned to tap into a growing demand for energy due to its well developed electricity generation infrastructure and availability of energy resources. There are already nine power stations operating in the region.

The Darling Downs also has a potential to grow a clean energy industry, building on existing distribution infrastructure and availability of clean energy sources. A number of solar and wind energy projects are being developed or are proposed for the region.

Rapid expansion of the coal and CSG and energy sectors in the region is also presenting opportunities for local service and supply firms. Specific growth areas include exploration services; underground and above ground site construction services; engineering, fabrication and machining; drilling and gas well castings; construction, mechanical repairs; environmental services; and transport, accommodation, catering and logistics. Major project proponents in the Surat Basin are demonstrating willingness to contract local suppliers for services and products.

Resources and agriculture supply chains – metals, equipment, other manufacturing

The expansion of the energy and resource sectors will generate increased demand for specialised metal products. This is likely to boost the local metal manufacturing sector which has well established skills and supply chains as a result of servicing the agriculture sector over a long period.

Industry projections for the metal products sector in the Surat Basin indicate that it has the capability to grow by 3.8 per cent per annum to $269 million by 2031 – more than twice its current industry contribution (Surat Basin Economic Development Strategy, 2011). Plastic pipes manufacturers have also established in the region to
supply resources sector developments, and there has been interest from other major construction product firms.

Specific opportunities for growth in metal products and associated equipment manufacturing include:

- structural metal products including structural steel products and applications, steel components, architectural aluminium manufacturing
- iron and steel manufacturing: steel pipe and tube manufacturing, specialised steam, gas or water pipe fittings and valves, iron and steel for structures/decking
- pre-fabricated modules
- specialist transport and defence equipment
- mining equipment manufacture and refurbishment/maintenance
- electrical infrastructure parts manufacture
- railway equipment e.g. rolling stock, rail structures.

Regional manufacturing businesses are facing competition from companies based in neighbouring regions. However, there may be opportunities for cross-regional partnerships and collaborations to win new contracts and fill supply chain gaps. Improved transport infrastructure will strengthen manufacturing opportunities through supply chain efficiencies and better access to markets.

**Tourism and events**

The Darling Downs region is benefitting from tourism opportunities arising from expanding business activity and travel associated with the mining and energy sector and proximity to SEQ’s growing population centres.

The region’s cultural heritage, natural aspects and appeal to a variety of visitors have enabled a sustainable tourism sector to develop.

Infrastructure (e.g. Toowoomba airport upgrade, improved road networks) and tourism developments (including expanded accommodation options in resource locations) are attracting more visitors to the region and generating other investment, marketing and product development opportunities. However, issues with full occupancy of motel/caravan accommodation in resource centres are currently constraining all forms of tourism in these areas. These pressures will ease somewhat as more resource sector work camps are constructed.

Specific tourism growth opportunities in the Darling Downs include:

- food and wine tourism in the Granite Belt
- business tourism and events such as conferences, particularly associated with the resources sector, building on the success of existing festivals that showcase the region
- gardens and parks tourism in Toowoomba
• farm stay and cultural heritage experiences – opportunities exist for diversification into tourism initiatives including farm stay and bed and breakfast style accommodation

• eco tourism – iconic areas within the region need to be identified so more eco-tourism opportunities can be developed (and protected) in strategic locations across the region.

Construction

Strong levels of residential, non-residential and infrastructure investment derived from the burgeoning energy and resources sector are driving construction activity in the Darling Downs. This demand has forced up the cost of housing and reduced affordability in some parts of the Darling Downs. However, it is also creating opportunities in the construction of workers’ camps close to major mining and energy projects. Local construction firms have an opportunity to expand and diversify their operations to capitalise on rapid growth in the resources and energy sector.

Within the Darling Downs, the Western Downs and Maranoa are currently experiencing a rapid construction phase due to CSG developments. This will wind down as these projects are completed over the next few years. Coal developments may create a major new construction phase in the Darling Downs, potentially providing a continuity of construction opportunities in the region, particularly in Chinchilla, Miles and Wandoan.

Projected population growth in the region will also generate demand for housing as well as social infrastructure such as hospitals and schools, providing additional support for the construction sector. The future demand for dwellings has significant implications for the designation of urban footprints in the region, particularly in the Toowoomba local government area which is expected to experience the greatest aggregate increase in population over the next 20 years.

Education and training

The Darling Downs continues to be a leading regional provider of education and training services through its school and post-school education and training institutions, including the University of Southern Queensland which is a leading exporter of education services.

The sector is expected to experience significant growth over the next 20 years, to support local population and industry growth. Specialised TAFE and university courses are likely to increase to meet demand from the expanding resources sector, agricultural sector, and other sectors.

Major investment by the resources sector provides increased opportunity for the development of highly specialised research and development capabilities with potential for the provision of a specialist research and training centre in the region. Growth of the education and training sector within the region will also help to alleviate skills shortages as the mining and energy sector expands.
Information and communications technology

NBN services are available in some parts of Toowoomba and will be progressively rolled out to the rest of the Darling Downs. By mid-2015, NBN construction is expected to have commenced or be completed for around 678,600 homes and businesses across Queensland.

The NBN provides super-fast broadband to homes and businesses and will create new opportunities for expansion of knowledge-based and information technology industries, including the expansion of online businesses, data centres, e-education and e-health services.

The expansion in Toowoomba’s high speed fibre optic network provides advantages for all local businesses to be on the front foot of this emerging technology. In particular, Toowoomba has a unique opportunity to attract investment in data centres which are used by organisations to safeguard their critical corporate, infrastructure and information assets. Data centres are designed to house high volumes of data and communication systems in secure, environmentally sustainable facilities. Toowoomba is an ideal location for data centres given its available land, access to several power supplies to cover required redundancies, water availability, and a cooler climate to reduce cooling costs. The NBN has provided impetus to data centre market in Australia. While there is currently a capital city focus, a more decentralised trend is expected to develop over time.

Desired outcomes, strategies and actions

To add value to the major economic development opportunities that have been identified, Table 10 has been populated in consultation with state government agencies and stakeholders involved in the regional planning process. The actions contained within this table represent identified activities that will help capitalise on the region’s economic development opportunities. It is important to note that this is not an action plan for Government, rather a direction for regional stakeholders to progress economic growth in the region. For this reason the table does not identify timeframes or responsible parties.

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18 The NBN encompasses three technologies: optic fibre, fixed wireless and next-generation satellite. Toowoomba has been selected as a release site for the second stage NBN project for fibre and the region has been selected as a first release site for fixed wireless. In addition, Roma will be one of the 10 towns across Australia to host an NBN satellite ground station.


Darling Downs – Economic and Infrastructure Framework

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### Table 10  Economic development opportunities

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Objectives</th>
<th>Strategies</th>
<th>Actions</th>
</tr>
</thead>
</table>
| Agriculture and Food | • Increased economic growth within the Darling Downs region, particularly within the agricultural and food processing industries  
• New export markets developed  
• Improved productivity of agricultural industries  
• Investment attracted to the region  
• New business start-ups, particularly in intensive horticulture and agricultural production  
• Conservation of good-quality agricultural land and water. | • Helping agribusinesses and their supply chains to capture value-adding opportunities  
• Increasing productivity, competitiveness and resilience of agribusinesses and their supply chains through innovation, cutting edge technologies, practices and processes, and commercialisation  
• Attracting business and industry investment in agricultural production and food processing  
• Diversifying through the development of agri-tourism products including food and wine tourism in the Granite Belt and farm stay  
• Proactively mitigating and managing biosecurity threats (pests, diseases, weeds etc) to protect agricultural assets. | • Increase productivity through industry benchmarking and research, development and extension  
• Undertake regional food initiatives to build knowledge of local food production and processing capabilities and the capacity of food producers to market their product in Australia and overseas  
• Provide expertise in the region to facilitate development of key agricultural sectors where the region has significant competitive advantage in a state and national context e.g. intensive livestock (beef, pork, poultry, dairy), grains, irrigated and dry land cropping and related food and value added processing  
• Finalise agricultural land audits to identify ‘priority agricultural’ areas and appropriate areas for intensive animal industries  
• Investigate opportunities for intensive horticulture, intensive animal industries, and agricultural production to use treated CSG water  
• Support Australian Government efforts to negotiate comprehensive trade agreements that include agriculture  
• Encourage food processing businesses to relocate to the Darling Downs  
• Cut unnecessary red tape affecting the ability of business owners to do business. |
<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Objectives</th>
<th>Strategies</th>
<th>Actions</th>
</tr>
</thead>
</table>
| Coal, CSG extraction and other energy development and services | • Increased business activity within resource and energy sector and related supply chains, leading to increased output and employment growth and retention  
• Productivity improvements by local business  
• New investment attracted to the region  
• New infrastructure development  
• Increased skills development in regional businesses | • Facilitating and advocating for required infrastructure developments  
• Supporting local businesses to capture supply chain opportunities in areas such as transport, logistics and services  
• Improving local firms’ competitiveness and resilience through the application of existing, and adoption of new, technologies, as well as the commercialisation of coal to liquids, engineering, drilling, and transport and containment technologies.  
• Attracting business and industry investment  
• Transferring skills developed in mining to other industries | • Scientific research into adequate rehabilitation and mitigation strategies for temporary impacts between sectors  
• Identify and promote resource and energy project supply chain opportunities to tier 3, 4 and 5 servicing firms  
• Capability development with firms to help win tenders, including through collaboration  
• Investment attraction activities to fill capability gaps to service major resource and energy projects  
• Promote the expansion of employment and supply chain opportunities in the Surat Basin to adjacent areas including the Wide Bay Burnett and South West Queensland  
• Work with major project proponents and regional business to respond to emerging skill needs arising from the strong employment growth  
• Continue to implement the Surat Basin Workforce Development Strategy  
• Facilitate the Surat Basin Rail project through statutory assessment and planning and approval processes. |
<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Objectives</th>
<th>Strategies</th>
<th>Actions</th>
</tr>
</thead>
</table>
| Resources and agriculture supply chains – metals equipment and other manufacturing | • Increased business activity within regional supply chains  
• New investment attracted to the region  
• Productivity improvements by local businesses  
• Increased capacity of firms to innovate, effectively respond to new supply chain opportunities and recognise and commercialise this expertise | • Supporting local businesses to capture opportunities  
• Improving local firms’ competitiveness and sustainability through continued capability development in practices and processes, innovation, adoption of cutting-edge technologies and commercialisation  
• Attracting business and industry investment  
• Fostering cross-regional collaboration to meet resource sector demand and fill supply chain gaps | • Identify and promote of resource and energy project supply chain opportunities to tier 3 and 4 servicing firms  
• Capability development to help firms win tenders, including through collaboration |

| Tourism and Events | • Increased visitors and visitor expenditure in the region  
• Expansion of regional tourist businesses, leading to increased business activity, jobs growth and retention  
• New investment attracted to the region | • Promoting and marketing the region to targeted markets and support development of new experiences and improving existing tourism products  
• Supporting initiatives to boost the supply of tourism workers  
• Improving local firms’ competitiveness through cutting-edge technologies, including digital technologies, and adaptive and flexible practices and processes  
• Recognising the importance of the natural environment in supporting tourism markets as well as generating economic opportunities and improving the liveability of the region | • Destination Q activities including opening up national parks to eco-tourism opportunities  
• Facilitate major tourism projects, especially those identified in regional tourism opportunity plans  
• Develop the drive tourism market  
• Encourage non-resident workers to live and holiday in the region  
• Develop tourism product in, or adjacent to, agricultural land |
<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Objectives</th>
<th>Strategies</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>• Increased business activity, jobs growth and retention</td>
<td>• Supporting local businesses to capture opportunities</td>
<td>• Identify and promote resource and energy project supply chain opportunities to construction firms</td>
</tr>
<tr>
<td></td>
<td>• Regional businesses reporting increased employment and skills levels</td>
<td>• Improving local firms’ competitiveness and resilience through innovation, cutting edge technologies, continued capability development in practices and processes and commercialisation</td>
<td>• Capability development with firms to help win tenders</td>
</tr>
<tr>
<td></td>
<td>• Increased employment in quarries and construction material transport</td>
<td>• Fostering cross-regional collaboration to meet resource sector demands and fill supply chain gaps</td>
<td>• Promote employment and supply chain opportunities in the Surat Basin to adjacent areas including the Wide Bay Burnett and the South West</td>
</tr>
<tr>
<td>Education and Training</td>
<td>• Increased economic contribution of the education sector</td>
<td>• Facilitating industry input to the provision of skills training</td>
<td>• Promote the sector’s current capacity in domestic and global markets</td>
</tr>
<tr>
<td></td>
<td>• Education and skills needs of existing and new industries are aided by the region</td>
<td>• Attracting Investment into specialised capabilities.</td>
<td>• Identify and promote areas of specialisation to investors, such as the water/energy/carbon/food production nexus</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Expand links between secondary and tertiary education providers and industry including agricultural and agribusiness skills</td>
</tr>
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<td></td>
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<td></td>
<td>• Work with major project proponents and regional business to respond to emerging skill needs arising from the strong employment growth.</td>
</tr>
<tr>
<td>Information and</td>
<td>• Increased business opportunities, particularly for small business, leading to jobs growth and retention</td>
<td>• Supporting local businesses to capture opportunities</td>
<td>• Promote the sector’s capacity in domestic and global markets to attract investment</td>
</tr>
<tr>
<td>Communications</td>
<td>• More streamlined business processes through improved connectivity</td>
<td>• Improving local firms’ competitiveness through innovation, business processes and practices, commercialisation and market access</td>
<td>• Facilitate capability and skills development of local firms</td>
</tr>
<tr>
<td>Technology</td>
<td>• New investment attracted to the region</td>
<td>• Attracting business and industry investment</td>
<td></td>
</tr>
</tbody>
</table>

Darling Downs – Economic and Infrastructure Framework
Economic development issues

Additional infrastructure to support growth

Economic infrastructure

Current transport infrastructure in the region is affected by capacity constraints and will need to be improved to cater for increased agricultural and mining production (see Infrastructure Baseline section).

One particular transport bottleneck limiting the region’s potential economic growth is the Warrego Highway through Toowoomba and the Great Dividing Range. Increased demand for freight and logistics services is also expected, especially between mining and agricultural sectors, main ports and major urban areas.

The movement of workers to jobs in the west (using FIFO) and demand for business travel to and from major centres, including Sydney and Gladstone, will continue and grow with further project developments, putting pressure on existing air passenger and freight infrastructure.

Social infrastructure

Certain communities in the Darling Downs are experiencing strong population growth due to the influx or workers to energy and resource developments. This is leading to increased demands on social services and infrastructure, including health care, education and training. The establishment of worker camps for FIFO/DIDO workers is putting further pressure on certain parts of the region’s social services, with health care already under stress due to an aging population. These challenges also present an opportunity to grow the existing health and social services sector.

Availability of suitably zoned and developed land for residential, commercial and community needs

Preliminary studies undertaken by the former Department of Infrastructure and Planning (2010) indicated (in a high demand scenario) that the existing supply of zoned industrial land will be exhausted by demand from the gas industry services sector alone by 2020 (Surat Basin Economic Development Strategy, 2011).

Much of the currently available industrial land in the Darling Downs is not serviced by water, sewer, power, and transport infrastructure. The predicted industry growth will also result in increased demand for suitably zoned land to meet commercial, residential and community needs. It remains a challenge to accurately predict demand for developed land due to lack of clarity on future developments. For example, reliance of companies on FIFO/DIDO workers will have implications on residential land demand.
The Queensland Government is giving priority to removing unnecessary regulation, reducing red tape and streamlining approval processes to support economic development and ensure that planning systems respond effectively to land demand. This includes the establishment of a single State Assessment and Referral Agency to improve the coordination and responsiveness of the state government in dealing with development applications.\textsuperscript{20}

The housing shortage in Queensland’s resource regions is being addressed through the $100 million Land Supply, Economic and Regional Development Initiative. As part of this initiative, DSDIP has conducted a series of workshops in regional resource centres – including Dalby, Roma and Toowoomba – to identify the land availability and housing problems that they currently face and consider possible solutions. Funding has already been provided to support the accelerated development of the Clearview Rise residential community in the Roma Priority Development Area, facilitated by Economic Development Queensland.\textsuperscript{21} The government will continue to work with the private sector and councils to improve and streamline approval processes for residential development in resource regions.

Land also needs to be identified to accommodate the additional electricity infrastructure that is required to meet the energy demands of the region’s growing population and industrial base.

### Availability of skilled and non-skilled labour

A number of mining and energy projects are either at the construction phase or will reach construction phase within the next few years. Labour demand is expected to continue to increase in the communities affected by resource sector growth, such as Roma, Dalby and Chinchilla. Skills shortages are impacting on the ability of these communities to respond to new opportunities and industry growth. In turn, as the resources sector attracts workers from other industries, labour shortages are expected to rise in agriculture, manufacturing, tourism, construction, local government and retail. Trades skills are reported as being in particularly high demand.

\textsuperscript{20} Proposed legislative provisions to the Sustainable Planning Act 2009 to give effect to the SARA system are intended to commence by June 2013

\textsuperscript{21} Economic Development Queensland (EDQ) commenced on 1 February 2013 and was established under the Economic Development Act 2012. It is made up of three key commercial areas: residential development, industrial development and urban development (with EDQ taking on a master developer role). In addition to facilitating economic development, EDQ also has a strategic planning function. In consultation with local governments, EDQ will facilitate planning in areas which are declared as provisional or priority development areas to respond to gaps in the market or to facilitate development in complex large sites.
During the construction phase, resource projects will mostly source staff externally using FIFO/DIDO labour and a camp based approach to housing. However, the establishment of new worker camps will also create significant growth opportunities for local businesses. In particular, provision of services such as cleaning, laundry, entertainment and transport services may be in high demand. However, local economies will retain the majority of benefits flowing from FIFO/DIDO workers only if local businesses are successfully integrated into the worker camp supply chains.

Other parts of the Darling Downs region, including rural communities in the Southern Downs, are experiencing the effects of an aging population, which will also affect the availability of skilled and non-skilled labour in the future. Strategies will need to be developed to attract and retain workers in the region.

**Water availability and agricultural resources management**

Availability of water resources is vital for the ongoing sustainability of communities. Water use from the Surat Basin’s two main water sources – the Murray-Darling Basin and the Great Artesian Basin – is severely limited. Drought is also a major limiting factor in the region, which places significant constraints on water resources for variable and uncontrollable periods of time (Surat Basin Economic Development Strategy, 2011).

Competition for land and for water supplies between sectors, in particular between mining and agriculture, needs to be managed in a way that promotes ecologically sustainable development.

Declining water availability in the Murray-Darling Basin will significantly impact on cotton production in the region. Economic diversification will be required to offset the impacts of this reduced water availability. The reuse of CSG water may relieve some of the pressure on the agricultural sector and open up new opportunities for irrigated agribusiness in the region.

Aquifer injection has been identified as a preferred management option for disposal of excess CSG water under the Queensland Government’s CSG Water Management Policy. The Central Condamine River Alluvium has been identified as a potential target for injection of treated CSG water. This would be in the context of the Condamine Alluvial Aquifer also being considered as part of a Priority Agricultural Land Use under the Darling Downs Regional Plan.

Potential loss of agricultural land due to competition from resource developments could result in reduced regional capacity to grow crops with associated economic, environmental and social implications. Queensland’s Agricultural Land Audit will identify land important to current and future agricultural production across Queensland. The audit will provide information on the location, land area and types of existing productive agricultural land as well as areas of potential agricultural development.
Rapid growth may potentially have an adverse effect on the region’s natural environment. Possible impacts include loss of natural habitats and endangerment of native species. The spread of noxious weeds can have a major negative impact on landholders as they compete with pasture species grazed by cattle, cause more intense fires and require ongoing expenditure to control. Natural resource management plans recognise the economic impact of pests and diseases on agriculture and the landscape and effective management is required by landholders to redress these issues. In the Darling Downs, New South Wales border region, cross-border issues can arise in relation to control classes of pest plant species. There is scope for improved cross-border cooperation on catchment and natural resources management.

**Economic resilience**

As identified elsewhere in the strategy, the resilience of the Darling Downs economy will be enhanced by further diversification, productivity growth, competitiveness and appropriate natural resources management. For example the NBN roll-out offers opportunities for diversification of the existing industry base and other opportunities will emerge over the life of the strategy. The Queensland Government is committed to acting in interests of the state’s businesses and industry and removing regulatory bottlenecks and impediments to investment.

The long term impacts of climate change may increase the intensity and frequency of natural disasters such as floods, droughts and bushfires. The agricultural sector is particularly vulnerable to natural disasters but other sectors, including mining and tourism, may also suffer.

In 2010–2011, 2011–2012 and in 2013, the region has been impacted by severe flooding events, which followed eight years of below average rainfall. These floods devastated business, industry and communities. Transport infrastructure including the Warrego Highway and rail infrastructure was damaged, which was a major inhibitor to economic recovery across the region. Agriculture was significantly impacted, particularly grain, cotton and intensive livestock. Mining and CSG operations were also seriously disrupted. The Queensland Government is developing a framework for the regulation of levees as part of an integrated program to improve flood management in response to the Flood Commission of Inquiry. The Betterment Fund has also been established to assist recovery from natural disasters. The Fund will allow councils to rebuild damaged infrastructure such as bridges, roads and culverts to an improved standard that will survive future flood events.
Desired outcomes, strategies and actions

The major economic development issues have been identified to promote economic development. Table 11 has been populated in consultation with state government agencies and stakeholders involved in the regional planning process. The actions contained within this table represent identified activities that will help mitigate economic development issues. It is important to note that this is not an action plan for Government, rather a direction for regional stakeholders to progress economic growth in the region. For this reason the table does not identify timeframes or responsible parties.
## Table 11  Economic development issues

<table>
<thead>
<tr>
<th>Issues</th>
<th>Objectives</th>
<th>Strategies</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional infrastructure</td>
<td>• Improved infrastructure efficiently supporting industrial activity,</td>
<td>• Facilitating and advocating for required infrastructure developments</td>
<td>• Facilitate the development infrastructure through Royalties for the Regions funding,</td>
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<td>to support growth</td>
<td>resulting in industry and business growth and subsequent job creation</td>
<td>• Attracting business and industry investment</td>
<td>contributions from project proponents and Regional Development Australia Funding</td>
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<td></td>
<td>and retention, investment and business profitability</td>
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<td>• Continue work to put in place strategies to provide the workforce for the health and</td>
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<td>community services sectors</td>
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<td>• Prioritise regionally significant infrastructure and monitor developments</td>
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<td>• Actions to mitigate social impacts attributed to new or expanding resource development</td>
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<td>• Coordinate a whole-of-government process for Environmental Impact Statement monitoring</td>
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<td>Availability of suitably</td>
<td>• Increased availability of well positioned, suitably zoned and serviced</td>
<td>• Facilitating and advocating for required infrastructure developments, including suitably</td>
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<td>zoned and developed land</td>
<td>industrial land, attracting new investment, and resulting in industry and</td>
<td>zoned and serviced land consistent with existing State Planning Policies</td>
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**Darling Downs – Economic and Infrastructure Framework**

- 60 -
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<th>Issues</th>
<th>Objectives</th>
<th>Strategies</th>
<th>Actions</th>
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| Availability of skilled and non-skilled labour | • Regional workforce meets industry demands which will support regional economic growth  
• Increased productivity of the regional workforce  
• Regional businesses reporting increased local employment and skills levels | • Workforce development, including skills development, attraction and retention | • Identify industry needs for specific skills and trades and work with education and training sector to meet these needs  
• Encourage industry and particularly mining companies to implement high performing workplace practices including apprentice training  
• Work with major project proponents and regional business to respond to emerging skill needs arising from strong employment growth  
• Continue work to put in place strategies to provide the workforce for the health and community services sectors |
| Water availability and natural and agricultural resources management | • Quality and availability of agricultural land and water in the region is maintained  
• Businesses operate successfully in changing environments | • Improving local industry's resilience through innovation, adoption of new technology and commercialisation  
• Maintaining quality and availability of agricultural land and water through monitoring and acting on any negative impacts  
• Improving irrigation water efficiency in the resource and agricultural sectors  
• Cross border alignment on catchment and natural resources management and control classes of pest plant species  
• Reusing of CSG water for agricultural production | • Support primary producers to adopt innovative practices for more efficient water use and cropping techniques  
• Finalise and implement Surat Basin Underground Water Impact report  
• Finalise agricultural land audits  
• Identify pilot projects for optimising water, land and vegetation use efficiency for agriculture and energy production through particular installations or supply chains  
• Encourage cooperative conservation actions sponsored by resource interests |
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<th>Issues</th>
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<th>Strategies</th>
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<tr>
<td>Economic Resilience</td>
<td>• Businesses operate successfully in changing environments</td>
<td>• Improving local firms’ competitiveness and resilience through innovation, adoption of new technology and commercialisation</td>
<td>• Increasing floodplain security through programs including Royalties for the Regions in addition to the Local Government Grants and Subsidies Program, the South West Queensland Flood Mitigation Fund and the Natural Disaster Resilience Program</td>
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<td>• A more diverse and resilient regional economy</td>
<td>• Assisting business and industry prepare for and recover from natural disasters</td>
<td>• Improving local firms’ competitiveness and resilience through innovation, cutting edge technologies, practices and processes and commercialisation</td>
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<td>• Assess opportunities to participate in Carbon Farming Initiatives and other emerging opportunities</td>
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<td>• Rebuild damaged infrastructure to an improved standard through the Betterment Fund</td>
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6. Infrastructure outcomes

The priority infrastructure outcomes in this section have been identified to support economic development in Darling Downs. These priorities have been identified following an analysis of the economic development opportunities and challenges confronting the region. Realising these infrastructure outcomes will increase the efficiency, productivity and growth potential of the Darling Downs economy.

Overall, the identified infrastructure outcomes provide a strategic direction to help inform forward programs that could be undertaken by both the public and private sectors. The strategic nature of the outcomes allows flexibility in their implementation, providing scope for future planning activities, detailed studies and investigations to achieve the most beneficial results.

It is important to recognise that there are a number of other planning activities being undertaken across the Queensland Government. Where relevant, these are simply referenced in the document to avoid repetition or pre-empt their findings.

In providing context to the priority infrastructure outcomes, both opportunities and projects have been highlight. These opportunities and projects are not intended to be exhaustive lists. As a result, some locally significant opportunities and projects may not have been included.

The following are considered to be the priority infrastructure outcomes that will best address the key challenges raised by stakeholders during the development of the infrastructure baseline.

**Priority infrastructure outcomes for public and private sector**

- Prioritise transport programs to improve freight movement and reduce conflicts through urban areas and with other network users.
- Facilitate the transportation of workers in an environment with a growing non-resident workforce and population.
- Improve the security and reliability of community water supplies in the region and their preparedness for future industry and population growth.
- Reinforce electricity generation, transmission and distribution networks in response to forecast population and industry growth, with consideration of neighbouring regions, and energy efficiency efforts.
- Support community infrastructure needs including optimising the use of existing assets to improve community liveability and induce non-resident workers to relocate.
- Advocate and attract telecommunication infrastructure investment to support innovation and technology that enhances industry productivity.
Fiscal environment and initiatives

In considering these priority outcomes it is important to recognise the fiscally constrained environment that the state is currently operating in. Choosing the optimal financing and sequencing options for infrastructure investments is crucial in this environment to achieve the best outcomes for the Darling Downs region and Queensland as a whole.

In addition to maximising the use of existing infrastructure, potential new infrastructure investments and alternative funding models are also important considerations, including strategies to attract further federal funding.

Ensuring appropriate and sustainable levels of investment in infrastructure is also important to ensure that capital programs minimise investment spikes which can lead to higher costs. In the future, infrastructure investments will be made when and where they are needed most to deliver the best outcomes for the region and state economies.

The Queensland Government has a number of complementary initiatives to improve the way infrastructure is planned and delivered in this fiscally constrained environment (outlined below).

Infrastructure for economic development

The state government is addressing the challenges for the provision of economic infrastructure in Queensland. Through a suite of reforms to infrastructure planning, prioritisation and financing, the government, in partnership with the private sector, will be better positioned to deliver highly productive infrastructure to drive the economic development of the State and regions.

Infrastructure Queensland

Infrastructure Queensland is an advisory group drawing on expert advice from highly regarded private sector representatives and heads of key government departments to drive the state’s infrastructure projects. The group provides advice to the state government on long-term planning and priorities for infrastructure and helps the government make the hard choices that need to be made.

Projects Queensland

Projects Queensland is focussed on fostering investment partnerships that deliver positive infrastructure outcomes. This body helps to drive cooperative funding models that maximise private investment, and ensure major projects are built on time and to budget. Projects Queensland is committed to service delivery, encouraging innovative private investment in a pipeline of new projects and reducing costs and red tape.
Regional environment

With the diversity of the region, its industries and infrastructure, numerous other planning initiatives and activities have or are being undertaken. These are integral to ensuring the complexities of the region and future scenarios are adequately assessed.

As a result of the regions complexities it is important to highlight that this document is not intended to address all matters within the region, focusing instead on matters of regional significance. The state government would also like to recognise the important role local governments and the private sector continue to play in planning for the region.

Where possible, other initiatives have contributed in the preparation of this regional framework. However some initiatives will be considered in future revisions of this framework, due to their timing and progress.

The following is an initiative related to infrastructure planning relevant to the Darling Downs region.

**Surat Basin Infrastructure Framework (SBIF)**

The SBIF is a whole-of-government framework that aims to guide decision-making on the coordinated, timely and cost-effective provision of infrastructure to meet the needs of resource projects in the region, particularly those related to the coal mining industry. This document focuses on infrastructure solutions for the growing the coal and CSG sectors within the basin with an understanding that these solutions must also enhance the growth of existing and developing sectors. The SBIF will also provide certainty for stakeholders regarding the Queensland Government’s required or preferred infrastructure outcomes for the basin.

**Strategic priorities**

**Prioritise transport programs to improve freight movement and reduce conflicts through urban areas and with other network users**

A key priority for infrastructure in the region is enabling the transportation of goods and resources to market. Efficient infrastructure is critical for the inward supply of goods and services that support the region’s strong agricultural and resources sectors. Improved facilitation of freight transportation also has significant potential to deliver flow-on benefits to other network users, particularly residents in urban areas and tourists using the region’s road and rail networks.
Transport programs should be prioritised to improve the efficiency, capacity and reliability of freight networks. This prioritisation should also strive to reduce the freight transportation, or manage the impacts of this activity, through urban centres like Toowoomba, Dalby, Chinchilla, Miles and Roma. The economic benefits and facilitating of economic development, along with overall safety of the network, must be key factors informing this prioritisation.

Freight transport programs must also be outcome focussed enabling the consideration of non-infrastructure solutions (e.g. vehicle technologies which reduce pavement impacts) and alternative modes of transport which may achieve better value for money.

The cumulative impact of new and expanding resource projects will put increasing pressure on major freight routes, as will the region’s growing agricultural sector. Unmanaged, this additional requirement to move freight, along with population growth, will also increase conflict between freight and other network users. Population growth is also likely to affect the efficiency of freight movements as some key freight routes are also used by residents for local trips.

**Opportunities**

**Toowoomba second range crossing**

An opportunity exists, subject to Federal Government funding, to deliver a second range crossing which could enable economic growth in the region by freeing up road freight capacity and enabling bulk goods to be transported more efficiently and safely. The second range crossing could also greatly benefit the developing Charlton Welcamp industrial node and has the potential to significantly reduce heavy vehicle traffic in Toowoomba’s urban area.

The proposed Toowoomba Second Range Crossing urban bypass is a 42 kilometre road corridor running north of Toowoomba from the Warrego Highway west of the Helidon Spa to the Gore Highway, around 17 kilometre south-west of Toowoomba. The proposed crossing has the potential to increase the productivity and competitiveness of SEQ and surrounding regions by providing a safe, reliable and efficient transport route along the western corridor to the Port of Brisbane which is a key section of the National Network.

**Improvements to road freight routes**

Strategic investment in key freight routes can support the region’s economic development by reducing transport costs and increasing competitiveness. Improvements to known constraints such as the Warrego Highway between Toowoomba and Oakey, could significantly improve the efficiency of freight movements in the region. In the longer term, realignments or improvements to strategic freight corridors will be important to improve flow efficiency and safety through large urban centres, particularly as the region grows. In relation to this, consideration could be given as to whether there is merit in preserving bypass corridors for some urban centres like Roma.
Freight modelling
An opportunity exists for business groups to work with government to better model freight demands throughout the region and thereby inform planning activities and prioritisation decisions, including those which seek investments in the optimal mode of transport. Such modelling may lead to improved outcomes that better assist business to achieve improved productivity and growth. Modelling these freight demands would also highlight potential cumulative impacts and capacity constraints in the network and inform longer term aspirations for freight transport in the region.

Modal shift towards increased rail use
As a longer term aspiration, increases in rail capacity may encourage a modal shift from road to rail for high volume, lower value products. Increased capacity may have particular benefits for the movement of agricultural commodities and improve inward logistics of the mining sector. It may also alleviate some of the constraints on the region’s road network, reduce maintenance costs and improve safety through a reduction in heavy vehicles. Targeted capacity upgrades to the existing rail network may also support this modal shift. Alleviating rail operating constraints caused by the Toowoomba and Little Liverpool Range crossings could be considered in the future through the preserved Gowrie to Grandchester corridor. There are benefits to improving linkages to other regions like Central Queensland over the longer term, as growing bulk commodities exports through SEQ present challenges associated with increasing population densities and the necessary priority given to passenger rail services.

Surat Basin Rail Project
The proposed Surat Basin Rail Project also has the potential to support this opportunity and could potentially alleviate capacity constraints on the Port of Brisbane and the Western Rail System. This project is also a step towards providing further export opportunities for regional producers with connections through to the Port of Gladstone. Depending on the proposed use of Surat Basin Rail, realising these opportunities may require further upgrades.

Brisbane to Melbourne Inland Rail
The proposed inland railway linking Melbourne and Brisbane via a new alignment near Toowoomba and intersecting with the Western Rail System is also a potential significant enabling project for the region. The project is likely to require substantial railway investments in SEQ e.g. a Southern Freight Rail Corridor. Significantly increasing freight movement through SEQ presents a number of challenges, including difficulties in building capacity down the Great Dividing Range at Toowoomba, and through the Brisbane suburban areas. Government’s policy of increasing passenger rail utilisation also has the potential to further compete with increased freight capacity.
Intermodal facilities
Over the longer term increased rail capacity in the region could provide opportunities for intermodal hubs such as the proposed logistics hub in Toowoomba’s Charlton-Wellcamp industrial precinct. Such facilities could support the modal shift from road to rail through ‘first and last mile logistics’. A number of under utilised grain handling facilities also exist on the rail network which could be more productive with additional rail capacity.

Facilitate the transportation of workers in an environment with a growing non-resident workforce and population
Workers throughout Darling Downs and from other regions underpin the region’s economy and its development which is why facilitating the movement of people is a key priority. It enables proponents to access the labour they need to build and operate major projects in regional locations. It also reduces cost pressures for local businesses by expanding the pool of labour they can draw from.

In facilitating the transportation of people in and between urban areas, it is important to invest in modes of transportation that deliver benefits from existing infrastructure such as public transport, air services, passenger rail services and active transport (e.g. cycling and walking) options.

It is important to work closely with the resources sector to ensure that the growing impact of non resident workers is managed in the Darling Downs region. Facilitating the transportation of workers could also potentially have flow on benefits for the growing population of local residents, tourists and the movement of freight.

Similarly, working closely with the tourism industry to support the region’s key tourism routes and attractions is a priority.

Opportunities

Toowoomba second range crossing
An opportunity exists to deliver a second range crossing which would bypass Toowoomba city freeing up capacity of the road network in the city for local workers and visitors. The second range crossing would also provide capacity for DIDO workers and tourists travelling between SEQ and other parts of the Darling Downs region.

Airport rationalisation
Strategic use of regional airports to support FIFO workers is important for the region’s development. These decisions will not only need to consider the capacity and capability of existing regional airports. They will also need to consider how the incidental needs (e.g. accommodation, health care) of workers will be met and factor in any negative added pressures being placed on other infrastructure (e.g. transportation infrastructure). There is a risk that without effective planning a number of smaller airports may be constructed or upgraded by industry, leading to inefficiencies and possible underutilisation of these assets.
Workforce rostering and workplace policies
Workforce rostering and workplace policies can be effective tools for managing the impacts of workers on transportation networks. In urban areas, flexible hours or staggered shifts can reduce peak demands on transport networks. Innovative and efficient workforce rostering can also deliver benefits and enable chartered bus services to be utilised, reducing unnecessary vehicles on the roads. This also provides safety benefits as it reduces the number of fatigued workers driving considerable distances after long shifts. For example, companies that employ a significant FIFO/DIDO workforce should be encouraged to coordinate their rostering schedules to reduce bottlenecks at shared airports.

Public transport planning
Reviews of the regions current public transport networks, incorporating evidence-based planning, may identify corridors that could benefit from improved public transport services and target markets to encourage public transport usage. In some areas investment in public transport services and infrastructure provides an opportunity to get better value for money from existing infrastructure. The business cases for these investments should be underpinned by passenger forecasts.

Reducing peak demand on local road networks
Providing active transport (e.g. walking, cycling) options and promoting innovative work practices (e.g. telecommuting) presents an opportunity to reduce congestion on local road networks during peak demand. Large and growing urban centres like Toowoomba may in particular benefit from these initiatives. Active transport contributes to a healthier workforce, thereby reducing health costs to the regional economy. Flexible workplace policies, such as telecommuting or flexible hours, could also help Darling Downs employers to attract and retain employees.

Related initiatives

Outer circulating road project (Toowoomba CBD)
Toowoomba Regional Council is constructing the Toowoomba CBD Outer Circulating Road to improve traffic efficiency in the city centre. Both this project and the upgrading of the West Creek Railway Bridge will also improve flood mitigation in the Toowoomba CBD. The development phase for this project is due to be completed by December 2014. The Queensland Government has committed funding and the provision of state government land through the Roads to Resources funding component of the Royalties for the Regions initiative.

Wellcamp Airport
The proposed privately-funded Wellcamp Airport site is located 20 kilometres west of Toowoomba. If approved, the airport infrastructure will be delivered in stages to eventually be capable of handling large aircraft including A320’s/B737’s. Destinations could include Sydney, Roma and possibly in the long-term ad-hoc B747 freighter operations from Singapore.
Miles Airport

The Miles Airport has been undergoing upgrades to enable all weather and night/day operation, improving access and safety not only for the gas industry but the surrounding community. The upgrade is also hoped to reduce vehicle movements from local roads.

**Improve the security and reliability of community water supplies in the region and their preparedness for future industry and population growth**

Ensuring the security and reliability of water supplies is vital to supporting the region’s continued growth. Community water supplies have come under considerable pressure in the past, particularly during drought periods, and may need to be augmented to meet growing demand and provide improved security.

Without appropriate and timely action, supply security issues could be exacerbated by the forecast population growth as the resources sector. Improved coordination and collaboration with the sector will be important for the region to manage the impacts of fluctuations in non-resident workforce populations on community water supplies. Improvements in water use efficiency throughout the region should also be a priority.

Water security improvements through the region will also need to take account of the flood risk due to the characteristics of each catchment. In-stream infrastructure necessarily disrupts the flow of water through a section of catchment which can potentially act to mitigate flood effects in some locations whilst worsening them elsewhere.

**Opportunities**

**Coal seam gas water**

The continuing expansion of the CSG industry, particularly in the Surat Basin, is resulting in large quantities of water being produced as part of the gas extraction process. The industry is required to manage this water such that it is beneficially used rather than being disposed of either through evaporation or discharged to watercourses. Consequently many investigations are underway to identify opportunities for using water locally at its point of extraction, more widely through aggregation and distribution systems, and/or by returning it to suitable aquifers.

Treatment of the water, in particular to reduce its salinity, is required to ensure the water is of an appropriate quality for its intended use.

The volume of water produced at individual gas wells peaks early in the extraction process and then declines over time. The same pattern occurs as gas production comes online and ceases in an area, meaning that CSG water availability will ‘move’ across the region over time. As a consequence, systems built to aggregate and distribute this water will need to either be extended to ‘follow the water’ or change locations to where water is being produced.
Alternative water supplies
The proposed Nathan Dam, on the Dawson River near Taroom just north of the region, is a potential source of water for the Darling Downs and Central Queensland regions in the longer term. Pipelines associated with the project could potentially be built early and used to distribute CSG water from the Surat Basin to the Dawson Valley Water Supply Scheme and/or towards Dalby. Nathan Dam itself could then be developed at a later date to maintain supplies of water as the availability of CSG water declines.

In areas where the volume of CSG water produced is not sufficient for pipelines to be an efficient means of supplying water, alternative options would need to be investigated. For example, Southern Downs Regional Council is investigating options for augmenting water supplies to Stanthorpe, which has experienced many periods of low water availability in the recent past.

Trading of water allocations
Voluntary participation in water markets provides existing water allocation holders with the opportunity to restructure or exit enterprises as circumstances change. Water markets also provide opportunities for new developments, encourage increased water use efficiency, and promote the movement of water to higher value uses.

South West Regional Water Supply strategy
Regional Water Supply Strategies are developed in partnership with local governments, water service providers, industries and community groups. They aim to balance water demand and supply requirements and provide regional water supply solutions for the next 50 years. A future strategy for the region will serve to identify potential water supply security issues and will develop an action plan for addressing them at an appropriate time.

Related initiatives
Queensland's water sector: a 30-year strategy
The Queensland Government wants to create a strong and resilient water sector to help deliver Queensland’s economic and lifestyle goals. In support of this, a long-term strategy is being developed to create a Queensland water sector which will deliver integrated catchment-based, recreation, water supply, sanitation, irrigation and environmental services at the lowest cost.

This strategy is being developed in two phases: Phase 1 is the release of the water sector discussion paper for public consultation; Phase 2 will be the development of the strategy itself in 2013.22

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Kenya to Chinchilla pipeline
SunWater’s Kenya to Chinchilla pipeline will deliver up to 85 megalitres of treated CSG water per day from the Queensland Gas Company’s water treatment plant at Kenya to the Chinchilla Weir Water Supply Scheme. Water users along the route of the pipeline will be able to enter into a contract with SunWater to access water.

Nathan Dam and pipelines
The Nathan Dam and Pipelines project is aimed at providing long-term, reliable water supplies to mining, power, urban and existing agricultural customers in the Surat Coal Basin and the Dawson-Callide sub-region of Central Queensland.

The proposed dam site is located just upstream of the Nathan Gorge on the Dawson River, 315 kilometres upstream of the confluence of the Dawson and Fitzroy rivers. Depending on the final dam design, it is expected to have a capacity of up to 888 000 megalitres.

Emu Swamp Dam
In order to augment water supplies for Stanthorpe, Southern Downs Regional Council has proposed construction of a dam at Emu Swamp on the Severn River approximately 15 kilometres south-west of the town. Development of a dam of up to 10 500 megalitres has been proposed, with larger dam sizes serving to supply additional irrigation water as well as meet urban water demands.

Before the project can be approved by the Queensland Coordinator General, a Supplementary Environmental Impact Statement must be produced that adequately addresses concerns raised by the state and federal governments.

Reinforce electricity generation, transmission and distribution networks in response to forecast population and industry growth, with consideration of neighbouring regions, and energy efficiency efforts
The region’s electricity system powers the Darling Downs economy as well as those of neighbouring regions. Maintaining adequate power supply and catering for peak demand is integral to ensuring the region’s economy can operate without interruption.

Augmenting the electricity system for bulk users will be particularly important for the region, particularly in the Surat Basin where a large number of resource projects have been proposed. A significant increase in electricity demand is expected in the Surat Basin as resource projects progress. Forecast growth in SEQ will also need to be considered in planning to reinforce the region’s electricity generation and transmission networks for the future.

Advances in energy generation technologies should be monitored for efficiency improvements. Adopting more efficient and alternative technologies will be important considerations in the future.
Monitoring and scenario planning for changes in consumer behaviour and energy consumption are also important. Consumers are increasingly becoming more energy conscious in their homes. However, the 2012 Queensland Household Energy Survey revealed that households are also purchasing more white goods and electrical appliances which could put upward pressure on energy demand.

**Opportunities**

**Energy generation potential**
The Darling Downs region is well positioned to grow its energy generation capabilities to service the needs of the region, SEQ and potentially south of the border. The region has abundant resources suitable for fuel (e.g. CSG), and a well established energy sector. It also has an extensive transmission network, including the Queensland-New South Wales Interconnector.

**Localised energy generation**
Localised energy generation can be a viable option in some situations as an alternative to, or in addition to, connections to the transmission or distribution networks. There may also be opportunities for localised gas-fired generating plants to supply electricity directly to certain customers.

**Related initiatives**

**The 30-year electricity strategy**
To proactively meet emerging challenges, the Queensland Government has embarked on an ambitious path that will deliver a 30-year strategy for the state’s electricity sector. The government is putting the entire electricity supply chain under the microscope to identify challenges and opportunities, target efficiencies and ultimately ensure that Queenslanders are getting the most secure, reliable and cost-effective supply of electricity possible.23

**Surat Basin Transmission Network Reinforcement Project**
To meet future electricity requirements, Powerlink and Ergon Energy have identified the need for a new 275 kilovolt transmission line and substations between Western Downs (near Kogan Creek Power Station) and Columboola (near Miles). The project is intended to meet both the immediate and emerging needs of the energy and resources sector, and support the long-term needs of residential and commercial customers. Construction has already commenced with commissioning expected to occur in 2014.

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Support community infrastructure needs including optimising the use of existing assets to improve community liveability and induce non-resident workers to relocate

Community infrastructure plays an important role in servicing a wide variety of local needs throughout the region. Supporting the region’s communities and their needs through adequate community infrastructure and social services is an important priority for the region now and in the future. In addition, it is also important to deliver efficiencies and innovations that are capable of delivering the most from existing investments and support fluctuations in non-resident populations.

Throughout the region, growth is driven by a number of economic opportunities. Of particular note is the resources sector which has brought an influx of non-resident workers to the region. As a result, the demands on community infrastructure and social services are increasing. Quality community infrastructure and services can assist in encouraging non-resident workers to relocate.

While it is important to recognise this priority for communities in the Darling Downs, due to the regional economic focus of this framework, priorities are better identified through other processes such as planning for the future delivery of local services.

Opportunities

Leveraging the opportunities from significant projects
The opportunities from significant resources projects could be maximised to provide additional or different kinds of social infrastructure to support residents and non-resident population (e.g. skills training). Longer term opportunities also exist where the legacy infrastructure provided for significant resources projects could support the growth of other industries. This applies to both community and non-community infrastructure.

Supporting and attracting worker relocation
Supporting regional communities to develop the attractiveness and long term sustainability of resource towns, through development of social and local infrastructure and services, is likely to encourage more workers to relocate their families to resource communities. This provides the resource industry with convenient access to a specialised local workforce and builds the social capital in these communities, while reducing transportation and accommodation costs for employers. It is important to note however that it may not be practical to support the relocation of large numbers of non-resident workers to some smaller resource communities.
Temporary solutions for temporary needs
Innovative solutions could be investigated and planned to manage temporary increases in demand, mitigating the need to costly permanent infrastructure. In some instances, additional capacity in community infrastructure or social services may only be required for a temporary period due to non-resident workforce fluctuations. As an example, peaks can often occur during the construction phase of significant projects. Using isolated work camps which are highly self-sufficient can also reduce some non-resident worker impacts on community infrastructure.

Related initiatives

Royalties for the Regions
The Queensland Government is giving back to the communities that support resource projects through its Royalties for the Regions initiative. Over its first four years, the program will invest $495 million in new and improved community infrastructure, roads and floodplain security projects that benefit those who live, work and invest in Queensland’s resource regions. In the following years there will be an ongoing commitment of $200 million each year.

Queensland Schools Planning Commission
The Queensland Government established the Commission to streamline and coordinate the processes of planning, establishing and expanding government and non-government schools across Queensland with the collaboration of all three school sectors and other key groups.

The Commission will provide advice and recommendations to government, drawing on evidence, expertise and consultation with key stakeholders. It will also analyse the current infrastructure planning and financial systems of schools and make recommendations on how to increase their efficiency and cut red tape.

The Commission will also examine population trends and school capacities to guide future planning, and produce a school infrastructure demand map which identifies schools that are most in need of infrastructure funding and support.

Health reform
Australia's health system performs well by international standards, however, growing burdens of an ageing population and escalating chronic disease are putting it under increasing pressure. This means that Queensland needs to change the way the health system operates. Commonwealth, state and territory governments have agreed to transform the Australian health system so that decision-making and accountability are more responsive to local health priorities. This provides greater ability for the new Hospital and Health Services to meet the service needs of their communities.
Surat Basin Population Report
The Government Statistician produces an annual Surat Basin Population Report which quantifies the number of FIFO/DIDO workers living in the region and their use of commercial accommodation (see Section 3 and Appendix A for projections and data on non-resident workers in the Darling Downs).

Advocate and attract telecommunication infrastructure investment to support innovation and technology that enhances industry productivity

Public and private sectors should continue to advocate and attract telecommunications infrastructure investments within the region, with industry and telecommunications providers working together to closely plan future investment.

Technology can play a significant role in driving innovation and productivity, and the connectedness of newer technologies is increasing reliance on fixed and mobile services and the demand for telecommunications infrastructure.

Some areas of the Darling Downs region are already well positioned to leverage existing telecommunications infrastructure. High-speed backbone links pass through the region and the NBN is being progressively rolled out throughout the region.

Continual improvements and expansions to the region’s telecommunications infrastructure benefits industry, encouraging the increased adoption of connected technologies. Deploying technologies like telemetry can allow businesses to monitor or manage remote operations, driving operational efficiencies. In a community context, improved telecommunications also reduces isolation and enables services to be provided remotely (e.g. education and health services).

The intent of this priority is also to ensure telecommunication providers and their customers are in tune with each other. This enables customers to benefit from technological advances while potentially enabling providers to mitigate access limitations or delays to telecommunications infrastructure. This collaboration can also enhance network providers’ demand forecasting and help them avoid capacity constraints on their networks.

Opportunities

Co-investment in telecommunication infrastructure
Opportunities may exist for co-investment in telecommunications infrastructure to expand the coverage of existing networks and bring forward proposed new investment.
**Group buying power**
The group buying model, with a group of customers in sufficient numbers, could encourage telecommunication infrastructure providers to extend or upgrade their network in an area. Under this model a contractual commitment to use a telecommunications service by multiple businesses and individuals may provide a successful business case for the telecommunications provider to invest in infrastructure.

**Related initiatives**

**Improving the reach of the NBN**
While the NBN is proposed to cover all of Australia, not everyone will receive high speed fibre or high speed wireless with some households limited to satellite access. The NBN Co encourages communities, businesses or individuals to consider co-investment to extend either their fibre or mobile broadband network.
7. Conclusion

This framework broadly maps out the actions and infrastructure outcomes needed to position the Darling Downs economy for future growth. The objective is to develop a productive and resilient regional economy that is able to capitalise on its competitive strengths and growth potential to create jobs and attract investment.

The Darling Downs’ resource and agricultural sectors are benefiting from rising global demand for energy and food. The region’s services sector is also expanding on the back of continued population growth and growing investment in information and communications technology. These trends are driving other opportunities in the construction and tourism sectors, enhancing the economic diversity of the Darling Downs.

However, the efficiency, productivity and growth potential of the Darling Downs is constrained by a number of economic development and infrastructure challenges. In particular, skills shortages are impacting on the ability of resource communities to respond to new opportunities and industry growth. In addition, current transport infrastructure in the region is affected by capacity constraints and needs to be improved to cater for increased agricultural and mining production.

The framework also acknowledges that economic prospects are not uniform across the Darling Downs region. The majority of people live in major regional centres, each responding to different growth drivers and facing their own individual economic development challenges.

Recognising that the economic future of the region is linked to a dynamic global environment, the framework does not take a prescriptive approach that would limit flexibility and responsiveness. Rather, it identifies high-level strategic actions and priority infrastructure outcomes to address the economic development and infrastructure challenges that confront the Darling Downs. The framework has also been a key input in the development of the Darling Downs regional plan which is aimed at improving certainty for communities and business through specific land use mapping.

The framework will be reviewed every five years in line with the regional plan to ensure it remains consistent with changing market forces and community expectations.
Appendix A Regional centres

Regional centres defined

The Darling Downs is home to a number of urban centres and localities including Toowoomba, Dalby, Warwick, St George, Roma and Chinchilla. Other regional towns and localities are shown in Figure 1A below. These are defined based on the ABS geographical structure for urban centres and localities (UCL) which is based on the Australian Statistical Geography Standard 2011 (ASGS 2011).

Figure 1A Urban Centres and localities, Darling Downs

Source: Based on ABS Australian Statistical Geography Standard (ASGS) 2011
Notes: Urban Centre (green) is generally defined by the ABS as a population cluster of above 1,000 people. A locality (orange) is generally defined as a population cluster of between 200 and 999 people.

The following discussion of the roles of major regional centres in the Darling Downs is also supported by analysis of key trends and driver industries based on the broader functional areas of the ABS ASGS 2011 Statistical Area Level 2 (SA2) geographical boundaries. SA2 boundaries are based on a combination of population, functional areas (an area from which people come to access services at a centre) and likely population growth in the next 10–20 years. The aim of the SA2s is to represent a community that interacts together socially and economically, providing a useful basis to analyse the features and growth trends at a finer spatial level within the region.
SA2s are the lowest level of the main ASGS structure for which estimated resident population and key data sets are generally available including time series profiles and working population profiles. In addition, they are the lowest level for which the revised population projections will be available from Queensland Treasury and Trade, Government Statistician in mid to late 2013. However, it is recognised that there are a number of smaller localities below the SA2 level that play major economic and social roles for both the residents of these areas and the region as a whole.

Table 1A describes the SA2s (regional centres) within the local government areas (LGAs) in the Darling Downs region. This mapping is used to develop detailed economic baseline data and time series analysis on regional centres (see Table 4A).

### Table 1A  Regional centres mapping

<table>
<thead>
<tr>
<th>Main Statistical Areas (SA)</th>
<th>Urban Centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA4</td>
<td>St George</td>
</tr>
<tr>
<td>SA3</td>
<td>Chinchilla</td>
</tr>
<tr>
<td>SA2</td>
<td>Goondiwindi</td>
</tr>
<tr>
<td>Balonne</td>
<td>Roma</td>
</tr>
<tr>
<td>Chinchilla</td>
<td>Roma</td>
</tr>
<tr>
<td>Goondiwindi</td>
<td>Roma</td>
</tr>
<tr>
<td>Inglewood - Waggamba</td>
<td>Miles</td>
</tr>
<tr>
<td>Miles - Wandoan</td>
<td>Roma</td>
</tr>
<tr>
<td>Roma Region</td>
<td>Roma</td>
</tr>
<tr>
<td>Tar</td>
<td>Roma</td>
</tr>
<tr>
<td>Crows Nest - Rosalie</td>
<td>Crows Nest</td>
</tr>
<tr>
<td>Jondaryan</td>
<td>Oakey</td>
</tr>
<tr>
<td>Millmerran</td>
<td>Millmerran</td>
</tr>
<tr>
<td>Pittsworth</td>
<td>Pittsworth</td>
</tr>
<tr>
<td>Wambo</td>
<td>Dalby</td>
</tr>
<tr>
<td>Clifton - Greenmount</td>
<td>Dalby</td>
</tr>
<tr>
<td>Southern Downs - East</td>
<td>Dalby</td>
</tr>
<tr>
<td>Southern Downs - West</td>
<td>Dalby</td>
</tr>
<tr>
<td>Stanthorpe</td>
<td>Stanthorpe</td>
</tr>
<tr>
<td>Warwick</td>
<td>Warwick</td>
</tr>
<tr>
<td>Cambooya - Wyreema</td>
<td>Wyreema</td>
</tr>
<tr>
<td>Darling Heights</td>
<td>Wyreema</td>
</tr>
<tr>
<td>Drayton - Harristown</td>
<td>Wyreema</td>
</tr>
<tr>
<td>Middle Ridge</td>
<td>Wyreema</td>
</tr>
<tr>
<td>Newtown</td>
<td>Wyreema</td>
</tr>
<tr>
<td>North Toowoomba - Harlaxton</td>
<td>Toowoomba</td>
</tr>
<tr>
<td>Rangeville</td>
<td>Toowoomba</td>
</tr>
<tr>
<td>Toowoomba - Central</td>
<td>Toowoomba</td>
</tr>
<tr>
<td>Toowoomba - East</td>
<td>Toowoomba</td>
</tr>
<tr>
<td>Wilsonton</td>
<td>Toowoomba</td>
</tr>
<tr>
<td>Gowrie</td>
<td>Toowoomba</td>
</tr>
<tr>
<td>Highfields</td>
<td>Toowoomba</td>
</tr>
<tr>
<td>Toowoomba - West</td>
<td>Toowoomba</td>
</tr>
</tbody>
</table>

Source: ASGS 2011 (Main Statistical Area Structures and UC/L geographies). It should be noted that urban centres do not align exactly with SA2s.
Role and outlook for major regional centres

Roma
Role: Roma is the dominant regional centre in the Maranoa area and acts as the primary hub for commerce, education, health, transport, government, retail trade and financial services.

Outlook: The current boom in CSG developments is rapidly changing Roma and impacting dramatically on its development. Thousands of coal seam gas wells are to be drilled in the Maranoa region over the next 20 years and several major energy companies are already operating in the region.

Roma is strategically positioned as the southern gateway to outback tourism in Queensland. Furthermore, the growing population of Roma represents a significant opportunity for the development and construction industry and its associated supply chains with a particular focus on the need for diversified housing options (e.g. units and townhouses).

Miles-Wandoan
Role: Miles is predominantly an agriculture hub with emerging opportunities in mining as well as transport and supporting services. Areas around Miles and Wandoan host rich deposits of coal and CSG and investment from resource companies has already resulted in expansion of these rural towns. The Miles-Wandoan regional economy is still strongly reliant on agriculture including livestock production (mainly beef) and cropping (grains and cotton). Timber production also contributes to the local economy.

Outlook: There are several proposed coals mines in the Wandoan area, while industrial land developments that service these developments are expected to be in demand (should these developments proceed). Development of rail infrastructure is required to support proposed coal mining and needs to be further explored.

Chinchilla
Role: Together with Dalby, Chinchilla is the main shopping business/commercial centre serving the Western Downs area.

Outlook: Many businesses in Chinchilla have diversified from a traditional base in the agricultural sector into energy and mining. The centre is also experiencing major growth as a result of the coal, gas and other energy developments connected to the region’s numerous power stations. Industrial land developments that service the growing CSG, power and coal industries are expected to remain in demand. There is also opportunity for location of heavy and difficult to locate industries that leverage off the power supply in the Kogan area.
Dalby
Role: Dalby is the administrative centre as well as the main shopping business/commercial centre of the Western Downs area (together with Chinchilla). Agriculture is the mainstay of Dalby’s economy. The region is a rich agricultural area, growing grain and cotton, and also producing beef and pork. The power generation and CSG industries are both serviced by many local companies located within the Dalby region.

Outlook: Dalby businesses have diversified in recent years, from traditional agricultural base into energy and mining developments, with this trend expected to continue. Investment attraction of key/strategic businesses utilising reverse osmosis treated CSG water is also a major opportunity for Dalby.

Toowoomba
Role: Toowoomba is the main economic and commercial hub of the Darling Downs and South West area, providing a range of businesses, industries and services which are readily accessible to local and regional communities. Toowoomba’s location within the Surat Basin brings many economic opportunities associated with the resource developments. In addition, Toowoomba’s proximity to SEQ’s expanding population base is driving growth in agricultural production, food processing, general manufacturing and tourism. Toowoomba also plays a vital role in providing services to South West Queensland residents and is a hub for health services within the region. Toowoomba’s role as a regional centre will be further enhanced by plans for a redeveloped civic centre precinct (supported by private sector investment).

Outlook: Economic growth opportunities will be supported by key infrastructure investment, particularly road, air and rail connections such as the Melbourne to Brisbane Inland Rail, the Toowoomba Bypass and the proposed Wellcamp airport. In particular, the proposed Wellcamp airport will enhance economic opportunities through:

• growth in the aviation industry
• establishing Toowoomba as a FIFO base
• establishing a fresh food freight logistics hub for the region.

In addition, the opening of the air route between Toowoomba and Roma to commercial airlines will have a significant impact on the role of Toowoomba as a services centre for the Darling Downs.

The Charlton Wellcamp Enterprise Area is expected to continue to be a catalyst for business growth, leading to increased local manufacturing and improved transport and logistic opportunities which should result in a more resilient and balanced economy.

Local and regional economic diversity and strength will also be enhanced by the production of more varied and specialised value-added crops and intensive agricultural production, supported by appropriate infrastructure.
Toowoomba will also benefit from further development of technology-based services and applications as the National Broadband Network (NBN) is progressively rolled out, including opportunities to expand online businesses and develop data centres, e-education and e-health services.

Availability of high security water is a major factor impacting on potential inbound investment of key businesses (manufacturing) to the region. Power supply and water availability/security are critical infrastructural issues that could potentially impact on future regional development. The growing population of Toowoomba and associated demands for housing represents a significant opportunity for the development of the construction industry and its associated supply chain.

**St George**

Role: St George is the administrative centre for the Shire of Balonne. The area has a strong agricultural base with cropping and livestock grazing. There is already a small, but significant level of economic diversification into irrigated horticulture. St George is a very important service hub for supplying the irrigation industry in the region.

Outlook: The majority of employment is in agriculture, forestry and fishing (around one third of total employment) and the services sector is also a relatively large employer.

The Balonne region has already been identified as one of the “most impacted communities” under the draft Murray Darling Basin Plan with proposed reductions of over 100 gigalitres of water per annum within this catchment. This could significantly impact on cotton production in this area. Economic diversification will be required to offset the impacts of this reduced water availability.

Potential opportunities exist for economic diversification into high value horticulture, drive tourism, and as a training hub for medical education/training for remote/rural health.

**Goondiwindi**

Role: Goondiwindi is strategically positioned as a significant transport and service hub for a diverse range of agricultural industries in the Border Rivers area of Queensland and northern New South Wales. Goondiwindi operates as a commercial, health and service centre for a broad region encompassing a large part of northern New South Wales. This presents some challenges for business and service providers in dealing with cross-border issues such as differing state regulations.

Outlook: Water availability via the Murray-Darling Basin Plan is critical to the outlook for agriculture, Goondiwindi’s most important economic sector. Goondiwindi’s strategic location provides opportunities for value adding, especially in food and fibre manufacturing. There is also potential to expand the timber (hardwood and cyprus) industry, as well as and the kangaroo industry.
The opportunity also exists for Goondiwindi to develop as a major medical centre, servicing southern inland Queensland and North West New South Wales. The use of the southern inland gateway for drive tourism visitation to Queensland from the southern states is a further opportunity for the region into the future.

**Warwick**

Role: Warwick and Stanthorpe are the administrative centres of the Southern Downs area, as well as the main regional retail and commercial centres. Warwick’s economy benefits from its strategic location close to Brisbane, a stable skilled workforce, value-for-money land prices and an overall high level of community amenity.

Outlook: Warwick and surrounding areas offers large areas of affordable land suitable for industrial purposes (including heavy and noxious industries). Warwick also provides opportunities to strategically locate transport and logistics businesses and develop events-based drive tourism using Morgan Park as the focal point.

**Stanthorpe**

Role: Stanthorpe is the main centre servicing a diverse range of horticultural and livestock industries on the Granite Belt. It has also developed into an important drive tourism destination due to the combination of climate, its complementary food and wine industry, and proximity to SEQ’s large population base.

A strong food and wine processing industry has developed leveraging the tourism potential of the region. To some degree Stanthorpe also services parts of northern New South Wales which, as in Goondiwindi, brings specific cross-border challenges for business and service providers.

Outlook: Economic growth and business activity in Stanthorpe will be underpinned by increased diversification, including further value adding and processing of primary products, tourism and commercial development. The proposed Emu Swamp Dam could provide a level of increased water supply/security and opportunities for economic development and employment in this region. There is also significant opportunity for further growth of the drive tourism industry in the region.
Socio-economic profile

Estimated resident population

Between 2001 and 2011, the Darling Downs estimated resident population increased by almost 25,000 persons, equivalent to an annual average growth rate of 1.0 per cent. This was significantly below the Queensland average of 2.1 per cent over this period.

Table 2A provides analysis of long term growth in the estimated resident population of the urban centres and localities within the local government areas (LGAs) that comprise the Darling Downs region.24

The table shows that the Balonne, Goondiwindi and Maranoa LGAs were each represented by only one urban centre (St George, Goondiwindi and Roma, respectively). St George experienced a slight decline in estimated resident population over the ten years to 2011, while Goondiwindi and Roma experienced a slight increase.

In the Southern Downs LGA, the two urban centres of Stanthorpe and Warwick experienced moderate resident population growth. The Toowoomba LGA is dominated by the Toowoomba urban centre which experienced the largest increase in estimated resident population over the 10 years to 2011 of all urban centres in the Darling Downs region. Finally, the urban centres of Chinchilla and Dalby in the Western Downs LGA experienced strong resident population growth, particularly Chinchilla.

Figure 2A shows spatial trends in estimated resident population growth based on the ABS SA2 geography (also ASGS 2011). At the SA2 level, the fastest growth rates were seen in outlying and fringe areas of Toowoomba, particularly Toowoomba West SA2 and Highfields SA2. Outside of Toowoomba, Chinchilla SA2, Clifton-Greenmount SA2 and Southern Downs-West SA2 experienced the fastest population growth in the decade to 2011.

Over the last five years (2006 to 2011) population growth in Chinchilla SA2 and Wambo SA2 were well above the ten year average, where as most other major centres in the Darling Downs experienced relatively slower growth.

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24 The Urban Centres and Localities (UCL) structure provides a definition of urban centres and localities. In this section the focus of the analysis is on the larger urban centres. The level of statistical information at this level is less detailed than the SA2 level and as a result, to provide a more detailed assessment of growth within the region, much of the analysis presented in this section is focused on SA2s (in particular those that have a major urban centre located within them).
### Table 2A Estimated resident population growth: urban centres and localities

<table>
<thead>
<tr>
<th>Urban Centres by LGA</th>
<th>Estimated resident population</th>
<th>2001 to 2011</th>
<th>2006 to 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Balonne (S)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>St George</td>
<td>2,947</td>
<td>2,687</td>
<td>2,745</td>
</tr>
<tr>
<td>Localities</td>
<td>598</td>
<td>467</td>
<td>461</td>
</tr>
<tr>
<td>Goondiwindi (R)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goondiwindi</td>
<td>5,294</td>
<td>5,718</td>
<td>5,637</td>
</tr>
<tr>
<td>Localities</td>
<td>1,754</td>
<td>1,716</td>
<td>1,697</td>
</tr>
<tr>
<td>Maranoa (R)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roma</td>
<td>6,704</td>
<td>6,963</td>
<td>7,162</td>
</tr>
<tr>
<td>Localities</td>
<td>2,318</td>
<td>2,354</td>
<td>2,255</td>
</tr>
<tr>
<td>Southern Downs (R)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stanthorpe</td>
<td>4,732</td>
<td>4,943</td>
<td>5,081</td>
</tr>
<tr>
<td>Warwick</td>
<td>12,708</td>
<td>13,536</td>
<td>13,699</td>
</tr>
<tr>
<td>Localities</td>
<td>1,989</td>
<td>2,008</td>
<td>1,919</td>
</tr>
<tr>
<td>Toowoomba (R)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clifton</td>
<td>983</td>
<td>1,175</td>
<td>1,198</td>
</tr>
<tr>
<td>Crows Nest</td>
<td>1,383</td>
<td>1,523</td>
<td>1,620</td>
</tr>
<tr>
<td>Highfields</td>
<td>4,284</td>
<td>6,282</td>
<td>8,073</td>
</tr>
<tr>
<td>Kingsthorpe</td>
<td>1,502</td>
<td>1,556</td>
<td>1,625</td>
</tr>
<tr>
<td>Meringandan West</td>
<td>1,109</td>
<td>1,459</td>
<td>2,000</td>
</tr>
<tr>
<td>Millmerran</td>
<td>1,545</td>
<td>1,292</td>
<td>1,349</td>
</tr>
<tr>
<td>Oakey</td>
<td>4,019</td>
<td>4,271</td>
<td>4,385</td>
</tr>
<tr>
<td>Pittsworth</td>
<td>2,727</td>
<td>3,078</td>
<td>3,035</td>
</tr>
<tr>
<td>Toowoomba</td>
<td>93,038</td>
<td>99,854</td>
<td>99,305</td>
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<tr>
<td>Westbrook</td>
<td>1,150</td>
<td>1,916</td>
<td>2,697</td>
</tr>
<tr>
<td>Wyreema</td>
<td>977</td>
<td>1,089</td>
<td>1,268</td>
</tr>
<tr>
<td>Localities</td>
<td>7,323</td>
<td>8,145</td>
<td>7,795</td>
</tr>
<tr>
<td>Western Downs (R)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinchilla</td>
<td>3,608</td>
<td>3,948</td>
<td>4,899</td>
</tr>
<tr>
<td>Dalby</td>
<td>10,062</td>
<td>10,344</td>
<td>11,128</td>
</tr>
<tr>
<td>Miles</td>
<td>1,174</td>
<td>1,237</td>
<td>1,194</td>
</tr>
<tr>
<td>Localities</td>
<td>2,412</td>
<td>2,424</td>
<td>2,251</td>
</tr>
</tbody>
</table>

Source: Data accessed from Queensland Treasury and Trade, Government Statistician and based on ABS, Regional Population Growth, Australia, 2011, (Cat. No. 3218.0), ASGS 2011

Notes: Population estimates for 2001 to 2006 are final. Estimates for 2007 to 2011 are preliminary rebased, based on the results of the 2011 Census and final estimates for these years will be released in August 2013.

CAGR = compound annual growth rate
Figure 2A  Estimated resident population growth, 2001–2011

Non-resident population

A recent study by Queensland Treasury and Trade, Government Statistician examined in detail population levels in the Surat Basin including non-resident population. This study found that the number of non-resident workers living in the Surat Basin increased by 3175 people or 97 per cent in the year to June 2012. Some 6445 fly-in, fly-out/drive-in, drive-out (FIFO/DIDO) workers associated with the resource sector and construction of related infrastructure were counted on-shift at the end of July 2012. Most of these workers were employed and accommodated in the local government areas of Western Downs and Maranoa, where the bulk of CSG operations are located. Western Downs had the largest share of non-resident workers (65 per cent of total) with just under one third in Maranoa and a much smaller share in Toowoomba (Table 3A).

Table 3A Non-resident workers on-shift, Surat Basin, 2012

<table>
<thead>
<tr>
<th>LGA(a)</th>
<th>Location</th>
<th>Urban Centre/Locality(a)</th>
<th>Non-resident workers on-shift</th>
<th>FTE population estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>- number -</td>
<td>% of total</td>
</tr>
<tr>
<td>Maranoa (R)</td>
<td>In town</td>
<td>Injune</td>
<td>180</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mitchell</td>
<td>20</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Roma</td>
<td>290</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Surat</td>
<td>25</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wallumbilla</td>
<td>25</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other towns(c)</td>
<td>5</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural areas(d)</td>
<td>1,530</td>
<td>23.7</td>
</tr>
<tr>
<td>Maranoa (R) total</td>
<td></td>
<td></td>
<td>2,075</td>
<td>32.2</td>
</tr>
<tr>
<td>Western Downs (R)</td>
<td>In town</td>
<td>Chinchilla</td>
<td>970</td>
<td>15.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dalby</td>
<td>700</td>
<td>10.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miles</td>
<td>195</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tara</td>
<td>45</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wandoan</td>
<td>170</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other towns(c)</td>
<td>20</td>
<td>0.3</td>
</tr>
<tr>
<td>Western Downs (R) total</td>
<td></td>
<td></td>
<td>2,080</td>
<td>32.3</td>
</tr>
<tr>
<td>Toowoomba (R)</td>
<td>In town</td>
<td>Oakey</td>
<td>65</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Toowoomba</td>
<td>95</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other towns(c)</td>
<td>30</td>
<td>0.5</td>
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<tr>
<td></td>
<td></td>
<td>Rural areas(d)</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Toowoomba (R) total</td>
<td></td>
<td></td>
<td>190</td>
<td>2.9</td>
</tr>
<tr>
<td>Surat Basin total</td>
<td></td>
<td></td>
<td>6,445</td>
<td>100.0</td>
</tr>
</tbody>
</table>


The study also found that worker accommodation villages (WAVs) were the most commonly used form of accommodation for FIFO/DIDO workers in the Surat Basin. Around three-quarters (78 per cent) of non-resident workers on-shift in July 2012 stayed in the 66 WAVs counted in the Surat Basin.

The majority of non-resident workers on-shift in Western Downs (3430 people or 82 per cent) and Maranoa (1595 people or 77 per cent) stayed in WAVs in June 2012. There were no WAVs located in Toowoomba. The most common WAVs were small facilities with less than 100 beds located outside of town centres. These WAVs consisted largely of mobile drilling camps or temporary facilities housing construction workers. Only five WAVs in the Surat Basin were located within five kilometres of existing population centres. All but one of these villages were medium (100–499 beds) or large (500 beds or more) facilities located in the larger population centres of Dalby and Chinchilla in Western Downs.
In 2012, most of the growth in WAVs came from new camps built to service gas fields development and associated construction. The Western Downs accounted for most of the growth in WAV accommodation, with the number of beds growing from 1950 in 2011 to 5540 in 2012. While most of this growth occurred in rural areas, the total capacity of existing WAVs in Chinchilla and Dalby also increased by around 700 beds during the year.

Some of the newly constructed WAVs had not yet reached full occupancy in June 2012, so their total capacity exceeded the number of workers actually living in them at the time of the survey (Figure 3A). By late 2012, it is likely that most of this additional capacity would have been taken by expanding project workforces.

**Figure 3A** Worker accommodation village bed accommodation, 2012

### Table 4A  Regional centres – growth trends and driver industries

<table>
<thead>
<tr>
<th>Regional Centre</th>
<th>Growth Trends</th>
<th>Driver Industries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toowoomba</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dwellings and migration (place of enumeration)</td>
<td>• 34,054 total dwellings in 2011 with an increase of 2,788 dwellings since 2001 or 0.9% CAGR</td>
<td>The three largest contributors to employment growth over the last 10 years to 2011 based on place of enumeration were:</td>
</tr>
<tr>
<td></td>
<td>• Proportion of persons with different address five years ago was 43.1% in 2011 down from 47.7% in 2001</td>
<td>• Health care and social assistance (1,546 persons)</td>
</tr>
<tr>
<td></td>
<td>• Proportion of persons with different address five years ago was 43.1% in 2011 down from 47.7% in 2001</td>
<td>• Construction (931)</td>
</tr>
<tr>
<td></td>
<td>• Proportion of persons with different address five years ago was 43.1% in 2011 down from 47.7% in 2001</td>
<td>• Professional, scientific and technical services (406)</td>
</tr>
<tr>
<td>Labour market (place of enumeration)</td>
<td>• 39,121 employed persons in 2011 with 3,900 increase since 2001 or 1.1% CAGR</td>
<td>The three largest employing industries based on place of work in 2011 were:</td>
</tr>
<tr>
<td></td>
<td>• Unemployment rate of 5.7% in 2011 down from 8.1% in 2001</td>
<td>• Health care and social assistance (7,868 persons)</td>
</tr>
<tr>
<td></td>
<td>• Labour force participation rate of 58.8% in 2011 up from 57.8% in 2001</td>
<td>• Retail trade (5,671)</td>
</tr>
<tr>
<td>Income and housing (place of enumeration)</td>
<td>• Median weekly total household income of $850-$1,719 in 2011 up 4% (CAGR) since 2001</td>
<td>The three most specialised industries in 2011 (compared with employment levels in industry in Qld) based on place of work were:</td>
</tr>
<tr>
<td></td>
<td>• Median monthly mortgage repayment of $1,300-$1,733 in 2011 up 5.7%-7.4% (CAGR) since 2001</td>
<td>• Financial and insurance services (1.5 times more employment when compared with Qld)</td>
</tr>
<tr>
<td></td>
<td>• Median weekly rent of $210-$345 in 2011 up 6% (CAGR) since 2001</td>
<td>• Health care and social assistance (7,868 persons)</td>
</tr>
<tr>
<td>Human capital and businesses (place of enumeration)</td>
<td>• 51% of persons aged 15 years and over had a post school qualification in 2011 up from 40% in 2001</td>
<td>• Retail trade (5,671)</td>
</tr>
<tr>
<td></td>
<td>• 7,113 total businesses including 2,820 employing businesses in 2011 (13% of these employing &gt; than 20 persons)</td>
<td>• Education and training (5,191)</td>
</tr>
<tr>
<td><strong>Warwick</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dwellings and migration (place of enumeration)</td>
<td>• 5,578 total dwellings in 2011 with an increase of 665 dwellings since 2001 or 1.3% CAGR</td>
<td>The three largest contributors to employment growth over the last 10 years to 2011 based on place of enumeration were:</td>
</tr>
<tr>
<td></td>
<td>• Proportion of persons with different address five years ago was 41.0% in 2011 down slightly from 41.9% in 2001</td>
<td>• Health care and social assistance (252 persons)</td>
</tr>
<tr>
<td>Labour market (place of enumeration)</td>
<td>• 6,151 employed persons in 2011 with 804 increase since 2001 or 1.4% CAGR</td>
<td>The three largest employing industries based on place of work in 2011 were:</td>
</tr>
<tr>
<td></td>
<td>• Unemployment rate of 5.6% in 2011 down 2.4 percentage points from 2001</td>
<td>• Health care and social assistance (7,868 persons)</td>
</tr>
<tr>
<td></td>
<td>• Labour force participation rate of 56.9% in 2011 down 0.9 percentage points from 2001</td>
<td>• Retail trade (178)</td>
</tr>
<tr>
<td>Income and housing (place of enumeration)</td>
<td>• Median weekly total household income of $883 in 2011 up 3.9% (CAGR) since 2001</td>
<td>The three largest employing industries based on place of work in 2011 were:</td>
</tr>
<tr>
<td></td>
<td>• Median monthly mortgage repayment of $1,300 in 2011 up 7.2% (CAGR) since 2001</td>
<td>• Health care and social assistance (839)</td>
</tr>
<tr>
<td></td>
<td>• Median weekly rent of $220 in 2011 up 6.7% (CAGR) since 2001</td>
<td>• Manufacturing (736)</td>
</tr>
<tr>
<td>Human capital and businesses (place of enumeration)</td>
<td>• 44% of persons aged 15 years and over had a post school qualification in 2011 up 10 percentage points from 2001</td>
<td>The three most specialised industries in 2011 (compared with employment levels in industry in Qld) based on place of work were:</td>
</tr>
<tr>
<td></td>
<td>• 1,518 total businesses including 522 employing businesses in 2011 (8% of these employing &gt; than 20 persons)</td>
<td>• Electricity, gas, water and waste services (2.1 times more employment when compared with Qld)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Retail trade (1,174 persons)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Transport, postal and warehousing (1,5)</td>
</tr>
</tbody>
</table>
### Regional Centre

**Dalby (Wambo SA2)**

**Dwellings and migration (place of enumeration)**
- 5,580 total dwellings in 2011 with an increase of 348 dwellings since 2001 or 0.6% CAGR
- Proportion of persons with different address five years ago was 37.7% in 2011 up marginally from 37.2% in 2001

**Labour market (place of enumeration)**
- 7,682 employed persons in 2011 with 1,034 increase since 2001 or 1.5% CAGR
- Unemployment rate of 3.6% in 2011 down 2.6 percentage points from 2001
- Labour force participation rate of 62.4% in 2011 down 0.8 percentage points from 2001

**Income and housing (place of enumeration)**
- Median weekly total household income of $1,160 in 2011 up 5.5% (CAGR) since 2001
- Median monthly mortgage repayment of $1,450 in 2011 up 8.9% (CAGR) since 2001
- Median weekly rent of $215 in 2011 up 8.0% (CAGR) since 2001

**Human capital and businesses (place of enumeration)**
- 47% of persons aged 15 years and over had a post school qualification in 2011 up 14 percentage points from 2001
- 2,196 total businesses including 733 employing businesses in 2011 (11% of these employing > than 20 persons)

The three largest contributors to employment growth over the last 10 years to 2011 based on place of enumeration were:
- Construction (370 persons)
- Mining (297)
- Health care and social assistance (191)

The three largest employing industries based on place of work in 2011 were:
- Agriculture, forestry and fishing (1,071 persons)
- Retail trade (892)
- Manufacturing (662)

The three most specialised industries in 2011 (compared with employment levels in industry in Qld) based on place of work were:
- Agriculture, forestry and fishing (5.4 times more employment when compared with Qld)
- Mining (1.7)
- Electricity, gas, water and waste services (1.3)

### Chinchilla

**Dwellings and migration (place of enumeration)**
- 2,445 total dwellings in 2011 with an increase of 384 dwellings since 2001 or 1.7% CAGR
- Proportion of persons with different address five years ago was 42.6% in 2011 down from 36.4% in 2001

**Labour market (place of enumeration)**
- 4,236 employed persons in 2011 with 1,914 increase since 2001 or 6.2% CAGR
- Unemployment rate of 2.7% in 2011 down 4.8 percentage points from 2001
- Labour force participation rate of 68.0% in 2011 up 8.7 percentage points from 2001

**Income and housing (place of enumeration)**
- Median weekly total household income of $1,324 in 2011 up 8.6% (CAGR) since 2001
- Median monthly mortgage repayment of $1,517 in 2011 up 9.0% (CAGR) since 2001
- Median weekly rent of $250 in 2011 up 10.8% (CAGR) since 2001

**Human capital and businesses (place of enumeration)**
- 52% of persons aged 15 years and over had a post school qualification in 2011 up 21 percentage points from 2001
- 1,044 total businesses including 329 employing businesses in 2011 (11% of these employing > than 20 persons)

The three largest contributors to employment growth over the last 10 years to 2011 based on place of enumeration were:
- Construction (613 persons)
- Mining (481)
- Electricity, gas, water and waste services (214)

The three largest employing industries based on place of work in 2011 were:
- Construction (608 persons)
- Mining (442)
- Agriculture, forestry and fishing (391)

The three most specialised industries in 2011 (compared with employment levels in industry in Qld) based on place of work were:
- Mining (4.6 times more employment when compared with Qld)
- Electricity, gas, water and waste services (4.4)
- Agriculture, forestry and fishing (3.8)
<table>
<thead>
<tr>
<th>Regional Centre</th>
<th>Growth Trends</th>
<th>Driver Industries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goondiwindi</td>
<td>Dwellings and migration (place of enumeration)</td>
<td>The three largest contributors to employment growth over the last 10 years to 2011 based on place of enumeration were:</td>
</tr>
<tr>
<td></td>
<td>• 2,214 total dwellings in 2011 with an increase of 255 dwellings since 2001 or 1.2% CAGR</td>
<td>• Health care and social assistance (118 persons)</td>
</tr>
<tr>
<td></td>
<td>• Proportion of persons with different address five years ago was 37.8% in 2011 down from 45.5% in 2001</td>
<td>• Retail trade (77)</td>
</tr>
<tr>
<td></td>
<td>Labour market (place of enumeration)</td>
<td>• Education and training (59)</td>
</tr>
<tr>
<td></td>
<td>• 3,145 employed persons in 2011 with 209 increase since 2001 or 0.7% CAGR</td>
<td>The three largest employing industries based on place of work in 2011 were:</td>
</tr>
<tr>
<td></td>
<td>• Unemployment rate of 3% in 2011 down 2.3 percentage points from 2001</td>
<td>• Retail trade (451 persons)</td>
</tr>
<tr>
<td></td>
<td>• Labour force participation rate of 65.7% in 2011 down 2.5 percentage points from 2001</td>
<td>• Agriculture, forestry and fishing (381)</td>
</tr>
<tr>
<td></td>
<td>Income and housing (place of enumeration)</td>
<td>• Health care and social assistance (334)</td>
</tr>
<tr>
<td></td>
<td>• Median weekly total household income of $1,174 in 2011 up 3.6% (CAGR) since 2001</td>
<td>The three most specialised industries in 2011 (compared with employment levels in industry in Qld) based on place of work were:</td>
</tr>
<tr>
<td></td>
<td>• Median monthly mortgage repayment of $1,517 in 2011 up 5.8% (CAGR) since 2001</td>
<td>• Agriculture, forestry and fishing (4.8 times more employment when compared with Qld)</td>
</tr>
<tr>
<td></td>
<td>• Median weekly rent of $200 in 2011 up 4.8% (CAGR) since 2001</td>
<td>• Wholesale trade (1.4)</td>
</tr>
<tr>
<td></td>
<td>Human capital and businesses (place of enumeration)</td>
<td>• Retail trade (1.4)</td>
</tr>
<tr>
<td></td>
<td>• 49% of persons aged 15 years and over had a post school qualification in 2011 up 9 percentage points from 2001</td>
<td>(also other services 1.4)</td>
</tr>
<tr>
<td></td>
<td>• 1,089 total businesses including 456 employing businesses in 2011 (11% of these employing &gt; than 20 persons)</td>
<td></td>
</tr>
<tr>
<td>Stanthorpe</td>
<td>Dwellings and migration (place of enumeration)</td>
<td>The three largest contributors to employment growth over the last 10 years to 2011 based on place of enumeration were:</td>
</tr>
<tr>
<td></td>
<td>• 2,161 total dwellings in 2011 with an increase of 324 dwellings since 2001 or 1.6% CAGR</td>
<td>• Health care and social assistance (101 persons)</td>
</tr>
<tr>
<td></td>
<td>• Proportion of persons with different address five years ago was 38.8% in 2011 the same level as in 2001</td>
<td>• Retail trade (66)</td>
</tr>
<tr>
<td></td>
<td>Labour market (place of enumeration)</td>
<td>• Construction (50)</td>
</tr>
<tr>
<td></td>
<td>• 2,087 employed persons in 2011 with 378 increase since 2001 or 2.0% CAGR</td>
<td>The three largest employing industries based on place of work in 2011 were:</td>
</tr>
<tr>
<td></td>
<td>• Unemployment rate of 4.7% in 2011 down 3 percentage points from 2001</td>
<td>• Health care and social assistance (495 persons)</td>
</tr>
<tr>
<td></td>
<td>• Labour force participation rate of 51.5% in 2011 up 0.5 percentage points from 2001</td>
<td>• Retail trade (395)</td>
</tr>
<tr>
<td></td>
<td>Income and housing (place of enumeration)</td>
<td>• Accommodation and food services (465)</td>
</tr>
<tr>
<td></td>
<td>• Median weekly total household income of $749 in 2011 up 4.0% (CAGR) since 2001</td>
<td>The three most specialised industries in 2011 (compared with employment levels in industry in Qld) based on place of work were:</td>
</tr>
<tr>
<td></td>
<td>• Median monthly mortgage repayment of $1,257 in 2011 up 6.8% (CAGR) since 2001</td>
<td>• Health care and social assistance (1.7 times more employment when compared with Qld)</td>
</tr>
<tr>
<td></td>
<td>• Median weekly rent of $180 in 2011 up 6.1% (CAGR) since 2001</td>
<td>• Wholesale trade (1.4)</td>
</tr>
<tr>
<td></td>
<td>Human capital and businesses (place of enumeration)</td>
<td>• Retail trade (1.5)</td>
</tr>
<tr>
<td></td>
<td>• 46% of persons aged 15 years and over had a post school qualification in 2011 up 14 percentage points from 2001</td>
<td>(also agriculture, forestry and fishing 1.4)</td>
</tr>
<tr>
<td></td>
<td>• 646 total businesses including 280 employing businesses in 2011 (21% of these employing &gt; than 20 persons)</td>
<td></td>
</tr>
</tbody>
</table>

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### Regional Centre

**Miles (Miles Wandoan SA2)**

**Dwellings and migration (place of enumeration)**
- 1,380 total dwellings in 2011 with a decrease of 56 dwellings since 2001 or -0.4% CAGR
- Proportion of persons with different address five years ago was 35.2% in 2011 up marginally from 34.4% in 2001

**Labour market (place of enumeration)**
- 2,196 employed persons in 2011 with 264 increase since 2001 or 1.3% CAGR
- Unemployment rate of 2.1% in 2011 down 1.9 percentage points from 2001
- Labour force participation rate of 68.1% in 2011 up 1.2 percentage points from 2001

**Income and housing (place of enumeration)**
- Median weekly total household income of $939 in 2011 up 4.8% (CAGR) since 2001
- Median monthly mortgage repayment of $1,000 in 2011 up 7.2% (CAGR) since 2001
- Median weekly rent of $107 in 2011 up 6.0% (CAGR) since 2001

**Human capital and businesses (place of enumeration)**
- 46% of persons aged 15 years and over had a post school qualification in 2011 up 16 percentage points from 2001
- 883 total businesses including 236 employing businesses in 2011 (6% of these employing > than 20 persons)

**Driver Industries**
- The three largest contributors to employment growth over the last 10 years to 2011 based on place of enumeration were:
  - Mining (187 persons)
  - Construction (94)
  - Professional, scientific and technical services (51)

**Saint George (Balonne SA2)**

**Dwellings and migration (place of enumeration)**
- 1,618 total dwellings in 2011 with a decrease of 167 dwellings since 2001 or -1.0% CAGR
- Proportion of persons with different address five years ago was 34.0% in 2011 down from 43.8% in 2001

**Labour market (place of enumeration)**
- 2,362 employed persons in 2011 with 448 decrease since 2001 or -1.7% CAGR
- Unemployment rate of 3.9% in 2011 up 0.2 percentage points from 2001
- Labour force participation rate of 65.5% in 2011 down 5.9 percentage points from 2001

**Income and housing (place of enumeration)**
- Median weekly total household income of $994 in 2011 up 2.9% (CAGR) since 2001
- Median monthly mortgage repayment of $1,200 in 2011 up 6.3% (CAGR) since 2001
- Median weekly rent of $120 in 2011 up 5.1% (CAGR) since 2001

**Human capital and businesses (place of enumeration)**
- 43% of persons aged 15 years and over had a post school qualification in 2011 up 8 percentage points from 2001
- 820 total businesses including 323 employing businesses in 2011 (12% of these employing > than 20 persons)

**Driver Industries**
- The three largest contributors to employment growth over the last 10 years to 2011 based on place of enumeration were:
  - Agriculture, forestry and fishing (797 persons)
  - Health care and social assistance (206)
  - Retail trade (187)

**Sources:** Queensland Treasury and Trade (Government Statistician) and ABS sources including the 2011 Census of Population and Housing.

**Notes:** Data and analysis based on SA2 and Urban Centres mapping presented in Table 1A.
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
</tr>
<tr>
<td>ABARES</td>
<td>Australian Bureau of Agricultural and Resource Economics and Sciences</td>
</tr>
<tr>
<td>ANZSIC</td>
<td>Australian and New Zealand Standard Industrial Classification</td>
</tr>
<tr>
<td>ASGC</td>
<td>Australian Standard Geographical Classification</td>
</tr>
<tr>
<td>ASGS</td>
<td>Australian Statistical Geography Standard</td>
</tr>
<tr>
<td>BREE</td>
<td>Bureau of Resources and Energy Economics</td>
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<tr>
<td>CAGR</td>
<td>Compound Annual Growth Rate</td>
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<tr>
<td>CBD</td>
<td>Central Business District</td>
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<tr>
<td>CSG</td>
<td>Coal Seam Gas</td>
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<tr>
<td>DNRM</td>
<td>Department of Natural Resources and Mines</td>
</tr>
<tr>
<td>DSDIP</td>
<td>Department of State Development, Infrastructure and Planning</td>
</tr>
<tr>
<td>EIS</td>
<td>Environmental Impact Statement</td>
</tr>
<tr>
<td>EPR</td>
<td>Estimated Resident Population</td>
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<td>FIFO/DIDO</td>
<td>Fly-in-fly-out / drive-in-drive-out</td>
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<tr>
<td>FID</td>
<td>Final investment decision</td>
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<td>FTE</td>
<td>Full-time equivalent</td>
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<td>GFC</td>
<td>Global Financial Crisis</td>
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<tr>
<td>GRP</td>
<td>Gross Regional Product</td>
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<td>GVA</td>
<td>Gross Value Added</td>
</tr>
<tr>
<td>ICN</td>
<td>Industry Capability Network</td>
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<tr>
<td>kW</td>
<td>Kilovolts</td>
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<tr>
<td>LGA</td>
<td>Local Government Area</td>
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<td>LNG</td>
<td>Liquefied Natural Gas</td>
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<td>LQ</td>
<td>Location Quotient</td>
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<td>MW</td>
<td>Megawatt</td>
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<td>NEM</td>
<td>National Energy Market</td>
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<td>NBN</td>
<td>National Broadband Network</td>
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<tr>
<td>pp</td>
<td>Percentage point</td>
</tr>
<tr>
<td>QEMP</td>
<td>Queensland Energy Market Plan</td>
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<td>Queensland-NSW Interconnector</td>
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<td>SA2</td>
<td>Statistical Area Level 2</td>
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<td>SEQ</td>
<td>South East Queensland</td>
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<td>SMEs</td>
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<td>TAFE</td>
<td>Technical and Further Education</td>
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<td>UCL</td>
<td>Urban Centres and Localities</td>
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<td>USQ</td>
<td>University of Southern Queensland</td>
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<tr>
<td>WAV</td>
<td>Worker accommodation village</td>
</tr>
<tr>
<td>$B</td>
<td>Dollar billion</td>
</tr>
<tr>
<td>$M</td>
<td>Dollar million</td>
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