Anticipating Future Skills - Townsville



14 November 2018



Jobs Queensland

A voice for industry and the regions

- anticipate future skill needs
- dedicated engagement, research and analytics capability
- workforce development and planning
- a conduit between industry,
 Government and training

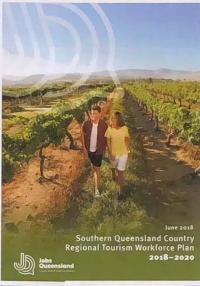


Jobs Queensland strives to shape a better future for the social and economic prosperity of Queensland







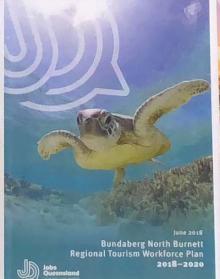






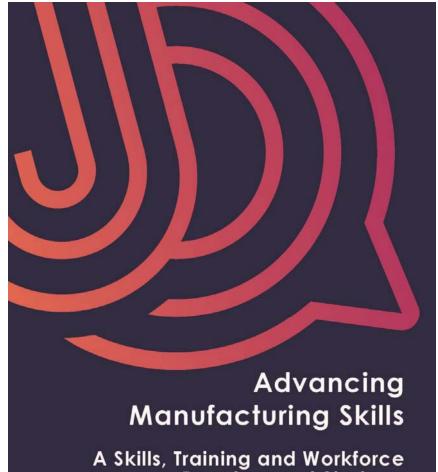










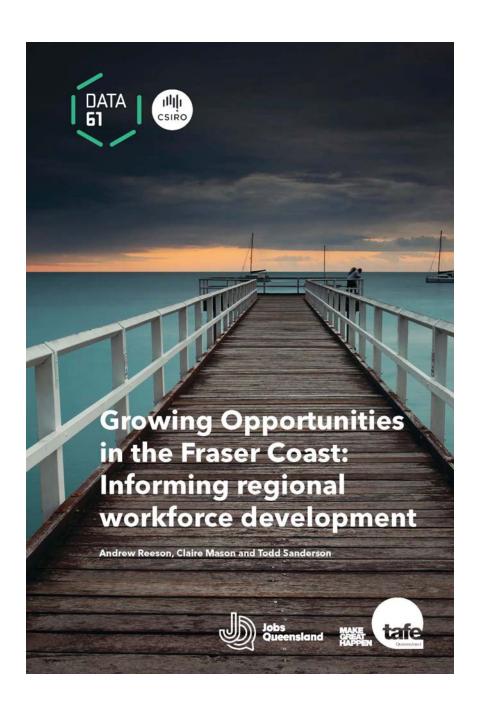


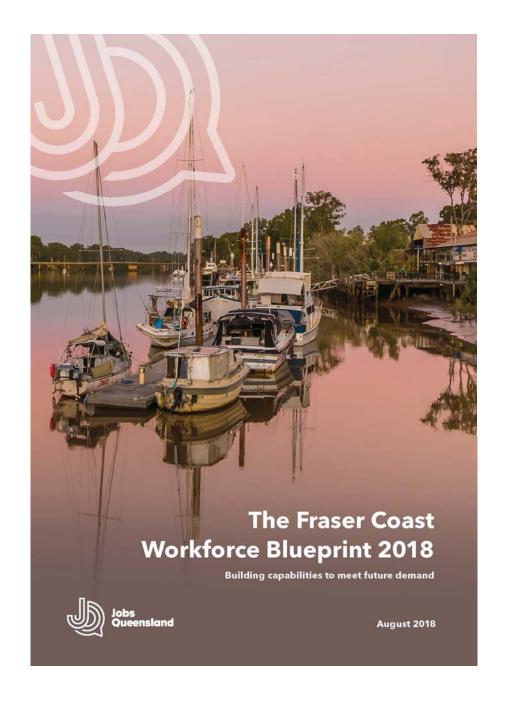
A Skills, Training and Workforce Development Strategy for the Manufacturing Industry in Queensland

December 2017











Anticipating Future Skills



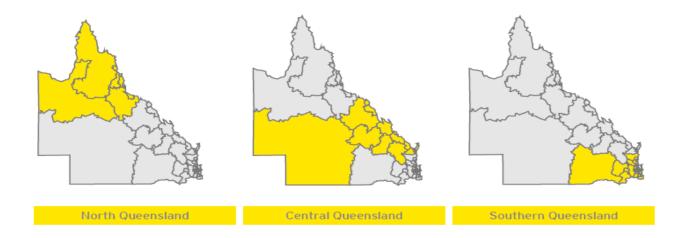
Anticipating Future Skills project

- Expert forum held November 2016 to co-design principles for developing a place-based approach to anticipating skills needs.
- Combination of scenario planning and economic modelling to 2022
- Baseline scenario developed utilising Queensland Treasury Budget forecasts
- Three plausible future scenarios to help manage future uncertainty



Scenario development

- In late 2017, workshops conducted across North, Central and Southern Queensland
- Focus on the impact of various scenarios on regional economy, industries and labour markets
- Feedback also sought via survey









SCENARIO ONE TECHNOLOGICAL CHANGE



 To increase technological growth such that average labour productivity of all industries in Queensland is 25 base points higher than the baseline each year between 2017-18 and 2021-22.

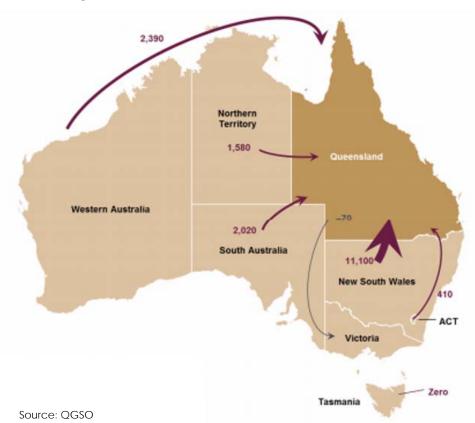






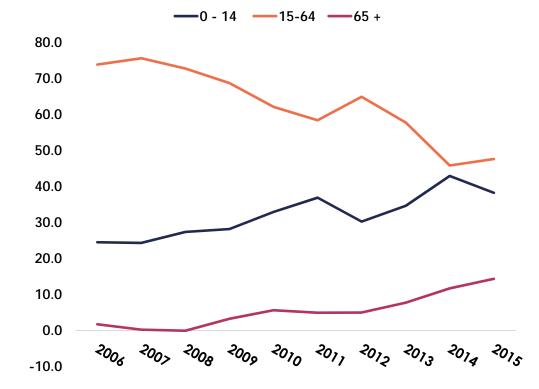
SCENARIO TWO CHANGING WORKFORCE THROUGH MIGRATION

Net interstate migration flows between Queensland and other states, 2016-17



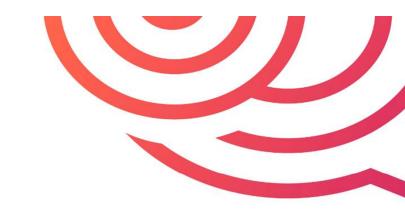
Queensland

Queensland interstate migration by age group – ten years to 2014-15



Source: ABS 3412.0 - Migration, Australia

SCENARIO TWO CHANGING WORKFORCE THROUGH MIGRATION



- An increase in net interstate migration to Queensland of 30,000 beginning in 2018; while international migration remains at 23,000 per annum over the forecast period.
- The composition of interstate migration to reflect the age composition of interstate migrants.



SCENARIO THREE EXTERNAL IMPACT



• That the price of iron ore, coking coal and thermal coal falls 50 per cent from their respective baseline prices between 2017-18 and 2021-22.

More 90% of Queensland's saleable than 90% coal is exported overseas.



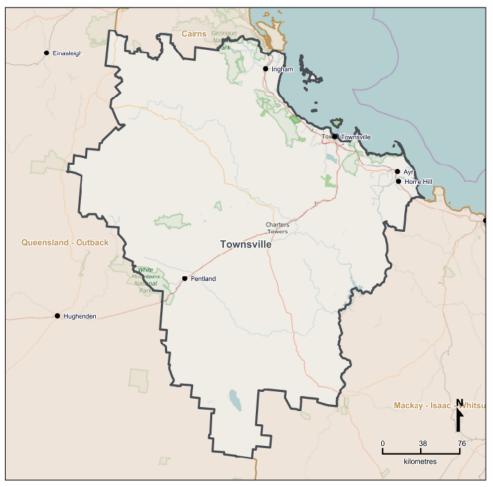


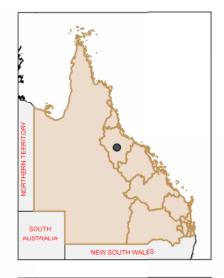






Townsville SA4 (ASGS Code 318), 2016

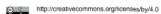






Map produced by Queensland Government Statistician's Office, Queensland Treasury (http://www.qgso.qld.gcv.au/products/maps/). Data sourced from ABS 1270.0.55.001

@ OpenStreetMap contributors (http://openstreetmap.org/)



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Model outputs

- Industry data ANZSIC Group (3 digit)
 - 214 Industry Groups
- Occupation data ANZSCO Unit Group (4 digit)
 - 358 Occupation Unit Groups
- Australian Standard Classification of Education
 - Level of Education (e.g. Bachelor degree)
 - Field of Education (e.g. Food, Hospitality and Personal Services)





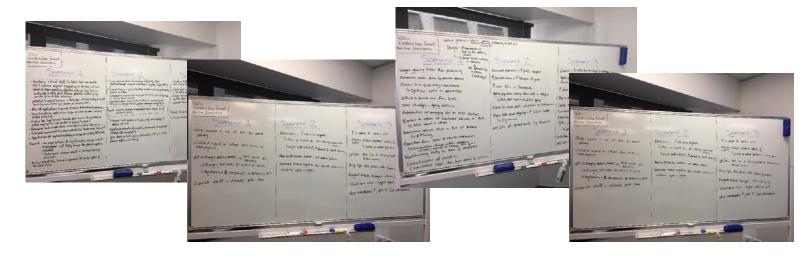


Testing and Validation



Testing and validation of draft outputs

- Stakeholders were presented with an overview of the draft modelling outputs
- Feedback was incorporated to ensure that results accurately reflect the realities of the current and future workforce

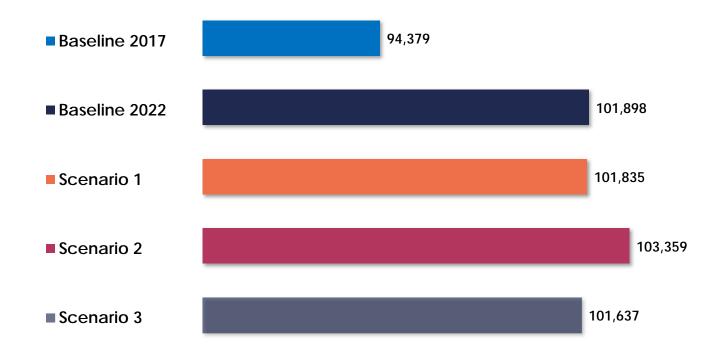






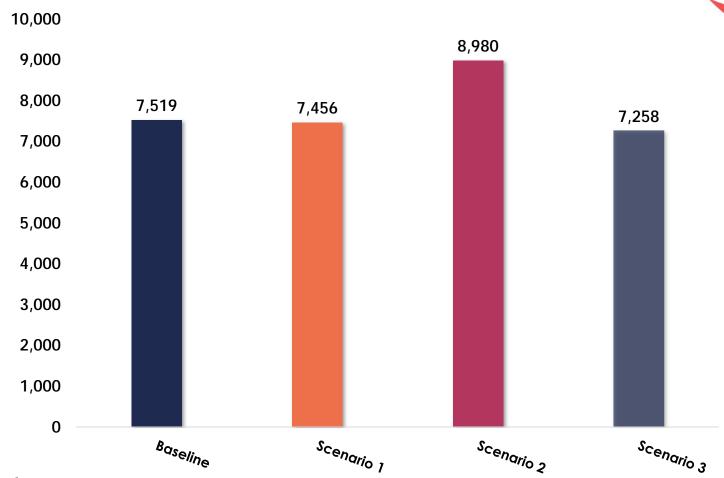


Employment to 2022 across all scenarios, Townsville





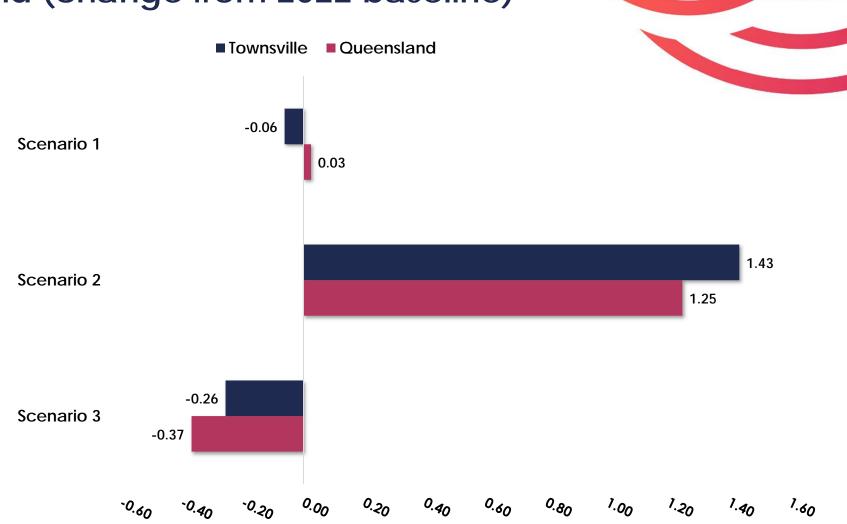
New jobs in Townsville in 2022, all scenarios



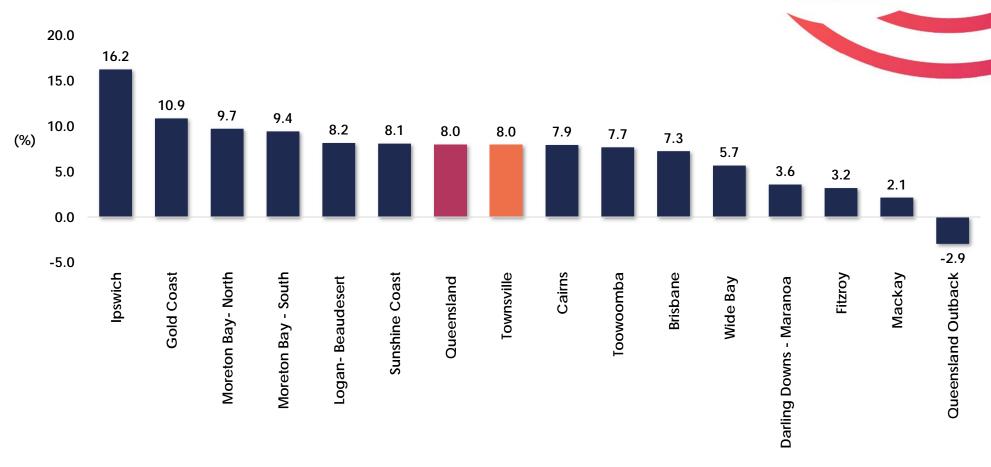


Impact of scenarios, Townsville and Queensland (change from 2022 baseline)

Queensland



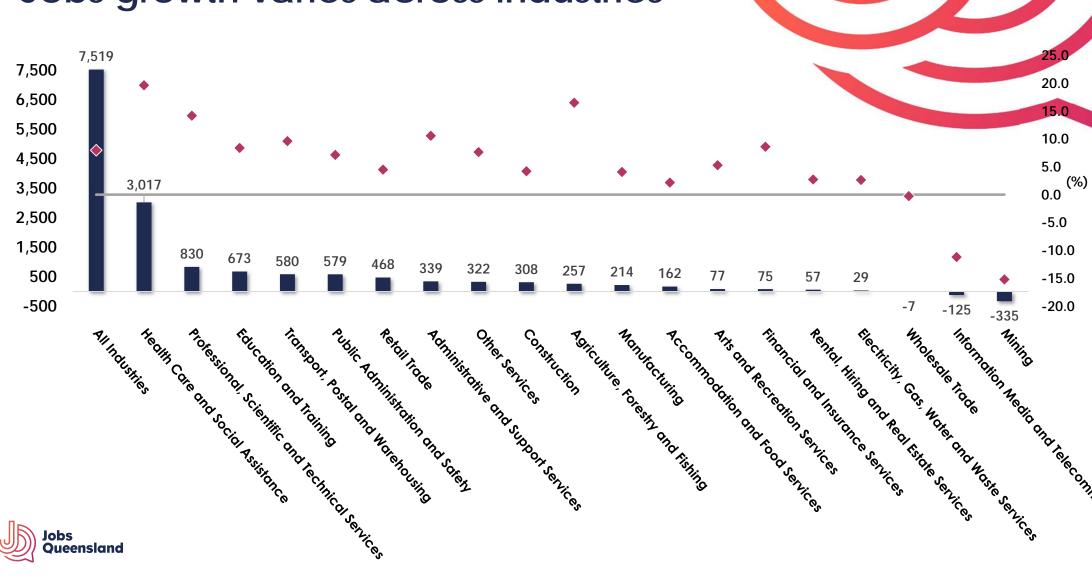
Jobs growth varies across regions (baseline scenario, 2017 - 2022)





Jobs growth varies across industries

Queensland

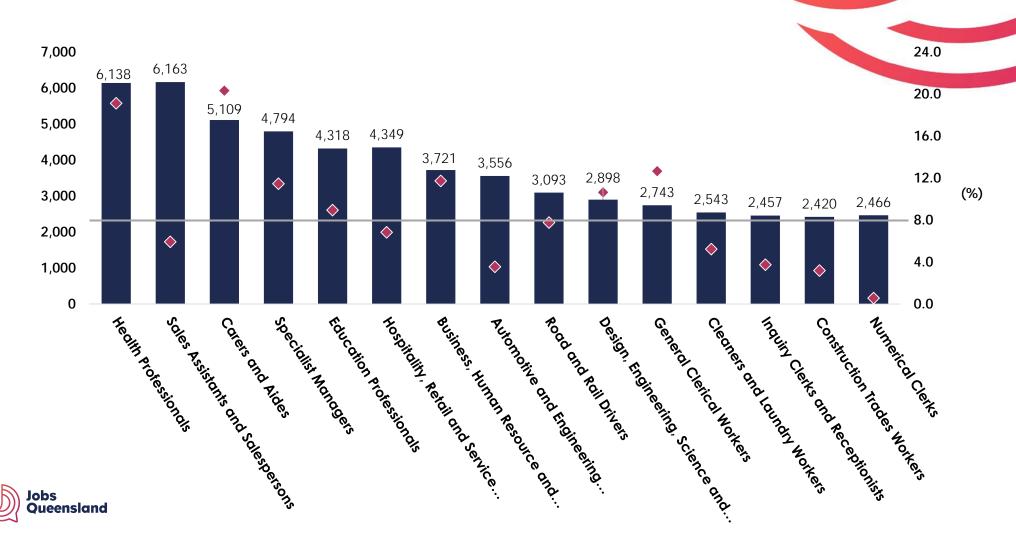


Baseline Employment for top 15 industry sub-divisions - 2017 to 2022

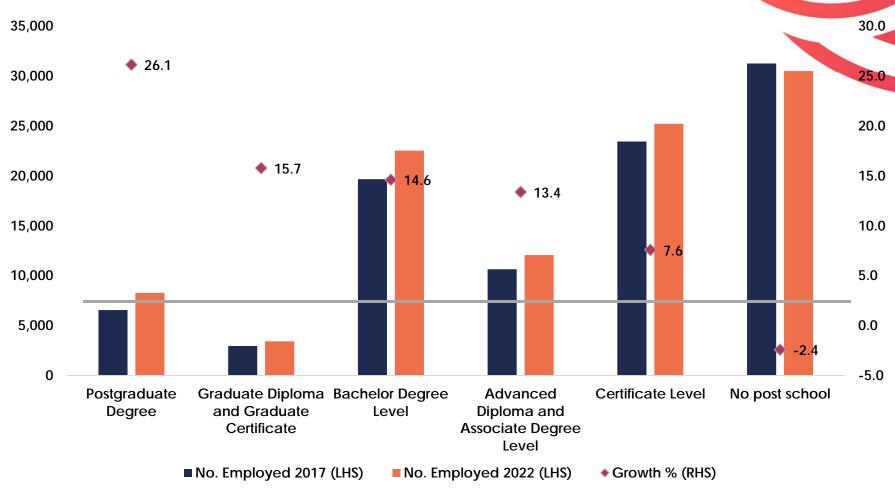
Industry Sub-Divisions	No. employed 2017	Change by 2022 (%)
Food and Beverage Services	6,243	0.9
Medical and Other Health Care Services	6,125	16.0
 Professional, Scientific and Technical Services (Except Computer System Design and Related Services) 	5,490	13.7
Public Administration	5,435	6.0
Other Store-Based Retailing	5,346	5.1
Construction Services	4,940	5.5
Preschool and School Education	4,611	8.2
Hospitals	3,895	17.6
Social Assistance Services	3,497	24.4
Food Retailing	3,328	3.4
Road Transport	2,380	10.4
Tertiary Education	2,203	12.1
Repair and Maintenance	2,126	10.1
Food Product Manufacturing	1,999	11.7
Residential Care Services	1,842	27.3



Jobs growth varies across occupations (baseline scenario, 2017 - 2022)



A more educated workforce







Exploring the Data



Anticipating Future Skills report





Industry and regional snapshots



Health Care and Social Assistance

Projected change in industry employment, all scenarios, 2017-2022



Profile: The Health Care and Social Assistance industry is mainly engaged in providing human health care and social assistance. It includes hospitals, medical and other care services (including allied health, ambulances and pathology), residential care services and social assistance services, such as child care, disabilities assistance, and welfare counselling services.

Outlook: This is the largest employing industry in Queensland and under the baseline scenario it is expected to grow by almost 20 per cent by 2022. The fall in household consumption which occurs under Scenario One has a negative effect on this industry and there are almost 450 fewer workers compared with the baseline. The economic effect of Scenario Three also affects the Health Care and Social Assistance industry negatively, with around 2100 fewer workers employed in this scenario compared with the baseline. The demographic changes in Scenario Two increases employment in this industry at twice the state average, with an additional 8318 workers projected to be needed by 2022.

Brisbane

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Projected change in regional employment, all scenarios, 2017-2022



Profile: The Brisbane region is comprised of five SA4 regions: Brisbane - East, Brisbane - North, Brisbane - South, Brisbane - West and Brisbane Inner City. It covers an area from Brighton in the north and Redland Bay to the east, the Brisbane CBD, Sunnybank Hills to the south, and an area west to Upper Brookfield and Anstead.

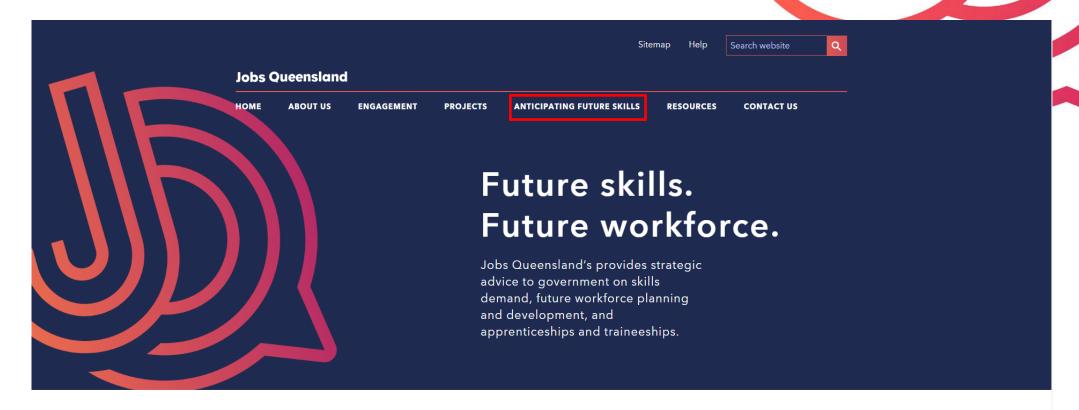
It represents the primary employment hub for many industries in Queensland, including Health Care and Social Assistance, due to a number of prominent hospitals, and Education and Training, comprised of the many schools, universities and TAFE campuses in the region. It is also the location of many prominent business and state government department operations, resulting in strong employment within the Professional, Scientific and Technical Services and Public Administration and Safety sectors.

Outlook: Employment in the Brisbane region is forecast to grow by 7.3 per cent (approximately 49,700 people) by 2022 and it increases under all other scenarios. Under Scenario One, it is projected that employment increases by an extra 454 people (with around half of this increase attributable to the Professional sector). Scenario Three sees employment increase by a similar amount but in this case, Manufacturing also contributes to this additional employment. With the region being one of the main landing spots for additional interstate migration, employment grows by 8.2 per cent (or almost 56,000 additional workers) under Scenario Two.





Jobs Queensland Website



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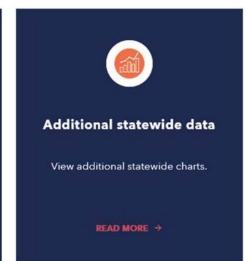
Data tools: Regions



Anticipating Future Skills report

Download the Anticipating Future Skills: Jobs growth and alternative futures for Queensland to 2022 report.

DOWNLOAD THE REPORT (2.25MB) →





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Anticipating Future Skills Data Tool

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- · The data may not be used for commercial purposes; and
- The data may be shared and/or transformed but only where this is done on the same licence conditions.

In addition:

- · Given the speculative nature of the data, it is more productive to focus on the trends rather than the numbers in isolation;
- The projections do not take into account replacement demand as employees change jobs or leave the labour force, which means that future employment
 opportunities are understated; and
- . While the modelling provides an estimate based on three plausible futures, the future is not guaranteed; the scenarios chosen are three out of a myriad.

The classifications used in this tool are those prepared by the Australian Bureau of Statistics.

- The industries used are classified according to Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (Revision 2.0)
- The occupations are classified according to Australian and New Zealand Standard Classification of Occupations (ANZSCO), 2013, Version 1.2
- The regions are based on Statistical Area Level 4 (SA4) regions

Regional Comparison

There are 19 SA4s in Queensland but the five Brisbane SA4s have been combined to take into account the larger natural labour market.

Use the tab(s) below to access the data tool



4



Anticipating Future Skills: Townsville

Industry Projections by Occupation by Region

In this tool, industries of employment are broken down to the Group level (3-digit codes) of the ANZSIC classification system, while the occupations of employed people are broken down to the Sub-Major Group (2-digit codes) of the ANZSCO classification system, as used by the Australian Bureau of Statistics. Regions are at the Statistical Area 4 level.



Select from drop down list: Industry: Select from drop down list: Occupation: 31 - Engineering, ICT and Science Technicians Select from drop down list: Region (SA4): Townsville Select from drop down list: Mackay

PROJECTED EMPLOYMENT NUMBERS

Occupation and Industry in Selected Regions:

	2017		2022 Raseline		Scenario 1: Technology		Scenario 2: Migration		Scenario 3: Commodily Prices	
	Townsville	Mackay	Townsville	Mackay	Townsville	Mackay	Townsville	Mackay	Townsville	Mackay
Engineering, ICT and Science Technicians in Sugar and Confectionery Manufacturing	35	47	39	52	39	52	39	52	40	54
Total Engineering, ICT and Science Technicians employed in region	2,014	2,588	2,110	2,512	2,110	2,510	2,128	2,518	2,105	2,366
Total employment in Sugar and Confectionery Manufacturing	1,359	1,831	1,522	2,051	1,523	2,052	1,522	2,050	1,581	2,131
Total employment for region	94,379	93,639	101,898	95,647	101,835	95,598	103,359	96,328	101,637	92,387

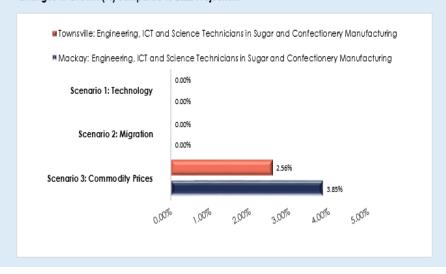
Note: Projections are indicative and not definitive of future employment growth

SCENARIO IMPACTS

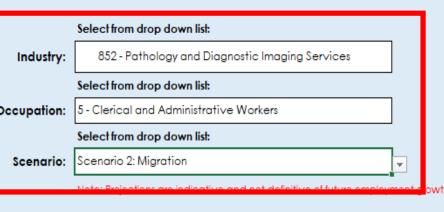
Change in Employment Numbers compared with 2022 Projection:

	Scenario 1: Technology			ario 2: ation	Scenario 3: Commodity Prices	
	Townsville	Mackay	Townsville	Mackay	Townsville	Mackay
Engineering, ICT and Science Technicians in Sugar and Confectionery Manufacturing	0	0	0	0	1	2
Total Engineering, ICT and Science Technicians employed in region	0	-2	18	6	-5	-146
Total employment in Sugar and Confectionery Manufacturing	1	1	0	-1	59	80
Total employment for region	-63	-49	1,461	681	-261	-3,260

Changes in Growth (%) compared to 2022 Projection:



Anticipating Future Skills: Scenario Comparison with 2022, All Regions ndustry Projections by Occupation



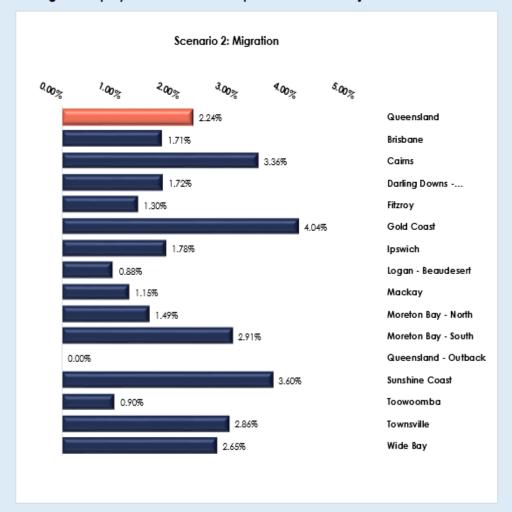
Employment Numbers: All Regions

Region	2017	2022	Scenario 2: Migration
Queensland	3,135	3,345	3,420
Brisbane	1,127	1,170	1,190
Cairns	142	149	154
Darling Downs - Maranoa	59	58	59
Fitzroy	152	154	156
Gold Coast	422	470	489
Ipswich	184	225	229
Logan - Beaudesert	104	114	115
Mackay	87	87	88
Moreton Bay - North	120	134	136
Moreton Bay - South	94	103	106
Queensland - Outback	25	22	22
Sunshine Coast	205	222	230
Toowoomba	105	111	112
Townsville	163	175	180
Wide Bay	147	151	155

In this tool, industries of employment are broken down to the Group level (3-digit codes) of the ANZSIC classification system, while the occupations of employed people are broken down to the Sub-Major Group (2-digit codes) of the ANZSCO classification system, as used by the Australian Bureau of Statistics. Regions are at the Statistical Area 4 level. Given the small numbers associated with some occupation/industry combinations, charts may return nil results.

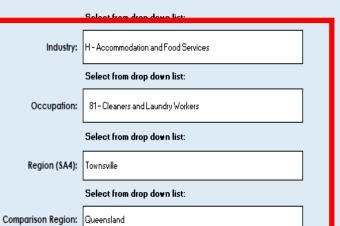


Change in Employment Numbers compared with 2022 Projection



Anticipating Future Skills: Townsville

Industry Projections by Occupation by Region



In this tool, industries of employment are broken down to the Group level (2-digit codes) of the ANTSIC classification system, while the occupations of employed people are broken down to the Sub-Major Group (2-digit codes) of the ANTSCO classification system, as used by the Australian Bureau of Statistics. Regions are at the Statistical Area 4 level.



PROJECTED EMPLOYMENT NUMBERS

Occupation and Industry in Selected Regions:

	2017 2022 Baseline		Scenario 1: Technology		Scenario 2: Migration		Scenario 3: Commodity Prices			
	Townsville	Queenslan d	Townsville	Queenslan d	Townsville	Queenslan d	Townsville	Queenslan d	Townsville	Queenslan d
Cleaners and Laundry Workers in Accommodation and Food Services	414	9,478	417	9,922	417	9,941	426	10,124	430	10,386
Total Cleaners and Laundry Workers employed in region	2,543	59,821	2,676	63,508	2,675	63,547	2,718	64,448	2,684	63,792
Total employment in Accommodation and Food Services	7,497	178,576	7,659	185,198	7,655	185,300	7,826	188,887	7,657	185,836
Total employment for region	94,379	2,373,023	101,898	2,562,671	101,835	2,563,317	103,359	2,594,613	101,637	2,553,245

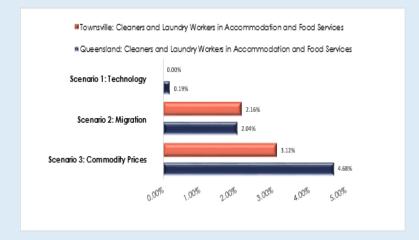
Note: Projections are indicative and not definitive of future employment growt

SCENARIO IMPACTS

Change in Employment Numbers compared with 2022 Projection:

	Scenario 1: Technology		Scena Migra	ario 2: ation	Scenario 3: Commodity Prices		
	Townsville	Queenslan d	Townsville	Queenslan d	Townsville	Queenslan d	
Cleaners and Laundry Workers in Accommodation and Food Services	0	19	9	202	13	464	
Total Cleaners and Laundry Workers employed in region	-1	39	42	940	8	284	
Total employment in Accommodation and Food Services	-4	102	167	3,689	-2	638	
Total employment for region	-63	646	1,461	31,942	-261	-9,426	

Changes in Growth (%) compared to 2022 Projection:



Data tools: Industries





Anticipating Future Skills: Queensland

Industry Projections by Occupation

	Select from drop down list:
Industry:	E - Construction
	Select from drop down list:
Occupation:	71 - Machine and Stationary Plant Operators

In this tool, industries of employment are broken down to the Group level (3-digit codes) of the ANZSIC classification system, while the occupations of employed people are broken down to the Sub-Major Group (2-digit codes) of the ANZSCO classification system, as used by the Australian Bureau of Statistics. Regions are at the Statistical Area 4 level.



PROJECTED EMPLOYMENT NUMBERS

Occupation and Industry in Selected Regions:

	2017	2022 Baseline	Scenario 1: Technology	Scenario 2: Migration	Scenario 3: Commodity Prices
Machine and Stationary Plant Operators in Construction	4,621	4,825	4,834	4,901	4,730
Total Machine and Stationary Plant Operators employed in Queensland	41,143	39,483	39,483	39,640	38,550
Total employment in Construction	219,270	227,713	228,052	231,973	222,264
Total employment for Queensland	2,373,023	2,562,671	2,563,317	2,594,613	2,553,245

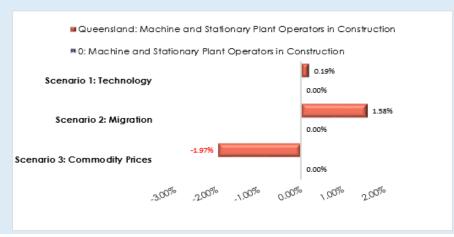
SCENARIO IMPACTS

Change in Employment Numbers compared with 2022 Projection:

Note: Projections are indicative and not definitive of future employment growth

	Scenario 1: Technology	Scenario 2: Migration	Scenario 3: Commodity Prices
Machine and Stationary Plant Operators in Construction	9	76	-95
Total Machine and Stationary Plant Operators employed in Queensland	0	157	-933
Total employment in Construction	339	4,260	-5,449
Total employment for Queensland	646	31,942	-9,426

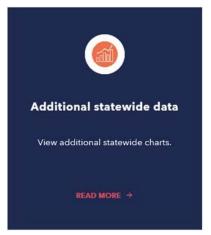
Changes in Growth (%) compared to 2022 Projection:





Data tools: Occupations







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Industry Projections by Occupation

	Select from drop down list:
Occupation:	11 - Chief Executives, General Managers and Legislators
	Select from drop down list:
Industry:	All Industries

Note: Projections are indicative and not definitive of future employment growth

In this tool, the occupations of employed people are broken down to the Sub-Major Group (4 digit codes) of the ANZSCO classification system, while industries of employment are broken down to the Group level (1 digit codes) of the ANZSIC classification system, as used by the Australian Bureau of Statistics. Regions are at the Statistical Area 4 level.



PROJECTED EMPLOYMENT NUMBERS

Occupation and Industry in Selected Regions:

	2017	2022 Baseline	Scenario 1: Technology	Scenario 2: Migration	Scenario 3: Commodity Prices
11 - Chief Executives, General Managers and Legislators in All Industries	24,764	26,964	26,980	27,187	26,917
Total Chief Executives, General Managers and Legislators employed in Queensland	24,764	26,964	26,980	27,187	26,917
Total employment in All Industries	2,373,023	2,562,671	2,563,317	2,594,613	2,553,245
Total employment for Queensland	2,373,023	2,562,671	2,563,317	2,594,613	2,553,245

SCENARIO IMPACTS

Change in Employment Numbers compared with 2022 Projection:

	Scenario 1: Technology	Scenario 2: Migration	Scenario 3: Commodity Prices
11 - Chief Executives, General Managers and Legislators in All Industries	16	223	-47
Total Chief Executives, General Managers and Legislators employed in Queensland	16	223	-47
Total employment in All Industries	646	31,942	-9,426
Total employment for Queensland	646	31,942	-9,426

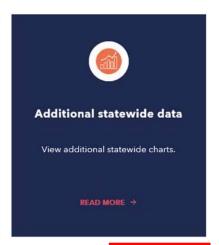
Changes in Growth (%) compared to 2022 Projection:





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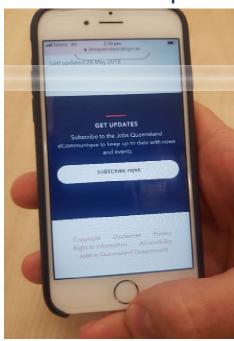
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