

STATE TRAINING PLAN

2015-2018



Government of Western Australia
Department of Training
and Workforce Development

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Despite the recent moderation in economic conditions, the outlook for the State is for continued strong performance. Western Australia remains the nation's best performing economy and to support this, it is imperative that Western Australia continues to address the long term skills and workforce challenges facing the State.

The work of the State Training Board over the last twelve months, including its *Workforce Scenarios and Projections* project, highlights: the increasing need for higher level skills; ensuring young people can transition more efficiently to higher education and training and employment; ensuring that skills are adapted to keep pace with technology and innovation; and the importance of meeting the challenges of an ageing population.

A continued emphasis on aligning skills development with priority occupations is also vital, along with providing the environment for those groups under-represented in the workforce to increase their participation in education and training.

The training system plays a pivotal role in responding to these imperatives.

As in previous years, the State Training Plan 2015-2018 draws upon economic and labour market trends and forecasting, and is strongly informed by industry intelligence. Set within the policy settings of the State Government's *Future Skills WA*, the Plan recommends that investment for training is targeted at those areas where skill development is most needed. This includes a continued focus on apprenticeships and traineeships, priority industry qualifications and essential foundation skills training.

Having a training system that responds to the skills and employment aspirations of all Western Australians is also important. To achieve this, the Plan also gives priority to the needs of young people, Aboriginal people, mature aged workers, people with a disability and those residing in remote and regional communities.

The Plan also identifies the importance of the VET sector in addressing Western Australia's ageing population with providing training for those occupations that will have significant growth into the future and for those older workers requiring up-skilling and re-training.

On behalf of the State Training Board I would like to thank the Department of Training and Workforce Development for their contribution to the development of the Plan.

The State Training Board looks forward to working together with training providers, industry and the community in implementing the priorities of the Plan which in turn will ensure that Western Australia has a flexible, responsive and financially sustainable training system.

KEITH SPENCE
CHAIR
STATE TRAINING BOARD



STATE TRAINING PLAN 2015-2018

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1.1. Executive Summary and Recommendations

The priorities outlined in the State Training Plan 2015-2018 have been based on detailed analysis of economic and labour market data and forecasts supported by industry intelligence. The priorities have also been aligned within the context of State and national VET priorities, including the policy settings within the State Government's *Future Skills WA*.

Economic and labour market outlook

Continuing global economic uncertainty, resource commodity price falls, moderating investment levels, and subdued consumer and business confidence have all combined to cause softer economic conditions in Western Australia over the past year or so.

Consistent with this, overall conditions in Western Australia's labour market over the past year have remained moderate. While the State's unemployment rate remained below the national rate, it averaged almost half a percentage point higher over 2013-14 compared to the previous year. In addition, Western Australia recorded below trend employment growth over the past year, albeit with some quite mixed results in growth across each of the State's industries.

Overall, Western Australia's economic fundamentals remain sound. While the State's economy is expected to grow at more modest rates over the next few years, it is expected to grow at a similar pace to, or faster than, Australia as a whole.

In particular, the previous record high levels of resource-related investment and development in the State have moderated, as many major resource projects move from construction into the less-labour intensive production phase. Such projects will increasingly require a different mix, and mostly higher level, of skills.

This resource project transitioning is also expected to have indirect effects on labour demand for industries that are related to and/or dependent on the resources sector.

Furthermore, the transitioning will have broader implications for skill labour supply in the State, as construction workers who had been working on resource projects look to switch to working in resource operations roles and/or residential construction roles (or even work in other sectors of the State's economy).

However, the ability of resource construction workers to make a switch to other non-resource construction roles will largely depend on the transferability of such workers' skills, as well as the number of job openings available in residential, non-residential and civil engineering construction projects¹.

More broadly, while employment growth in the State over the next few years is expected to remain subdued, the mixed nature of the outlook means that growth in

¹ Non-residential and civil engineering projects include the construction of buildings such as schools, shopping centers, office blocks, and similar, as well as infrastructure projects not related to the resource sector (i.e. construction related to roads, rail, gas and water pipelines, and other similar infrastructure). See also section 1.2 and section 2.2 for more detailed information in respect to current conditions and outlook on an industry basis.

new jobs will not be evenly spread across all sectors, making it likely that there will still be some areas where significant unmet demand for skilled labour will prevail.

Even so, one consistent theme evident from Victoria University's Centre of Policy Studies forecasts and the State Training Board's *Workforce Scenarios and Projections – Western Australia* project is the expected growth of specific industries such as health care and social assistance, education and training, and finance and insurance services. This is particularly the case for health care and social assistance, which is being driven by the State's ageing population.

In addition to the changing mix of skill requirements across the State's labour market, it is expected that most employers will increasingly look for applicants who hold some level of post school qualifications, and who have higher skill levels.

While labour demand is expected to grow only moderately over the next few years, the State's unemployment rate is expected to remain close to or marginally higher than its current rate, held in check by an expected softening in labour supply growth.

Slower growth in labour supply is mostly due to a forecast slowing in working age population growth, driven by the State's ageing demographics, exacerbated by an expected sharp fall in growth in the State's youth population (those aged 15 to 24).

Such trends reinforce the importance of workforce strategies around the retention of existing and older workers, as well as engaging and effectively transitioning people into the workforce – especially in the case of youth. In addition, the State's current level of unemployment, particularly for youth, suggests the supply of skills is still not suitably matching skills in demand.

Consistent with these themes, Western Australia's State Priority Occupation List (SPOL) for 2014 demonstrates the importance of maintaining the highly skilled workforce required for the State's labour market. Occupations ranked the highest on the 2014 SPOL are predominantly professional in nature, requiring either a University education or high level vocational education and training (VET) for entry.

Similarly, the 2014 WA Shares Model shows that for the top ten occupational groups requiring greater training effort, the majority of these need high level qualifications.

This is reinforced by the findings of the Board's Scenarios project, which indicates there will be a shortfall in university degrees, advanced diplomas and diplomas to meet the State's workforce needs out to 2030.

Policy settings

The key policy setting at the national level is the State's National Partnership Agreement on Skills Reform (Skills Reform NP) with the Commonwealth Government, which contains key initiatives on Transparency, Quality, Efficiency and Access and Equity. The Skills Reform NP also requires the State to meet targets for overall VET completions and completions for:

- Higher level qualification (Cert III and above); and
- Qualifications for Aboriginal Australians, people with a disability, and regional and remote students.

It also requires a training entitlement model, which Western Australia implemented under *Future Skills WA* in 2014.

Future Skills WA aims to ensure that the training system is financially sustainable into the future and Western Australians have greater choice over their career and training options. It also encourages and provides students with opportunities to train for jobs that are, or will be in high demand.

Priority under *Future Skills WA* is given to apprenticeships and traineeships, priority industry qualifications (as defined in the Department of Training and Workforce Development's Priority Industry Qualification List) and selected foundation skills courses.

The focus on giving priority to priority industry courses which meet Western Australia's needs is a fundamental driver in the funding and subsidisation of training. This initiative is early into its implementation and is being monitored on an ongoing basis to ensure that there are no unintended consequences.

The priorities recommended in the State Training Plan inform the development of the policy parameters for *Future Skills WA* on an annual basis.

The importance of Vocational Education and Training (VET) in Schools is highlighted in the recently released *Joint Ministerial Statement on Vocational Education and Training (VET) in Schools* by the Minister for Training and Workforce Development and the Minister for Education. The Statement sets a clear strategic direction in response to the Western Australian Certificate of Education reforms and affirms the importance of the program as a valuable pathway for senior secondary students. It also provides direction as to how best meet the needs of students undertaking VET qualifications during the senior secondary years.

The initiatives under the *Training together – working together*: Aboriginal workforce development strategy aim at connecting employers with Aboriginal job seekers, promoting Aboriginal role models and removing barriers to participation in the workforce.

Imperatives

The Board has identified a number of key imperatives based on its research work, industry intelligence, advice from the Department of Training and Workforce Development and analysis of outcomes from previous State Training Plans.

Previous Plans have aimed to shape the investment in training over time to ensure that it is responsive to the needs of industry and the community. This has included increasing participation in training, encouraging growth in apprenticeships and traineeships, growing the delivery of higher level qualifications (Certificate IV and above) and increasing training opportunities for those under-represented groups such as Aboriginal people and people with a disability. In all of the above, substantial progress has been made.

The key imperatives in this Plan are:

Occupational priorities – ensuring that training delivery is focussed on those occupations linked to growth industry sectors which will assist the State to boost productivity and to gain a competitive advantage in the global economy.

Higher qualifications – increasing the skill levels of all Western Australians remains critical to supporting the State's economy and at the same time, fostering greater workforce participation by all.

Young people – supporting young people in making an effective transition to higher education and training, and employment is a key objective for the State. This includes strengthening pathways from the VET sector to university.

Under-represented groups – increasing participation in the workforce among Aboriginal people, people with a disability, mature aged workers, and people in regional areas is essential in order to grow the State's workforce.

Another imperative highlighted in the Plan relates to meeting the challenge of an ageing population.

Recommended Training Investment Priorities 2015-2018

The following recommended priorities are aligned to the current and future needs of the State and the imperatives outlined above.

It should be noted that whilst previous plans have focussed on occupational priorities, the recommended priorities in this year's Plan are pitched at a more strategic level, taking into account not only the implementation of *Future Skills WA*, but also the findings of research work undertaken by the State Training Board.

These priorities will provide guidance to the Department of Training and Workforce Development on the areas that should be given emphasis in the purchase of training from the State Training Providers and private providers.

It should also be noted that the provision of training is largely demand driven and occurs across a wide range of qualifications including apprenticeships and traineeships, priority industry training and general industry training qualifications.

This State Training Plan 2015-2018 will continue to apply the '80/20 rule' whereby a large part of the training needs are addressed by meeting the demand of consumers, that is, students and employers.

It is recommended that the priorities listed below be applied to the development of *Future Skills WA* policy settings for 2015.

PRIORITIES

Occupational priorities

Continued focus on:

- ❖ apprenticeships and traineeships;
- ❖ those qualifications that are a priority of industry (those listed in the Department of Training and Workforce Development's Priority Industry Qualifications List); and
- ❖ essential foundation skills.

Youth

Stronger emphasis on pathways to higher level qualifications and/or employment

Addressing language, literacy and numeracy (LLN) skills with continued emphasis on foundation skills training.

Under-represented groups

Continued emphasis on training opportunities for Aboriginal people, people with a disability and those people living in regional and remote areas.

Addressing language, literacy and numeracy (LLN) skills with continued emphasis on foundation skills training.

Ageing population

Continued emphasis on training for health and community services occupations.

In addition to the above, it is recommended that further consideration be given to increasing pathways to University.

1.2. Overview, Themes and Priorities

The provision of a State Training Plan by the State Training Board to the Minister for Training and Workforce Development is a requirement of the *Vocational Education and Training Act (VET Act) 1996*.

The State Training Plan 2015-2018 identifies the Government's investment priorities for the Western Australian vocational education and training (VET) system over the next four years.

Through training and skill development, the VET system plays a critical role in ensuring that Western Australian industry has access to a well-trained and job ready workforce. The priorities outlined in the Plan are aimed at ensuring that the VET system is able to target training investment at those occupational areas that are critical to the State's economic growth.

Western Australia's economy and labour market – current conditions

The Western Australian economy is undergoing some significant transitional changes, both in respect to the mix of skills required by employers, and trends in labour supply and participation.

Continuing global uncertainty and weaker commodity prices have combined with rising input costs to moderate the prospects for the State's pipeline of major resource projects. This is in contrast to the past strong growth for such projects, with many existing resource projects now progressing from construction to operations.

Given the importance of linkages between resource sector investment and other parts of the State's economy, the transitioning of many major projects from constructions to operations is also expected to have had indirect effects for some other industries in Western Australia².

Business investment in the State has been contracting since its peak³ in late 2012. This moderation in investment has coincided with a softening in the State's labour market over 2013 and so far into 2014.

Australian Bureau of Statistics (ABS) labour force data showed Western Australia recorded annual average growth in employment of 1.6% for the year to June 2014, which was less than half the State's historical yearly growth average over the past decade (of 3.3%).

Softening labour demand has been reflected in employer hiring, with full time jobs growing by only 0.5% over the past year, compared to 4.7% growth in part time jobs.

This pattern was also reinforced by the overall volume of hours worked in the State over the past year, which at a growth rate of just 0.9% was significantly lower than the rate at which jobs grew by.

² Key linkages from the resource sector are to the State's construction industry, as well as to other support service related industries such as Professional, Scientific and Technical Services. Source: Chamber of Minerals and Energy, KPMG *Economic reach of the Western Australian resources sector, July 2013*.

³The national accounts (ABS, 5206.0) for the March quarter 2014 show that Business Investment has now had five quarters of decline since the December quarter 2012.

An important offset to the moderation in resources construction has been the strong growth recorded in the volume of residential construction work carried out in the State over the 12 months to March 2014, which was 19.9% higher than the previous period⁴.

This helped the Construction industry as a whole record very strong employment growth of 10 900 additional workers (equating to 8.4% growth) over the year to May 2014. Construction is currently the highest employing industry in the State, accounting for 10.6% of all employees⁵.

While some of the recent growth in construction employment is likely to have consisted of construction workers moving work on major resource projects over into non-resource construction jobs, current data availability mostly precludes estimating the likely numbers of such instances.

However, information from the Building and Construction Industry Training Fund⁶ (BCITF) shows there has been a 31% reduction in the number of workers receiving short skills training, and occupational health and safety training in 2013–14. Private training providers have told the BCITF that a key reason for the reduction in training demand has been due to the sizable influx of construction workers who had previously been working in the North West region of the State. These workers already had their certification and / or required tickets and were said to be filling places in the traditional sectors of the construction industry.

While, local construction workers (ex-resource sector) are helping to meet the labour demands for the non-resource construction industry, not all of these workers will be able to fit into the traditional construction roles easily and some level of direct ‘on-the-job’ training may be required, while for others some skills sets may not be directly transferable.

Employment growth in the State’s other industries over 2013-14 was much more mixed.

Out of the four main employing industries in the State (Construction, Health Care and Social Assistance, Retail Trade and Mining together account for almost 40% of all workers), Construction was the only industry to record growth, with the other three all recording falling employment levels.

Outside of Construction, the strongest growth in employment levels in the State came from the industries of Transport, Postal and Warehousing (an extra 8 500 workers), Accommodation and Food Services (7 600 additional workers), Public Administration and Safety (6 600 extra workers) and Rental, Hiring and Real Estate Services (6 200 additional workers), demonstrating some of the diversity behind employment growth in the State.

⁴ Source: ABS Cat. 8752.0

⁵ It is estimated that of the 141 500 employees working in the Construction Industry over 2013–14, approximately 27 000 employees were working on resource industry infrastructure construction projects (Source: Construction Training Council, WA Construction Industry Snapshot, July 2014).

⁶ Information provided informally from the BCITF to the Department of Training and Workforce Development, August 2014.

Sizable contractions in employment were recorded in Mining (down by 6,100 workers), Administrative and Support Services (down by 6,000 workers) and Agriculture, Forestry and Fishing (5,700 less workers).

However, sometimes such employment changes (as outlined above) can noticeably fluctuate on a year to year basis. The table below shows the longer term trends in employment by industry in the State – most noticeably, the key drivers of growth over the past decade have been Mining (70,200 additional workers) and Construction (57,975 additional workers), reflecting the predominant effect the resource expansion phase has had for employment growth in Western Australia.

Table 1: Employment changes over time in Western Australia’s labour market

WA EMPLOYMENT BY INDUSTRY	Current size: (2013-14)	Difference in 2013-14 employment levels, relative to:			
		One year ago	Three years ago	Five years ago	Ten years ago
Agriculture, Forestry and Fishing	28,325	-5,675	-11,400	-13,200	-19,300
Mining	108,500	-6,100	19,800	43,450	70,200
Manufacturing	91,150	-400	3,325	-8,325	4,350
Electricity, Gas, Water and Waste Services	22,100	0	5,225	2,875	13,375
Construction	141,425	10,925	9,525	16,350	57,975
Wholesale Trade	39,200	-2,600	-750	-2,000	-425
Retail Trade	134,675	-1,950	7,200	-3,200	18,850
Accommodation and Food Services	79,325	7,575	8,250	11,800	21,875
Transport, Postal and Warehousing	72,450	8,450	15,125	9,625	25,950
Information Media and Telecommunications	14,100	-1,700	-525	-25	-1,925
Financial and Insurance Services	37,125	4,275	8,775	8,075	10,600
Rental, Hiring and Real Estate Services	29,450	6,175	7,525	5,875	8,925
Professional, Scientific and Technical Services	103,975	1,200	15,925	30,350	45,050
Administrative and Support Services	42,125	-5,975	-275	5,750	4,975
Public Administration and Safety	79,550	6,625	6,075	6,700	28,350
Education and Training	99,000	750	4,100	15,625	22,575
Health Care and Social Assistance	138,350	-2,250	18,800	19,225	44,800
Arts and Recreation Services	20,250	-2,275	-625	-275	5,375
Other Services	57,575	3,800	1,925	7,800	10,250
Total	1,338,800	20,900	118,075	156,625	372,025

Source: ABS Cat. No. 6202.0

The table also shows evidence of longer term structural changes in employment in the State, in respect to most of the industries that have seen contractions in employment levels (denoted as red in the table above). In particular, the Agriculture, Forestry and Fishing industry has seen a consistent downward trend in employment, mostly due to technology change and related productivity improvements in the industry, together with variable weather conditions and (towards the latter part of the decade) a persistently higher Australian dollar.

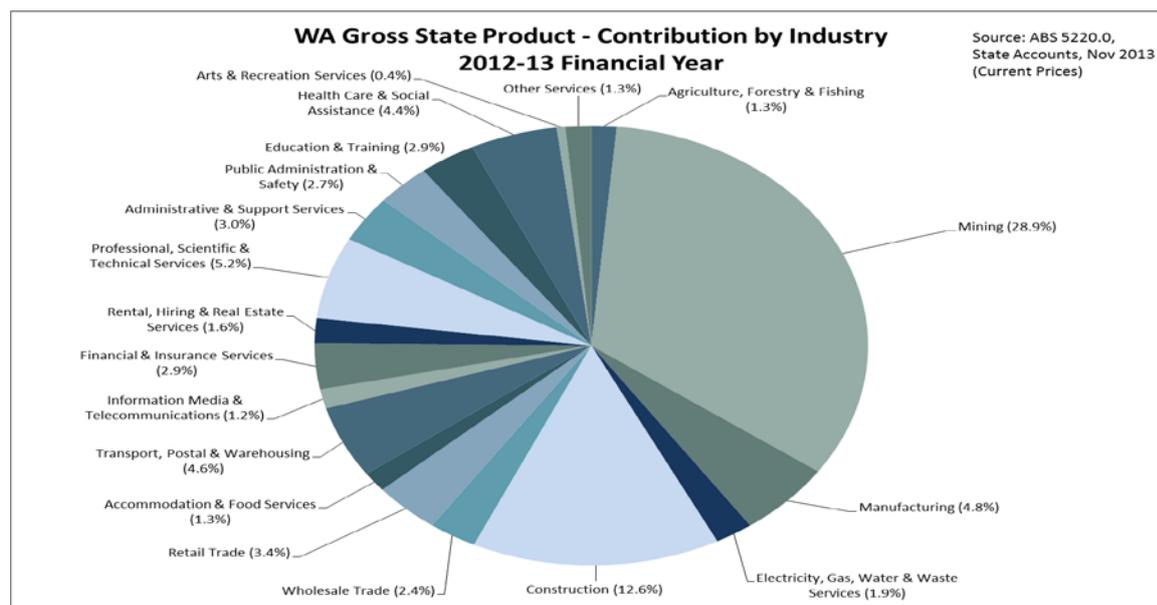
The Information Media and Telecommunications industry has also seen declines, likely due to the nature of the quite dynamic nature of the industry itself (in respect to declines in traditional media use, labour productivity trends, and similar). Similarly, Wholesale Trade has seen falls too, likely due to trends in the Retail industry more broadly (for e.g. better integrated supply chains, ‘just in time’ ordering, and other similar logistics and productivity trends).

Employment levels in the State’s Manufacturing industry have been somewhat more erratic across the past decade (as shown in the preceding table). The industry has been affected by factors such as tariff reductions, increasing globalisation trends

(especially the outsourcing of tasks to lower cost economies), the high Australian dollar and changing technologies / consumer preferences⁷.

In terms of each industry's contribution to the State's overall economy, the chart below shows that Mining and Construction are key components (for Mining in particular, the industry's share of the economy (28.9%) is much larger than its corresponding share of employment in the State for the same period (8.7%), due to the capital intensive nature of the industry).

Figure 1: Industry contributions to Western Australia's economy (2012-13)



In respect to employment growth over the past year on a broad occupational basis, the strongest growth came from Managers (10 600 additional workers), followed by Community and Personal Service workers (9 700 extra) and then Sales workers (6 600 additional workers).

In contrast, notable contractions in employment were seen for the occupational groupings of Clerical and Administrative workers (2 800 less), Technician and Trade workers (3 100 less), with Labourers (5 100 less workers) seeing the largest fall. Lower employment in the latter two occupational groups is also consistent with the slowing in resource-related construction work in the State.

Despite softer labour demand, Western Australia's unemployment rate increased only moderately over the past year, from an average of 4.4% over the previous year, to an average rate of 4.8% over the year to June 2014. This was easily the lowest of all states (the next lowest was New South Wales, averaging 5.7% over the past year), and also considerably below the annual rate for Australia of 5.8%.

One of the key reasons the State's unemployment rate remained relatively low over the past year was that lower labour market participation accompanied the softening

⁷ However, manufacturing in WA (relative to most of Australia) is more focused on manufacturing of food, niche products and especially resource-related value adding (such as bauxite to alumina processing) – for example, it does not have the same exposure to car manufacturing as other states. This mostly explains the divergent trends that have seen manufacturing employment in the State grow by about 5% over the past decade, compared to a fall of around 9% for the industry nationally.

trend in labour demand, with the State's labour market participation rates averaging 68.2% over the year to June 2014, 0.8 percentage point lower compared to an average rate of 69.0% a year prior.

Indeed, if not for declining rates of labour market participation, the State's unemployment rate could have been around 0.8 of a percentage point higher⁸.

Similar to national trends, the ageing of the State's population is a key driver of the downward trend in participation, with increasingly greater proportions of the State's population currently at (or nearing) retirement age.

To some degree, the State's recent softening in labour demand is likely to be another of the drivers in the recent drop in participation observed for Western Australia, with some workers possibly being discouraged from looking for work by current labour market conditions⁹.

Western Australia's economy and labour market – outlook

Commodity prices and the global economic recovery both continue to be somewhat erratic, with some considerable uncertainties remaining in respect to their outlook. Along with a historically high Australian dollar and rising input costs, these factors have tempered the outlook for investment in the State.

According to the Western Australian Department of Treasury, the State's economy is forecast to increase by 3.75% in 2013–14. Economic growth in 2014–15 and 2015–16 is then expected to ease back to rates of 2.75% and 3.0% respectively.

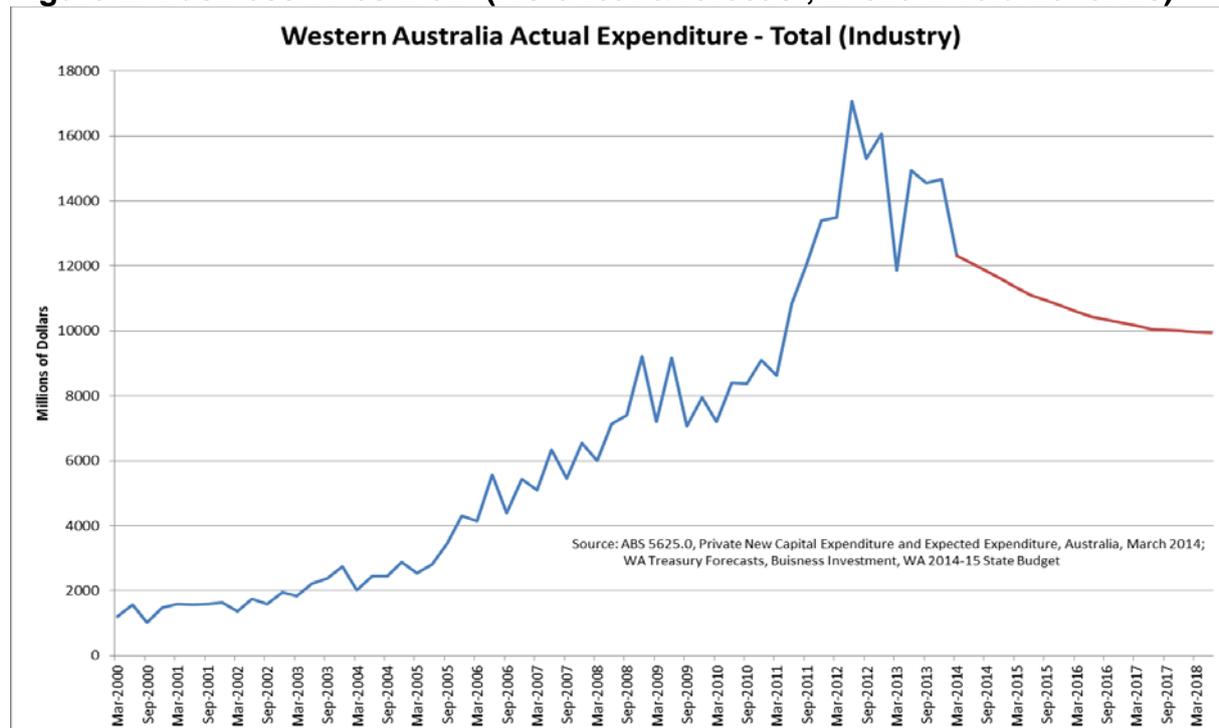
While these forecasts show broadly healthy rates of growth are expected, they are in part predicated on increased export volumes being a major driver of the State's growth over the next few years, with business investment levels moderating (as shown in the chart below), and major resource projects transitioning from their construction phases into production¹⁰.

⁸ On a presumption the vast majority of additional participating workers would not be able to find jobs.

⁹ Discouraged workers are those workers not currently employed, and who are available and able to work, but who are not currently actively seeking work, due to labour market conditions (ie they have temporarily or permanently given up looking for work). As they are not 'actively seeking employment', such persons do not come under the definition of unemployed (and are also excluded from participation rate calculations). However, there is no regularly reported data on the number of discouraged workers at the State level.

¹⁰ Western Australian Department of Treasury *2014–15 Budget, Economic and Fiscal Outlook, Budget Paper No.3, May 2014*.

Figure 2: Business investment (historical & forecast, in chain volume terms)



With many large resource sector projects moving into their production phases over coming years, this export-driven phase will be less labour intensive, but still requiring a skilled (and increasingly more permanent) workforce in the State, underscoring the importance of the State’s domestic training effort.

Over the short term, the Western Australian Department of Treasury expects the State to record a marginally higher average unemployment rate over 2014-15 (of 5.5%), with employment in the State growing by 1.5% in 2014-15 (around the same pace of growth in 2013-14)¹¹.

This is consistent with forward indicators of labour demand (such as job vacancy surveys, business expectations and consumer confidence), which all point to subdued conditions for the State’s labour market continuing over at least the next half a year or so.

Following 2014–15, State Treasury expects that growth in both labour demand and supply over the next few years will remain subdued. Accordingly, Treasury’s forecasts show employment in the State growing by an annual rate of 1.75% each year out to 2016–17. Compared to Federal Government Budget employment forecasts for Australia, this means Western Australia is likely to record employment growth that is somewhat higher than national employment growth.

While State Treasury’s employment forecasts are somewhat lower than comparative forecasts from Deloitte Access Economics, they are higher than those from Victoria University’s Centre of Policy Studies (see the first three columns of the following table).

¹¹ Western Australian Department of Treasury 2014–15 Budget, Economic and Fiscal Outlook, Budget Paper No.3, May 2014.

Table 2: Headline forecasts for the State’s labour market

FORECASTER	Employment growth (%)			Unemployment rate (%)		
	2013-14	2014-15	2015-16	2013-14	2014-15	2015-16
WA Treasury (Budget May 2014)	1.5	1.5	1.75	5.0	5.5	5.25
Deloitte Access Economics (June 2014)	1.6	2.4	2.3	5.0	5.1	5.4
Chamber of Commerce and Industry (June 2014)	n/a	n/a	n/a	n/a	5.0	5.0
Centre of Policy Studies, Victoria University (Sep 2013)	0.3	0.9	0.8	n/a	n/a	n/a
Average (Rounded)	1.7 (actual)	1.6	1.6	4.8 (actual)	5.2	5.2

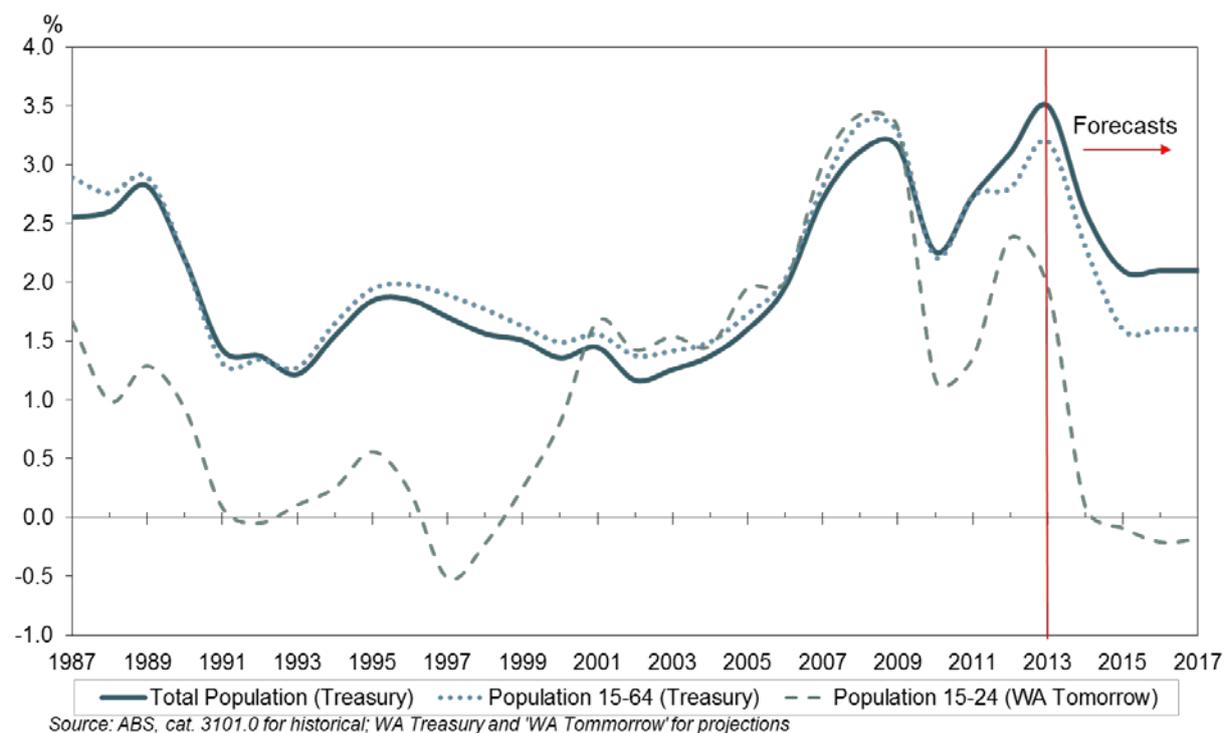
Nevertheless, if the average of the forecasts above (1.6% employment growth in both 2014–15 and 2016–17) were to be realised, this will mean the State will end up recording jobs growth at a rate that is considerably lower than the State’s historical average growth rate for employment (of 2.8%) for the past twenty years.

State Treasury Budget forecasts also show that after peaking at 5.5% in 2014–15, Western Australia’s unemployment rate is expected to fall marginally over following years, going to 5.25% in 2015–16, and then to 5.0% in 2016–17. Compared to Treasury, Deloitte Access Economics has broadly similar forecasts (but with unemployment peaking at 5.4% in 2015–16), while the Western Australian Chamber of Commerce and Industry expects slightly lower unemployment rates (see Table 2).

Another reason why the State’s overall unemployment rates are expected to remain relatively moderate over the next few years relates to an expected softening in growth in labour supply in the State.

In particular, Treasury’s State Budget forecasts show a further gradual easing in labour market participation rates over the next few years (from 68.2% in 2014–15, to 67.6% in 2016–17), as well as a slowing in overall growth in the State’s population (with growth in the key working age cohort of those aged 15–64 expected to soften at an even greater rate than that expected for the State’s total population – see dotted blue line in following chart).

Figure 3: Historical and forecast population growth rates



The sizable difference opening up between the forecast growth rates for 15 to 64 year olds relative to the State's overall total population is being driven by the current age profile of the State's population – this will become particularly pertinent as workers from older age cohorts retire in increasing numbers into the future.

As the chart above also shows, even more pronounced is the much lower growth over the next year in the State's 15 to 24 year old youth cohort (followed by contractions out to 2017). Such demographic dynamics underscore the importance of ensuring the 15 to 24 year old youth cohort is able to help boost the State's labour supply in coming years¹².

The next few years are also important in the context of current trends in youth unemployment. For the year to June 2014, the average number of young people unemployed in Western Australia (seeking either full time or part time work) totalled some 24 000 persons. This was an annual increase of 1 800 persons (8.2%), meaning youth now represent over a third (35.3%) of all unemployed persons in the State.

Data on those aged 15 to 24 years seeking full time work in the State showed that these youth had an average unemployment rate of 11.6% over the year to June 2014 (or around 15 400 young people). While this means youth in the State had a lower unemployment rate compared to nationally, this rate is higher than it was six to seven years ago (see chart below).

¹² Also see Section 2.2 and Appendix F of this document.

Figure 4: Unemployment rate for 15–24 year olds (seeking full time employment)



Consistently, various research¹³ and statistical sources (including Census) shows a marked improvement in an individual's participation in the labour market and likelihood of employment if they hold a post-school qualification at the Certificate III level or higher.

The skills and experiences gained through post-school education provide a wide array of opportunities to an individual in the modern technology and skills-driven economy. Youth pathways into education and training are therefore critical in delivering the workforce with the skills, knowledge and experience required to meet the needs of Western Australian employers, while also enabling youth to progress towards their career goals by encouraging them to participate in education or traineeships that provide suitable competencies and qualifications needed to secure employment.

The skilling-up of Western Australia's young people is therefore of significant importance, with the vocational education and training sector remaining a crucial element in connecting young people's competencies with industry needs. A focus on youth is therefore a key feature of this Plan for 2015–2018.

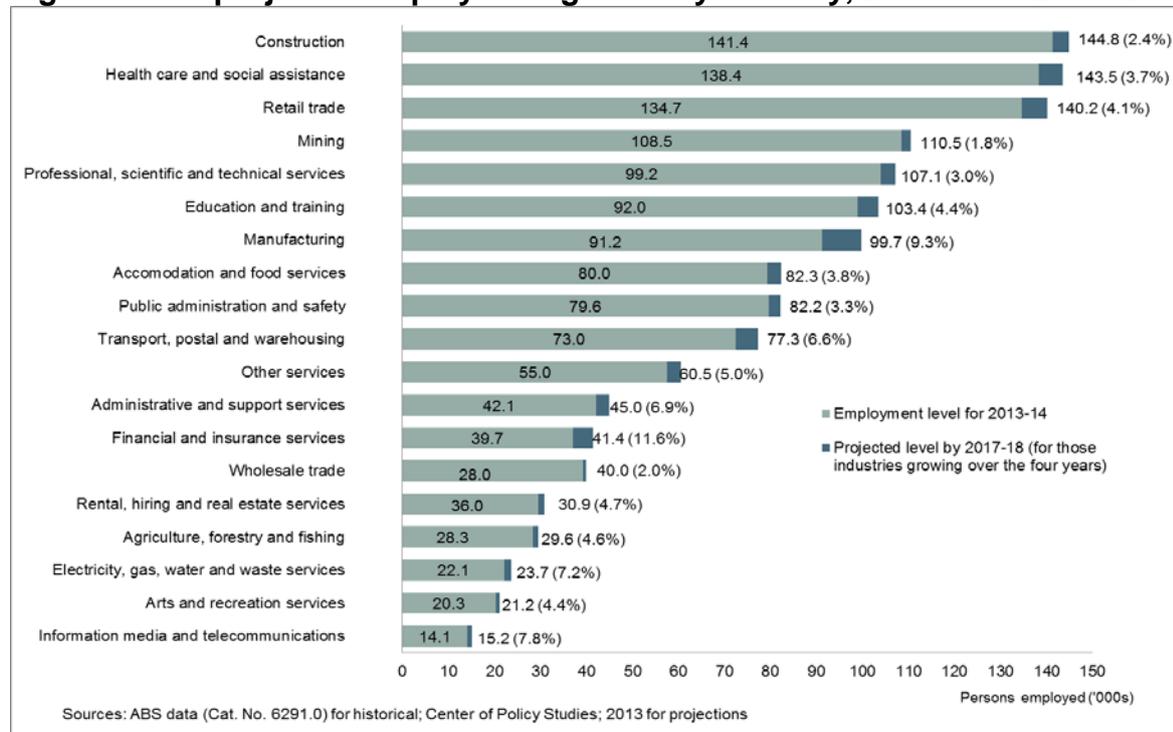
It is also useful for the purposes of this Plan to look at the expected composition of the State's expected employment growth over both the short and longer term.

Over the short term (the next few years), forecasts from Victoria University's Centre of Policy Studies show that growth in the State's industry employment levels is expected to be broadly based, occurring mostly in the industries of: Manufacturing;

¹³ For example, see: State Training Board: *Youth Matters: a study of youth education, training, employment and unemployment in Western Australia*, 2013; Michelle Circelli and Damian Oliver, National Centre for Vocational Education Research: *Youth transitions: what the research tells us 2012*; David D. Curtis, LSAY Research Report 52: *VET Pathways Taken by School Leavers 2008*; Damian Oliver, *Lower-Level Qualifications as a Stepping Stone for Young People 2012*.

Retail; Health Care and Social Assistance; Transport, Postal and Warehousing; Education and Training; Financial and Insurance Services; and Construction.¹⁴ Together these seven industries are expected to account for around 60% of the State's total employment growth out to 2017–18.

Figure 5: WA projected employment growth by industry, 2013–14 to 2017–2018



As shown by the chart above, the Construction industry is expected to remain the highest employing industry in the State. Although the next few years is likely to see a decreasing requirement for labour for resource-related construction work in Western Australia, there will likely be greater volumes of residential construction work being carried out, as the State's housing stock catches up with the very strong population growth the State has experienced over the past few years.

Following closely behind Construction, the Health Care and Social Assistance industry is projected to remain the State's second highest employing industry, consistent with the expected demand for such services as the State's population ages.

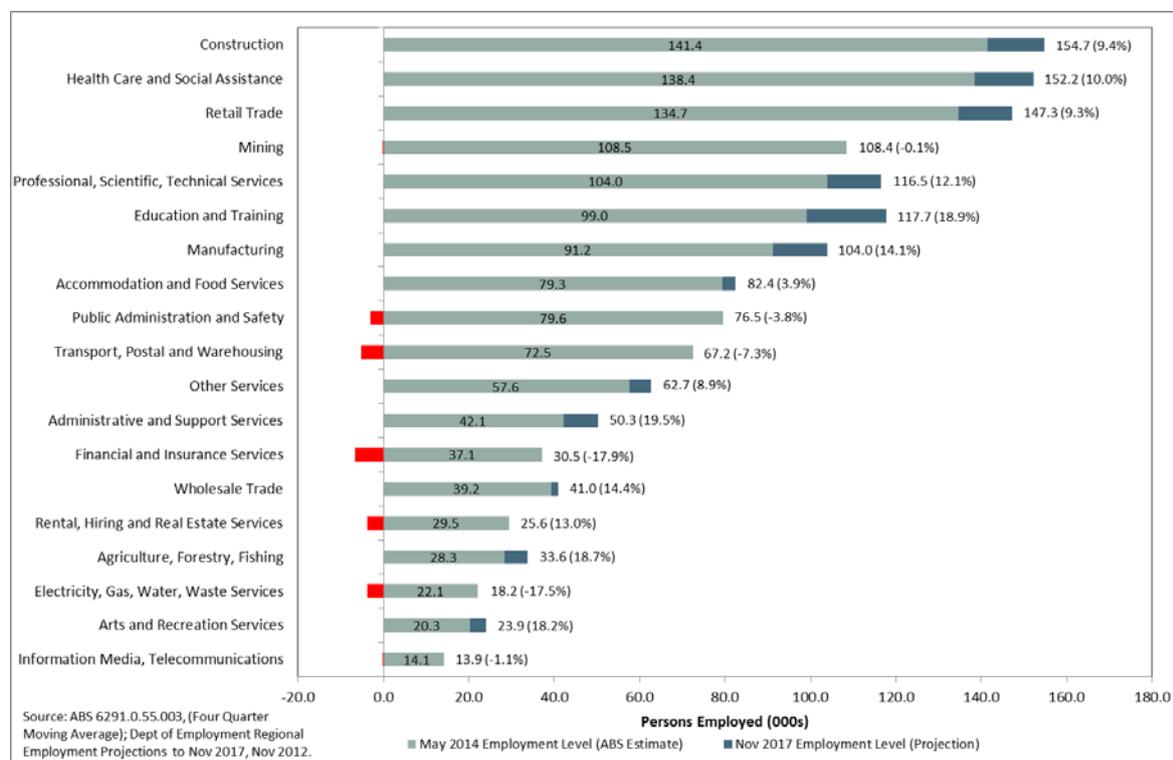
The same Centre of Policy Studies forecasts also show that the mining industry is projected to have only modest employment growth. This is in line with remaining major resource projects transitioning from construction to their less labour-intensive operational phases, but also where the industry has already experienced very strong employment growth over the past few years due to newly completed mining operations projects coming on line¹⁵.

¹⁴ Forecast growth in industry employment levels is shown by the darker blue parts of the bars in the figure above.

¹⁵ Mining employment in Western Australia has grown from an average of around 60 000 workers in the post-GFC downturn year of 2009, up to an average of nearly 110 000 workers over 2013-14.

Alternative projections of employment by industry in Western Australia over the next four years are also available from the Commonwealth Government’s Department of Employment (see chart below).

Figure 6: WA projected employment growth by industry to 2017–2018



While different forecasting approaches, models and assumptions will typically show different results, the broad consistencies between the two sets of forecasts are that moderate to strong levels of growth are expected in most of the State’s larger employing industries (with the notable exception of mining, which grows only marginally in respect to the Centre of Policy Studies forecasts, and remains more or less unchanged in respect to the forecasts from the Commonwealth Government’s Department of Employment).

Another consistency in both sets of forecasts is that the industries of Construction, Health Care and Social Assistance, and Retail Trade will remain the State’s top three employing industries (in that order, just as they are currently), with the three industry combined expected to account for around three out of every ten jobs in the State in four years’ time.

However, the two sets of projections are somewhat different in that they show some sizable contractions (denoted by the red bars) in employment for a number of industries (most noticeably Financial and Insurance Services; and Transport Postal and Warehousing).

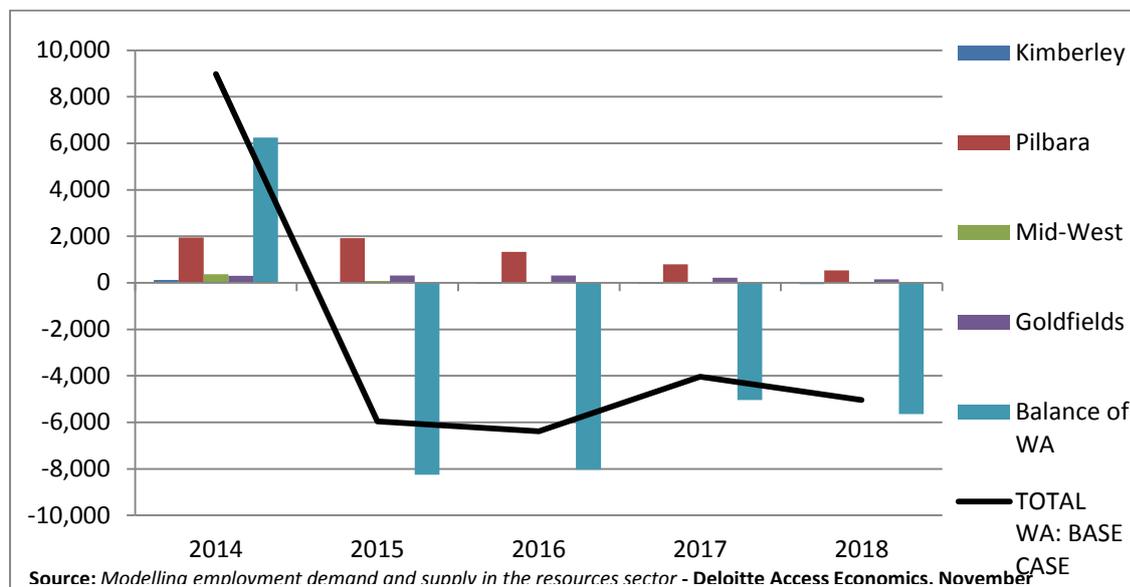
Indeed, it is cautioned that in the current dynamic economic environment, particularly in respect to the resource sector’s transitioning, it is very difficult for forecasters to predict in detail specific movements in employment growth, particularly in the

medium to longer term, as there are many uncertainties to be considered¹⁶. Such degrees of uncertainty were a key reason why the State Training Board (the Board) commissioned its Scenarios project (further results based on the modelling done for the project follow below).

In respect to the resource sector’s transitioning, and what this may mean for construction and operational employment levels in the State, another useful set of forecasts were those produced by Deloitte Access Economics, for the Australian Workforce and Productivity Agency’s *Resources Sector Skills Needs* report for 2013.

The modelling specific for Western Australia shows that while the State’s total resource sector workforce (for construction and operations combined) is expected to grow quite strongly in 2014, these gains are then expected to be more than offset by falls in employment in each of the subsequent years out to 2018 (as per solid black line in chart below).

Figure 7: Projected yearly changes in TOTAL resource sector employment in WA (yearly flow in levels shown, for WA and by region, base case scenario)

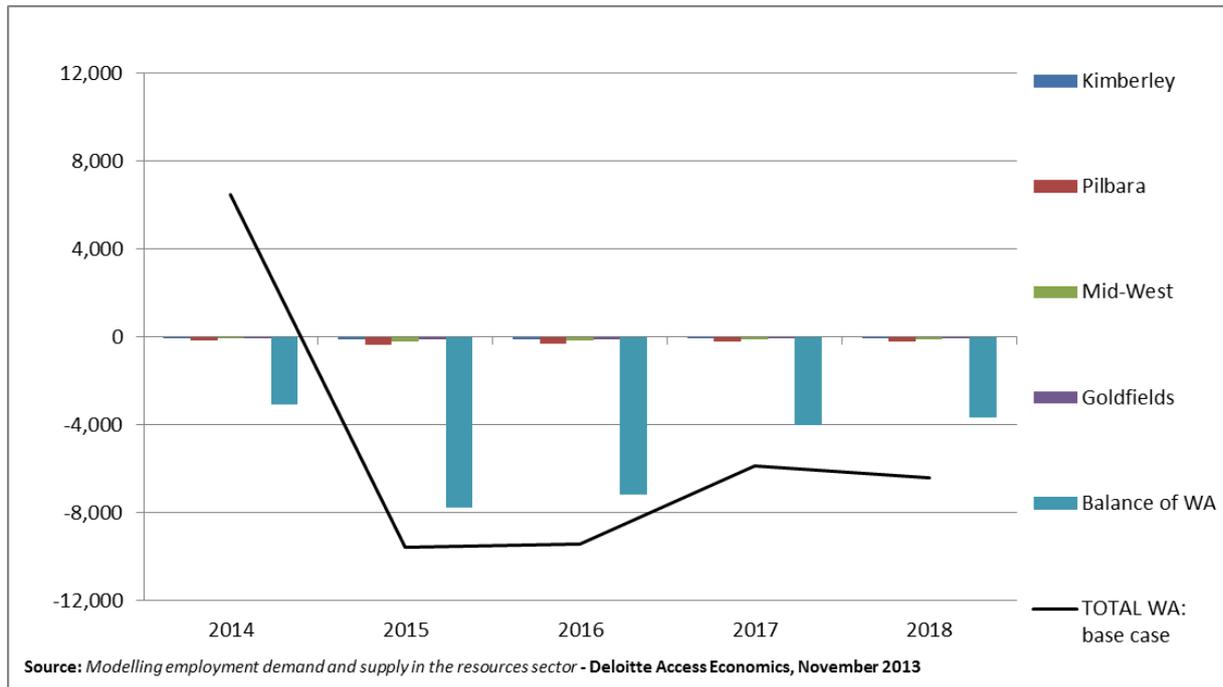


The above chart also shows expected resource sector employment gains / losses each year for the State’s key resource regions (shown by the coloured bars). The projections on this basis show that consistent resource sector workforce gains are expected in most of the State’s regions each year out to 2018 (most notably for the Pilbara), whereas sizable losses are expected to come from the ‘balance of WA’ category (predominantly Perth) from 2015 onwards.

A further breakdown of the above projections show that the declines are driven by expected falls in resource project construction – predominantly coming from the ‘balance of WA’ (therefore most likely Perth-based Fly-in, Fly-out construction jobs, and construction-related support roles within mining company premises in Perth), as shown in the following chart.

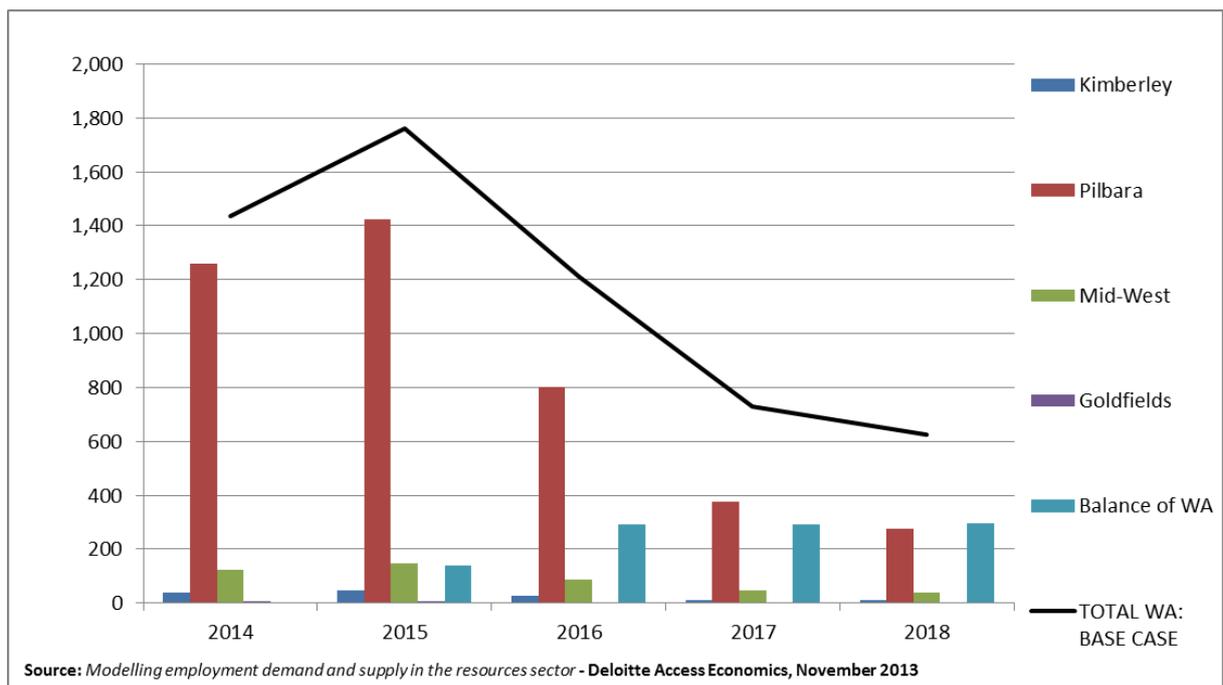
¹⁶ Care should therefore be exercised when interpreting the forecast movements above (particularly the detailed employment forecasts and especially the further out in time such forecasts go). The forecasts should be treated as an indicative picture of what the State’s future labour market may look like given expected growth trajectories.

Figure 8: Projected yearly changes in CONSTRUCTION-RELATED resource sector employment in WA (yearly flow in levels shown, for WA and by region, base case scenario)



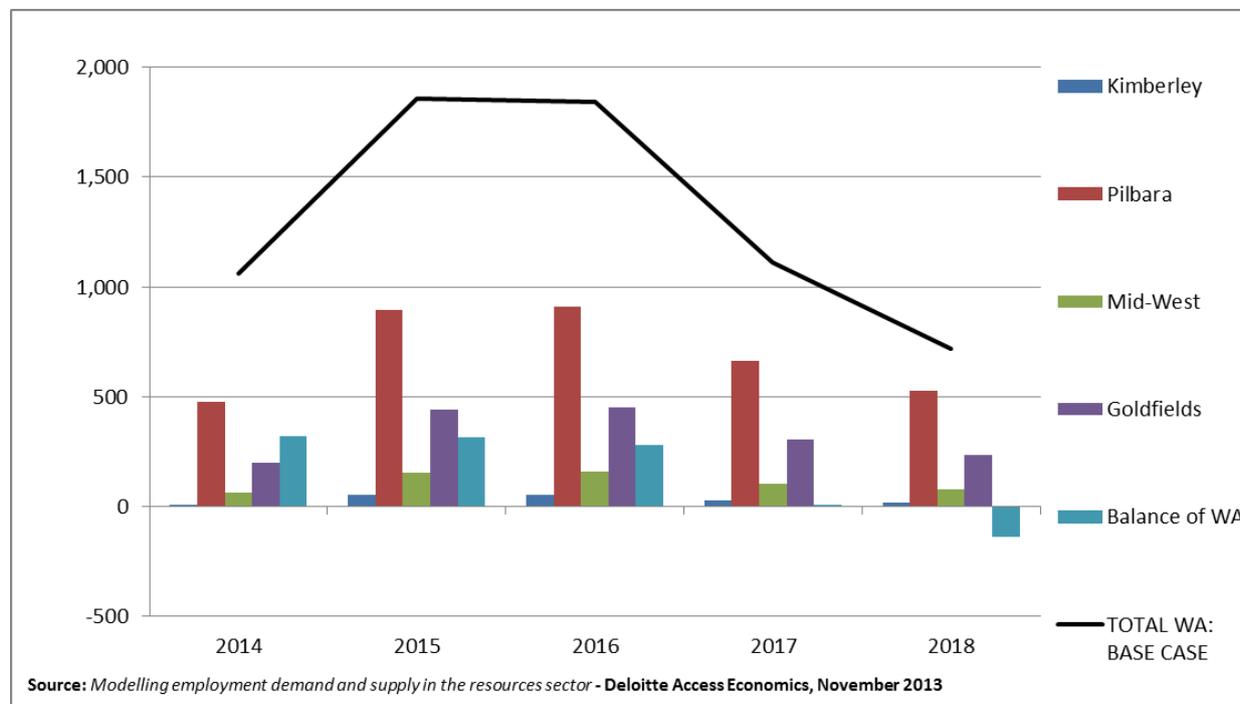
In respect to the gradual increases in employment expected in oil and gas operations in the State, the same set of forecasts show that growth is expected to mostly be seen over the remainder of 2014 and into both 2015 and 2016, with such growth predominantly being based in the Pilbara region (chart below).

Figure 9: Projected yearly changes in OIL & GAS OPERATIONS employment in WA (yearly flow in levels shown, for WA and by region, base case scenario)



In contrast, employment growth related to mining roles is expected to be a bit more evenly spread across the next few years, and also somewhat more spread out respect to its regional dimension (albeit with the Pilbara still dominating).

Figure 10: Projected yearly changes in MINING OPERATIONS employment in WA (yearly flow in levels shown, for WA and by region, base case scenario)



It is also noticeable too that the above projections suggest mining operations growth in the State in total of around 5,000 additional workers (so in contrast to the more moderate projections from both the Centre of Policy Studies and the Commonwealth Government's Department of Employment).

The resource sector's transitioning phase will have broader implications for skill labour supply in the State, as construction workers who had been working on resource projects look to switch to working in resource operations roles and/or residential construction roles (or even work in other sectors of the State's economy).

However, the ability of resource construction workers to make a switch to other non-resource construction roles will largely depend on the transferability of such workers' skills, as well as the number of job openings available in residential, non-residential and civil engineering construction projects.

Also, a considerable unknown is the extent to which the current pool of temporary (457) visa holders in the State working on resource projects may see their circumstances as warranting a return to their home country, if they are unable to secure a permanent visa / employment (or simply do not attempt to pursue such an option, due to financial, economic or other circumstances).

While the different short term projections covered above are for the next four or so years, as flagged, the State Training Board has adopted a scenarios-based

approach to develop potential strategies and policies to address the State's possible workforce issues over the longer term.

For this, Deloitte Access Economics (on behalf of the State Training Board) developed and modelled four plausible workforce scenarios for Western Australia for the period 2012–2030. This modelling included employment projections by industry, by occupation, and by qualification level for each of the scenarios¹⁷. These projections are helpful in understanding some of the likely trends in employment that the State will face over the longer term – particularly in respect to the broad commonalities shown in the modelling across all four of the scenarios.

The scenarios' industry-based projections over the period 2012 to 2030 shows that common to all four scenarios, the industries that are all projected to have faster than average employment growth are: Health Care and Social Assistance; Education and Training; Professional, Scientific and Technical Services; Financial and Insurance Services; and Public Administration and Safety. Conversely, the industries the scenarios projections show slower than average growth rates are: Agriculture, Forestry, Fishing and Hunting; Mining; Manufacturing; Electricity, Gas, Water and Waste Services; and Retail Trade.

Overall, these broad growth trends from the scenarios modelling suggest the State's likely longer term workforce future centres around employment growth in jobs that are higher skilled, and predominantly service-orientated. The likely requirement by employers for higher skill levels over coming years is a key feature of both the short term Centre of Policy Studies forecasts, as well as the longer term Deloitte Access Economics scenario projections.

Looking at the longer term scenarios projections for employment on an occupational basis shows that for all scenarios, the occupations of Managers and Community and Personal Services Workers are projected to have the strongest employment growth. The employment growth of managers is driven by increasing economic sophistication over time, while growth in Community and Personal Services Workers reflects a steadily ageing population.

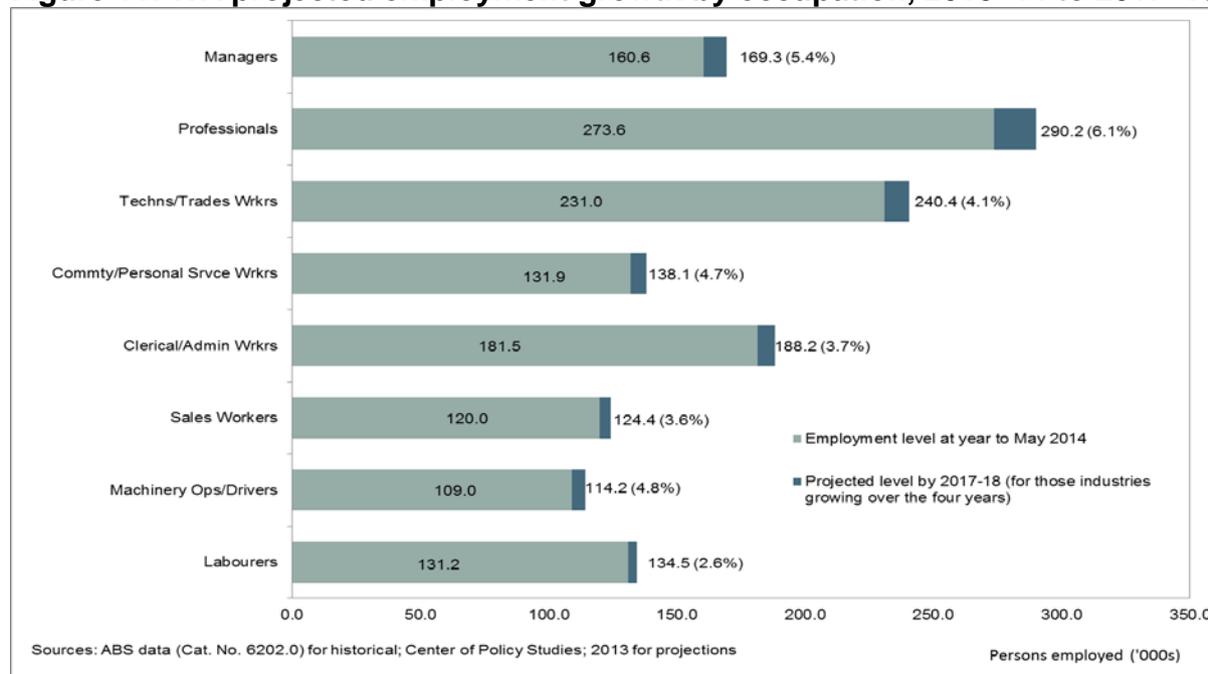
Professionals have the next strongest employment growth, reflecting a combination of a longer term moderation trend in mining, as well as growing demand in the State's service sectors. However, the scenario projections show the category of Clerical and Administrative Workers is expected to be impacted adversely by increasing technological change, with only moderate growth / declines out to 2030 under the four scenarios.

The short term forecasts produced by Victoria University's Centre of Policy Studies (as per their industry forecasts detailed above) are also broken down on an occupational basis. Such a breakdown shows that for the shorter term (the next four

¹⁷ This scenarios project was based on similar scenarios work completed by the former Australian Workforce Productivity Agency (AWPA). The scenarios themselves are not meant to be specific projections of the future, nor a continuation of past trends. Rather, each of the scenarios represents a possible, plausible and internally consistent 'alternative future' path for the State's workforce. The scenarios therefore not only provide a longer time frame to assist strategic planning, but also allow for a much richer appreciation of the possible impacts of many other key variables (such as population growth, workforce participation, economic growth and others). The additional usefulness of scenarios comes from the fact that no single set of forecasts is likely to be completely correct. See Appendix E for further detailed information on each of the scenarios, the project's key findings, and the project itself.

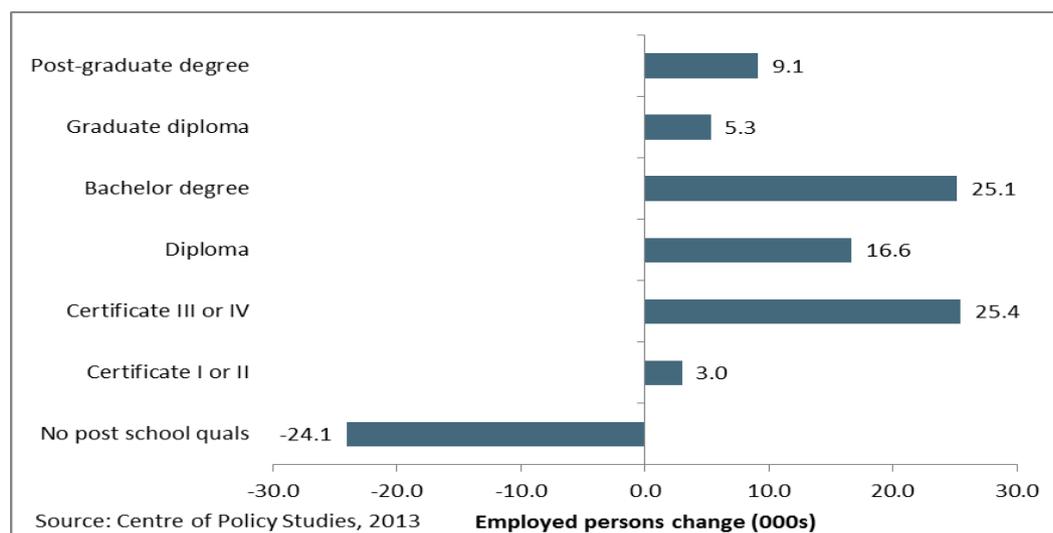
years), employment growth in the State is expected to occur mostly in higher skilled occupations (as shown by the darker blue parts of the bars in Figure 5 below).

Figure 11: WA projected employment growth by occupation, 2013–14 to 2017–18



The requirement by employers for higher skill levels over the next few years is reinforced by a breakdown of the same projections on a qualifications basis – as shown by the chart below, employment growth in the State is mostly expected to come from those jobs requiring at least a Certificate level III or higher. Those people with no post school qualifications are projected to experience a decline in employment.

Figure 12: WA projected employment growth by qualification, 2013-14 to 2017-18



Looking at the longer term scenarios projections for employment on a qualifications level basis also reinforces the State’s likely higher skills future. A consistent theme across all four of the scenarios is that as the State’s economy heads down the path of

being a higher skill / higher productivity economy over time, the qualification requirements within particular occupations likewise tend to rise over time.

Most notably, the share for those with no post-school qualifications is expected to go from its current share of around 41% (as from the ABS 2011 Census) to a much lower scenarios-derived range of between 26.9% to just 19.5%.

As well as the trend over time for the State's workforce to have a greater propensity to hold post-school qualifications, increasingly people are likely to hold more than one post-school qualification. This can occur as a result of further skills deepening (gaining an additional qualification at a higher level), or skills broadening (gaining an additional qualification at the same or lower level as one already held).

The preceding compositional examination of forecast short and longer term trends in the State's future employment growth shows that while demand is expected to be relatively mixed across industries, a key feature overall is that employment demand is expected to be increasingly dependent on higher skills, underscoring the importance of higher level qualifications and pathways into those higher level qualifications.

The mixed nature of the State's economic outlook also means it is likely that growth in new jobs will not be evenly spread across all sectors, meaning that there are still some areas where significant unmet demand for skilled labour will prevail. It is therefore expected that the challenges that have confronted employers in relation to the availability of suitable skills and labour, while being less acute than experienced in previous years, will remain to some degree into the foreseeable future.

Consistent with these themes, Western Australia's State Priority Occupation List¹⁸ (SPOL) for 2014 demonstrates the importance of maintaining the highly skilled workforce required for the State's labour market. Occupations ranked the highest on the 2014 SPOL are predominantly professional in nature, requiring either a University education or high level VET for entry.

Also, those industries heavily represented by occupations on the 2014 SPOL mostly relate to the health care and social assistance industry, highlighting the State's ageing population, and the related demands for services this will create.

Similar to SPOLs from previous years, the current SPOL for 2014 also retains a diverse mix, with other industries such as Education, Construction and Mining also having significant occupational representation.

In addition to the SPOL, this Plan relies on the Shares Model¹⁹ to provide an indication of how future training investment should be distributed in order to meet the future demand for new workers with VET qualifications.

¹⁸ The State Priority Occupation List (SPOL) is an annually-produced list of jobs that are considered critical to the State and/or have demonstrated significant unmet demand. The list informs training priorities through the State Training Plan (and subsequently the Priority Industry Qualifications List, or PIQL, under Future Skills WA), workforce development planning, Skilling WA and the Western Australian skilled migration occupation list (WASMOL). See Section 2.3 for more information on the SPOL and its construction.

¹⁹ The WA Shares Model is outlined in more detail in Section 2.3 of this document.

Similar to the 2014 SPOL, the Shares Model shows that for the top ten occupational groups that require increased training effort, the majority of these groups require high level qualifications.

Whilst identifying those occupational groupings where training effort should be increased, the Shares Model also shows where current effort exceeds forecast need.

This is evident for the occupational groupings of Carers and Aides and Health and Welfare Support Workers. However, because of the current and projected employment growth for this sector, the demographics of Western Australia's ageing population and the sector's overall importance to the State, it is considered important that training delivery be maintained at current levels. This is also supported by the findings of the *Workforce Scenarios and Projections – Western Australia* project undertaken for the Board.

Further information pertaining to the current 2014 SPOL and WA Shares Model can be found at Section 2.3.

It is important to note that the State's economy remains quite exposed to a very dynamic global economy, raising an appreciable risk that the State's labour market outlook could change quite rapidly.

Key global economic risks to the outlook remain, and include ongoing malaise with Europe's fiscal situation, Chinese economic development moving away from infrastructure building; the US economy's somewhat uncertain recovery path; and continuing geopolitical risks and instability in some parts of the world (including the many and varied current conflict 'hotspots').

The dynamics described above also underscore the importance of retaining a flexible approach to the planning and purchasing of training delivery.

Further information on specific risks relating to the outlook for the State's labour demand and supply trends can be found in Section 2.2.

Current policy settings

Policy settings at the national and State level guide the planning and purchasing of vocational education and training in Western Australia.

The Council of Australian Governments (COAG) has long term targets to 2020 aimed at ensuring more Australians achieve a qualification and that the number of higher level qualification completions is increased. This is set out in the National Agreement for Skills and Workforce Development (NASWD) between the Commonwealth and Western Australian Governments.

Under the NASWD, the National Partnership Agreement on Skills Reform (Skills Reform NP) contains key initiatives on Transparency, Quality, Efficiency and Access and Equity. The Skills Reform NP also requires the State to meet targets for overall VET completions and completions for:

- Higher level qualification (Cert III and above); and
- Qualifications for Aboriginal Australians, people with a disability, and regional and remote students.

It also requires a training entitlement model, which Western Australia implemented under *Future Skills WA* in 2014²⁰.

At the State level, the key policy settings for VET are outlined in:

- *Skilling WA – A workforce development plan for Western Australia*;
- *Future Skills WA: Training for tomorrow's opportunities*; and
- *Joint Ministerial Statement of Vocational Education and Training (VET) in Schools* and the Western Australian Certificate of Education reforms.

Skilling WA provides a whole-of-government framework for workforce development in Western Australia. A key strategic goal of *Skilling WA* is to provide a responsive and flexible education and training system which enables Western Australians to develop the skills necessary to take up emerging workforce opportunities and contribute to the State's economic growth. To achieve this goal, *Skilling WA* includes the following three strategies:

- increasing participation in education and training;
- increasing skills development and utilisation in the workplace; and
- enhancing the flexibility, responsiveness, capability and capacity of the education and training system.

Sitting under *Skilling WA* are the Regional Workforce Development Plans which aim to address the workforce planning and development issues specific to each of the nine regions of the State. Common issues across most regions include the attraction and retention of young people, increasing the participation of under-represented groups, housing availability and affordability and childcare.

Complementing *Skilling WA* is *Future Skills WA*, introduced on 1 January 2014.

Future Skills WA is a new way in which the State Government is prioritising and funding training. Under *Future Skills WA*, where there is an approved provider offering a place, eligible students are guaranteed a subsidised training place in State priority qualifications. This includes all apprenticeships and eligible traineeships and qualifications on Western Australia's Priority Industry Qualification List.

State priority qualifications align to skilled occupations that are considered critical to the State and/or have significant unmet demand. Students are encouraged to train for jobs in areas that will lead to employment, while at the same time helping to ensure industry has access to the skilled domestic workforce it requires today and into the future. The determination of State priority qualifications is informed by the State Priority Occupation List (SPOL) and other policy considerations.

Under *Future Skills WA*, fees have been restructured to reflect the relative priority of qualifications, with State priority qualifications attracting very high rates of subsidy. A range of fee assistance measures have also been introduced to assist eligible students. These include fee caps, a continuation of concession arrangements and the availability of VET FEE-HELP loans for State funded Diploma, Advanced Diploma and selected Certificate IV qualifications with approved training providers.

²⁰ Section 2.4 provides further information on National VET priorities

Supporting Western Australians to take up training through apprenticeships and traineeships remains a key priority under *Future Skills WA*. Apprenticeships and traineeships are an important learning pathway for young people and combine practical work with structured training leading to valuable qualifications.

Foundation skills are fundamental to participation in the community, the workplace and education and training. Through *Future Skills WA*, Western Australians are provided with opportunities to access foundation skills training to assist them with improving their literacy, numeracy and employability skills. This will improve training pathways and provide support for new entrants so that they are able to transition to higher level qualifications and employment.

Vocational Education and Training (VET) in schools is an important part of Western Australia's training sector. The VET in Schools program provides students with opportunities to gain a nationally recognised qualification, workplace experience and skills development whilst completing their secondary education.

To ensure that the VET in Schools program continues to be beneficial for both students and industry, a commitment has been made to improving the quality and outcomes of VET in Schools in Western Australia.

Whilst there has been an expansion of VET in Schools over the years, to enhance the program it was apparent that a clear 'student centred' strategy that took into account the complexities of changing national and State VET policy settings would be required. Changes to the Western Australian Certificate of Education (WACE) from 2015 also provided an opportunity to examine the VET in Schools program.

In April 2014, the Minister for Training and Workforce Development and the Minister for Education released the *Joint Ministerial Statement on Vocational Education and Training (VET) in Schools*.²¹ It sets a clear strategic direction in response to the WACE reforms and affirms the importance of the program as a valuable pathway for senior secondary students. It also provides direction as to how best meet the needs of students undertaking VET qualifications during the senior secondary years.

Shaping the training profile in Western Australia

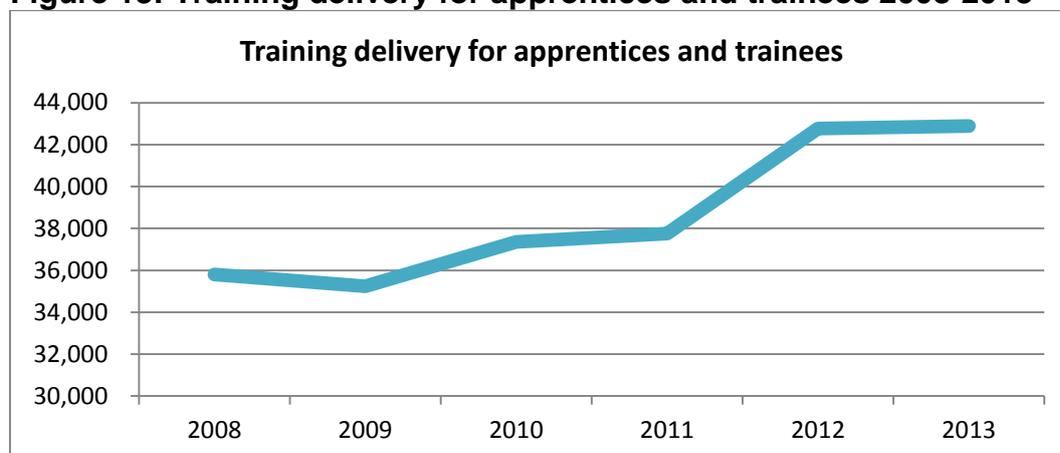
The priorities of previous State Training Plans have aimed to shape the investment in training to ensure that it is responsive to the needs of industry and the community.

Each State Training Plan has built on the achievements of previous Plans in order to encourage growth in apprenticeships and traineeships and the delivery of higher level qualifications (Certificate IV and above). This is illustrated in the graphs below which show that since 2008, the number of apprentices and trainees have increased by over 19% and the delivery of higher level qualifications has grown by over 35%.

²¹ A copy of the Joint Ministerial State on VET in Schools can be found at: <http://vetinfontet.dtwd.wa.gov.au/VETinschools>

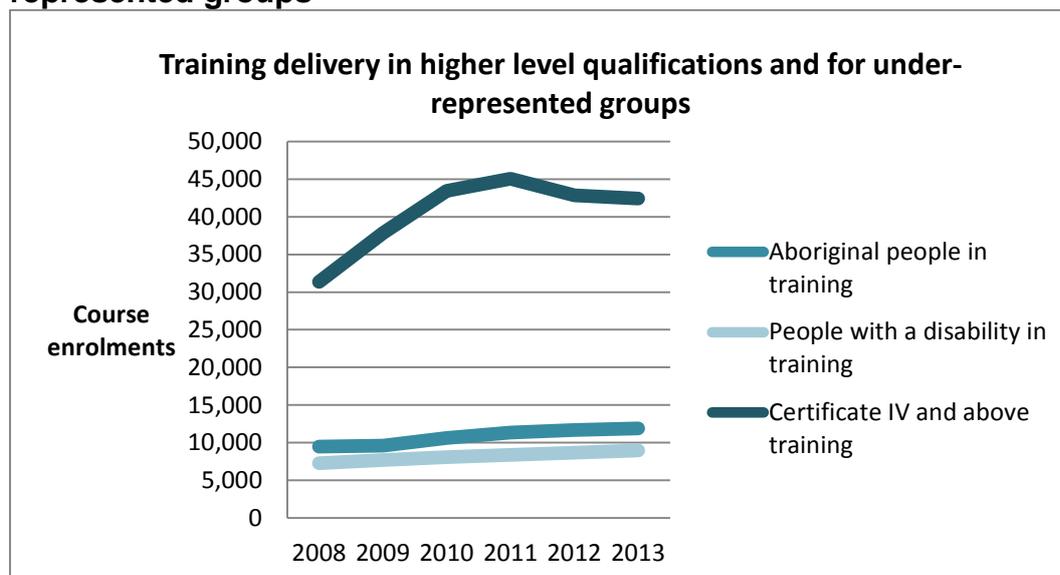
Increasing training opportunities for those under-represented groups such as Aboriginal people and people with a disability has also been positive with increases in training delivery for these groups of 25.4% and 23.4% respectively.

Figure 13: Training delivery for apprentices and trainees 2008-2013



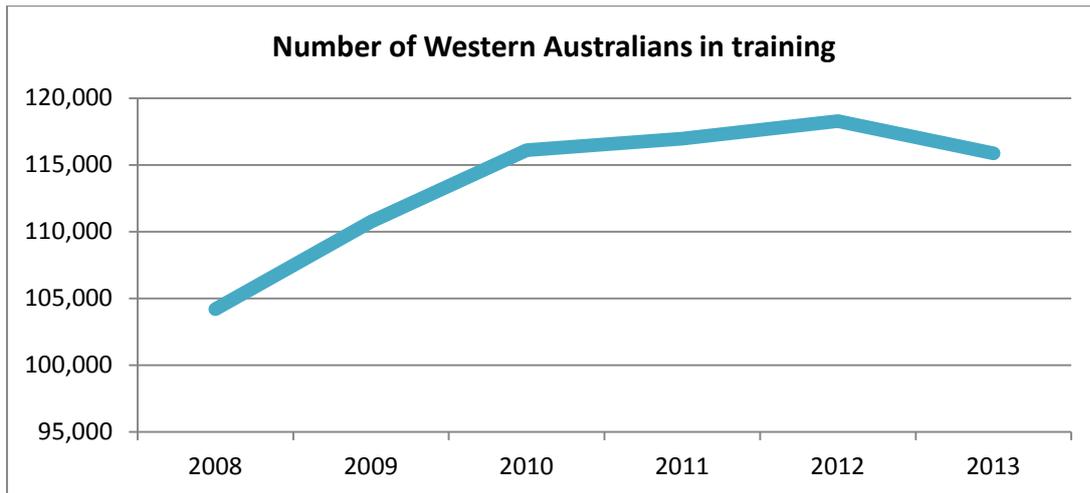
Note: For a breakdown of apprentice and trainee numbers see Figure 45 in Section 2.6– *Progress towards State Training Plan Priorities*.

Figure 14: Training delivery in higher level qualifications and for under-represented groups



Since 2008, overall participation in training has grown by 11.2% with the State experiencing a slight decrease of 2% in the number of clients in training between 2012 and 2013. This is despite the quantum of course enrolments and training effort remaining stable during this period.

Figure 15: Participation in training



Previous State Training Plans have also identified training priorities to support the growth of occupations deemed important to the State. These include the occupational areas of managers, professionals, machinery operators and drivers, technicians and trades workers, and community and personal service workers.

In relation to these occupational priorities, the levels of training delivery have increased for many of these occupational groups including:

- farmers and farm managers;
- specialist managers;
- ICT professionals;
- automotive and engineering trades workers;
- electrotechnology and telecommunications trades workers;
- food trade workers;
- health and welfare support workers; and
- carers and aides.

Further details on the training delivery for all occupational groups for the period 2011-2013 are provided in Section 2.6 of this document.

It is also encouraging that *Future Skills WA* is achieving its objective responding to the State's priority skill needs as originally targeted.

The implementation of *Future Skills WA* is being closely monitored and preliminary findings²² by the Department of Training and Workforce Development show that there has been an overall increase of 2% for enrolments in priority qualifications. Data has also shown that the number of enrolments for Aboriginal students has also increased by 3.6%.

At the same time, the findings by the Department have shown that at this stage, there has been a decline in the demand for general industry training. Whilst this training is not subject to the guarantee of a subsidy under *Future Skills WA*, it is still considered important in meeting the workforce needs of the State.

²² Findings are based on available validated enrolment data for period January-March 2014.

This decline is a concern for the State Training Board and *Future Skills WA* will continue to be monitored on an ongoing basis to ensure that there are no unintended consequences. This monitoring process will also provide guidance on how the qualification pricing framework inherent within *Future Skills WA* may also influence student choices and therefore the supply of qualifications.

WA Training Priorities

As in previous years, the priorities outlined in the State Training Plan 2015-2018 have been based on detailed analysis of economic and labour market data and forecasts supported by industry intelligence. The priorities have also been aligned within the context of State and national VET priorities, including the policy settings within *Future Skills WA*.

As seen in the labour market outlook for the next few years, employment growth in Western Australia will continue to remain moderate, with the unemployment rate likely to be stable, around 5% to 5.5%. An expected slowing in working age population growth, driven by ageing demographics, as well as recent rises in youth unemployment, reinforce the importance of engaging and transitioning young people into the workforce.

It is acknowledged that while there are mixed areas of expected growth, there are specific industries such as health care and social assistance where solid growth is expected. This is evident in Victoria University's Centre of Policy Studies forecasts and the State Training Board's *Workforce Scenarios and Projections – Western Australia* project.

The Plan also takes into account the projected growth for those occupations which require higher level skills such as managers and professionals and recognises that growth for technicians and trades workers is moderating (albeit from past strong growth). This is again supported by the Centre of Policy Studies work and the findings of the *Workforce Scenarios and Projections – Western Australia* project.

The importance of maintaining a highly skilled workforce is also reinforced by the occupations identified in the State Priority Occupation List (SPOL) and the outcomes from the 2014 WA Shares Model.

The findings of the "Scenarios" project reinforce the importance of the healthcare and social assistance industry due to the ageing population.

Maintaining current training efforts in the abovementioned areas is supported by the 2014 SPOL where, notwithstanding there is occupational representation from industries such as education, construction and mining, the most heavily represented occupations come from the health and social assistance industry.

Key Imperatives

To ensure that Western Australia can deliver the training and workforce development outcomes required by industry and the community, the State Training Plan 2015-2018 acknowledges the following set of key imperatives.

Occupational priorities – It is critical that training delivery is focussed on those occupations linked to growth industry sectors which will assist the State to boost productivity and to gain a competitive advantage in the global economy.

Supported in *Skilling WA*, this is further reinforced through *Future Skills WA* where Western Australians are provided with greater opportunities to access priority training in those occupations where there will be future demand by industry.

Higher qualifications – Increasing the skill levels of all Western Australians remains critical to supporting the State's economy and at the same time, fostering greater workforce participation by all.

Increasing the number of higher level qualifications is one of the long term targets (to 2020) of the National Agreement on Skills and Workforce Development. *Future Skills WA* has been designed to support this objective and focuses on the delivery of higher level qualifications.

Under-represented groups – Increasing participation in the workforce among mature aged workers, people in regional areas, Aboriginal people and people with a disability is essential in order to grow the State's workforce.

Increasing the qualification completions for under-represented groups is included as a target within the Skills Reform NP and this imperative is reinforced in *Training together – working together* which identifies strategies to improve employment and training outcomes of Aboriginal people in Western Australia. In addition, identifying the workforce development and training needs within regional areas are captured within the workforce development plans for the nine regions of the State.

Young people – Supporting young people in making a more effective transition to higher education and training, and employment.

This objective has recently been reinforced with the launch of the *Joint Ministerial Statement on Vocational Education and Training (VET) in Schools* which provides the strategic direction on improving vocational pathways for secondary school students. The need to train young people to be qualified to meet the skills needs of the State are also supported by the State Training Board's projects including *Youth Matters: a study of youth education, training, employment and unemployment in Western Australia*, and *Workforce Scenarios and Projections – Western Australia*. Regional and Industry Workforce Development Plans have also highlighted the key challenges that relate to the engagement and transitioning of young people into employment and have identified priority actions to address these issues.

Pathways to VET and University – Strengthening Vocational Education and Training (VET) and higher education pathways, particularly for young people is important in order to meet the higher skills required by Western Australian industry.

This is supported by the findings of the *Workforce Scenarios and Projections – Western Australia* report and has also been highlighted in the *Independent Review of the VET Sector in Western Australia 2013-2014*²³.

In summary, the State and national policy settings and the occupational priorities are similar to those in the previous State Training Plan 2014-2017. However the policy imperatives, the work of the Board's *Workforce Scenarios and Projections – Western Australia* and the initial findings of *Future Skills WA* implementation indicates that there is a requirement for the VET sector to place greater emphasis on:

- young people and pathways;
- regions;
- pathways to university; and
- meeting the challenge of an ageing population.

The work of the State Training Board through *Workforce Scenarios and Projections-Western Australia* also indicated that further consideration should be given to the impact of technology in the workforce and workforce mobility. This will be further explored by the Board in the next 12 months.

Recommended Training Investment Priorities 2015-2018

The following recommended priorities are aligned to the current and future needs of the State and the imperatives outlined above.

It should be noted that whilst previous plans have focussed on occupational priorities, the recommended priorities in this year's Plan are pitched at a more strategic level, taking into account not only the implementation of *Future Skills WA*, but also the findings of research work undertaken by the State Training Board.

These priorities will continue to provide guidance to the Department of Training and Workforce Development on the areas that should be given emphasis in the purchase of training from the State Training Providers and private providers.

It should also be noted that the provision of training is largely demand driven and occurs across a wide range of qualifications including apprenticeships and traineeships, priority industry training and general industry training qualifications.

This State Training Plan 2015-2018 will continue to apply the '80/20 rule' whereby a large part of the training needs are addressed by meeting the demand of consumers, that is, students and employers.

It is recommended that the priorities listed below be applied to the development of *Future Skills WA* policy settings for 2015.

²³ Emeritus Professor Margaret Seares (2014) – The report is available at www.dtwd.wa.gov.au - ([Annual reports, publications and presentations](#)).

PRIORITIES

Occupational priorities

Continued focus on:

- ❖ apprenticeships and traineeships;
- ❖ those qualifications that are a priority of industry (those listed in the Department of Training and Workforce Development's Priority Industry Qualifications List); and
- ❖ essential foundation skills.

Youth

Stronger emphasis on pathways to higher level qualifications and/or employment

Addressing language, literacy and numeracy (LLN) skills with continued emphasis on foundation skills training.

Under-represented groups

Continued emphasis on training opportunities for Aboriginal people, people with a disability and those people living in regional and remote areas.

Addressing language, literacy and numeracy (LLN) skills with continued emphasis on foundation skills training.

Ageing population

Continued emphasis on training for health and community services occupations.

In addition to the above, it is recommended that further consideration be given to increasing pathways to University.



2. PART TWO

2.1. Planning Process

Purpose of the State Training Plan

The Western Australian training system is guided by the *Vocational Education and Training Act (VET Act) 1996*. An important objective of the *VET Act* is to establish a training system to meet the current and future workforce needs of industry and the community.

In accordance with section 21 (1) (a) of the *VET Act*, the State Training Board is required to prepare an annual State Training Plan (the Plan) for the Minister's approval.

The Plan guides the investment priorities for the training system in Western Australia over a four year period. This allows the State Government to 'shape' the profile of training into the medium term to meet industry's needs and accommodate the yearly fluctuations that can occur in the economy and labour market. It also provides some certainty for prospective students in what courses are deemed as a priority and for training providers to manage their delivery offerings over time.

The priorities recommended in the State Training Plan inform the development of the policy parameters for *Future Skills WA* on an annual basis.

The key training investment priorities are reflected in the Delivery and Performance Agreements for State Training Providers and for the tender process for competitively allocated funds. Further details regarding the procurement of the training priorities identified within the State Training Plan are included in Section 2.8 of this document.

Process to develop the State Training Plan

The State Training Plan 2015-2018 identifies training priorities aimed at maximising the State's workforce capacity and capability.

The development of the State Training Plan is an annual and cyclical process, and a number of key elements feed into the Plan including:

- State and national VET priorities;
- Analysis of economic, labour market and demographic data;
- The State Priority Occupation List;
- Western Australian Shares Model;
- Industry liaison and advice, particularly through Training Council Industry Workforce Development Plans and input on priority occupations;
- Regional advice, predominantly through the Department's Regional Workforce Development Plans; and
- Other relevant research and reports undertaken by the State Training Board including *Workforce Scenarios and Projections – Western Australia*

The State Training Plan recognises the State Government's *Future Skills WA: Training for tomorrow's opportunities*, implemented on 1 January 2014.

Introduced as part of the national skills reform, *Future Skills WA* provides Western Australians with a guaranteed government subsidised place at a training provider of choice, where the enrolment is in a qualification that meets the priorities of the State.

These qualifications align to those occupations which are deemed to be a high priority for industry in Western Australia. Further details on *Future Skills WA* are included in Section 2.4.

The State Priority Occupation List (SPOL) and the WA Shares Model are important foundations for the State Training Plan and both contribute to determining those qualifications guaranteed under *Future Skills WA*.

The State Priority Occupation List is an annually produced list that includes those occupations that are deemed industry-critical, where there is demonstrated significant unmet demand in Western Australia or are experiencing non-market related factors influencing the requirement for training.

The State Priority Occupation List is based on economic and labour market analysis and advice from Training Councils on occupational priorities in the industries they cover.

The Shares Model is an econometric model that provides an indication of how future training resources should be distributed in order to meet the future demand for workers in Western Australia.

Further detail on both these tools is provided in Section 2.3 of this document.

Planning process framework

The diagram (Figure 16) on the following page provides an overview of the planning framework for the State Training Plan 2015-2018. The various elements are described in further detail in Sections 2.3-2.5 of this document.

Figure 16: State Training Plan planning process framework





2.2. Western Australia's Economy and Labour Market

In identifying priorities for the State Training Plan 2015–2018, important considerations are current conditions in Western Australia's economy and labour market, including the outlook over the next few years²⁴.

The Western Australian economy is undergoing some significant transitional changes, both in respect to the mix of skills required by employers, and trends in labour supply and participation.

Continuing global uncertainty and weaker commodity prices have combined with rising input costs to moderate the prospects for the State's pipeline of major resource projects.

The slowdown in new major resource projects being announced in recent years is in contrast to the past strong growth for such projects, with many existing resource projects now progressing from construction to operations.

Given the importance of linkages between resource sector investment and other parts of the State's economy, the transitioning of many major projects from constructions to operations is also expected to have had indirect effects for some other industries in Western Australia²⁵.

Business investment in the State has been contracting since its peak²⁶ in late 2012. This moderation in investment has coincided with a softening in the State's labour market over 2013 and so far into 2014.

Even so, Western Australia continues to benefit from resources sector investment. While Deloitte Access Economics' *Investment Monitor* showed that the State had around \$236.8 billion worth of confirmed or potential major investment projects as at June 2014 (a decrease of 4.4% over the previous year), this still equated to a significant 27.1% share of the national total value of such projects.

An important offset to the moderation in resources construction has been the strong growth recorded in the volume of residential construction work carried out in the State over the 12 months to March 2014, which was 19.9% higher than the previous period²⁷.

Despite the slow-down in resources construction²⁸, the Construction industry as a whole still managed to record very strong employment growth of 8.4% over 2013–14

²⁴ While this section focuses on mostly cyclical aspects, for some brief context on the structural aspects and other key characteristics of the State's labour market, see Appendix D.

²⁵ Key linkages from the resource sector are to the State's construction industry, as well as to other support service related industries such as Professional, Scientific and Technical Services. Source: Chamber of Minerals and Energy, KPMG *Economic reach of the Western Australian resources sector, July 2013*.

²⁶ The national accounts (ABS, 5206.0) for the March quarter 2014 show that Business Investment has now had five quarters of decline since the December quarter 2012.

²⁷ Source: ABS Cat. 8752.0.

²⁸ It is estimated that of the 141 500 employees working in the Construction Industry over 2013–14, approximately 27 000 employees were working on resource industry infrastructure construction projects. *Construction Training Council, WA Construction Industry Snapshot, July 2014*.

(equating to an additional 10 900 workers employed, from an average of 130 500 for 2012–13, to an average of 141 400 over 2013–14). Construction is currently the highest employing industry in the State, accounting for 10.6% of all employees. While some of the recent growth in construction employment is likely to have consisted of construction workers moving work on major resource projects over into non-resource construction jobs, current data availability mostly precludes estimating the likely numbers of such instances.

However, information from the Building and Construction Industry Training Fund²⁹ (BCITF) is that the BCITF provided subsidies for short skills training and occupational safety and health training for a combined total of 18,335 workers in 2013-14, a reduction of 31% on the same figures for 2012-13.

The private training providers experiencing the downturn have told the BCITF that a key reason for the reduction in training demand has been the sizable influx of construction workers who had previously been working on resource-related projects in the North West region of the State. These workers already have their certification and/or required tickets (for rigging, occupational safety and health etc) and said to be filling places in the industry in the traditional sectors of the construction industry.

The BCITF also broadly estimates that the number of construction workers in the resources sector (approximately 20,000 currently) has seen a considerable decline over the past year (from around 33,000 in July 2013)³⁰.

However, while local construction workers (ex-resource sector) are helping to meet the labour demands of the non-resource construction industry, not all of these workers will be able to fit into the residential sector or other construction roles easily (some level of direct 'on-the-job' training may be required, some skill sets may not be directly transferable, and in addition, some workers are likely to suffer a pay cut moving from resources to construction).

The June quarter 2014 *Curtin Business School – CCI Survey of Consumer Confidence* showed that consumers in the State are now more pessimistic in respect to the State's economic outlook for the next year, with the 39% who expect a deterioration outnumbering the 29% who expect an improvement. The same survey showed that this pessimism was being reflected in consumers' perceptions of their financial position, with the index for this measure remaining at historically low levels (around 100, which is broadly 'neutral'). The survey also showed consumers rated 'buying conditions of major household goods' as positive (at an index of about 128), with the 38% who rated buying conditions as 'good' outnumbering the 14% who rated them as 'poor'³¹. However, the consumers attitude towards buying a property slumped down (at an index of 64), with the 22% felt buying conditions as 'good' compared to 42% who felt them as 'poor'.

Reflecting some of this pessimism in consumer sentiment, retail sales (a partial indicator of household consumption) declined in Western Australia over the past year, with levels of retail turnover per capita falling by 1.0% in real terms over the March

²⁹ Information provided informally from the BCITF to the Department of Training and Workforce Development, August 2014.

³⁰ BCITF; *Construction Industry Snapshot, WA; July 2013*

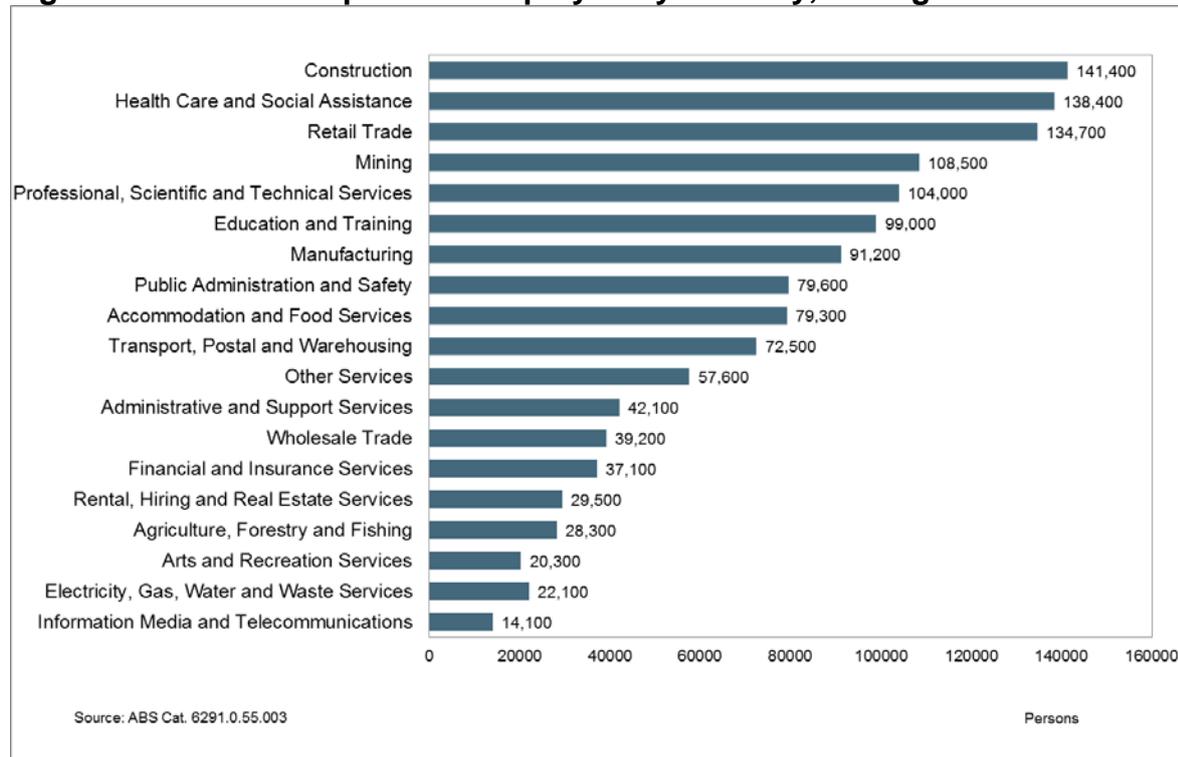
³¹ *Curtin Business School – CCI Survey of Consumer Confidence*, March quarter 2014

2014 quarter, and by 0.5% over the year³². Related to this, the Retail Trade industry (the State’s third largest employing industry – accounting for 10.1% of total jobs) recorded a decline in employment growth of 1.4% over the past year (a decrease of 1 900 workers, from an average of 136 600 over 2012–13, to an average of 134 700 employees over 2013–14).

In respect to other key employing industries in the State, employment levels in Health Care and Social Assistance were slightly lower over the year (down 2 200 workers, from an average of 140 600 over 2012–13, to an average of 138 400 over 2013–14). Health Care and Social Assistance is the second highest employing industry in the State with 10.3% of all employees. Mining employment also saw a decrease (of 5.3%, equating to around 6 100 less workers, from an average of 114 600 over 2012–13, to 108 500 over 2013–14). It should be noted that Mining’s contribution to Gross State Product (GSP)³³ is the highest of all industries, providing 29.2% of GSP in 2012-13, yet it only ranks as the fourth largest employer in the State (with 8.4% of all employees) due to its capital intensive nature.

The relative importance of the four industries mentioned above (Construction, Health Care and Social Assistance, Retail Trade, and Mining) is highlighted by the fact that they are responsible for employing almost 40% of all workers in the State, yet only Construction recorded an increase in employment over 2013–14. The following chart shows current employment levels for all industries in the State.

Figure 17: Number of persons employed by industry, average over 2013–14



Other notable industries to record strong jobs growth over the 2013–14 year were Transport, Postal and Warehousing (8 500 extra workers); Accommodation and Food Services (7 600 additional workers); Public Administration and Safety (6 600

³² Source: ABS Cat. 8501.0, Retail Sales.

³³ Source: ABS Cat. 5220.0, State Accounts, 2012–13 (current prices).

extra workers); and Rental, Hiring and Real Estate Services (6 200 additional workers); demonstrating the broad based nature of recent employment growth in the State.

Industry-specific employment growth has also reflected the State's somewhat mixed economic conditions, with another seven industries (further to Retail Trade, Healthcare and Social Assistance, and Mining) recording falls over the year. The following industries recording a decline in employment: Administrative and Support Services industry (down 6 100 workers); Agriculture, Forestry and Fishing (down 5 700 workers); Wholesale Trade (down 2 600 workers); Arts and Recreation Services (down 2 300 workers); Information Media and Telecommunications (down 1 700 workers); Education and Training (down 800 workers); and the Manufacturing industry (down 400 workers).

However, sometimes such employment changes (as outlined above) can noticeably fluctuate on a year to year basis. The table following shows the longer term trends in employment by industry in the State – most noticeably, the key drivers of growth over the past decade have been Mining (70,200 additional workers) and Construction 57,975 additional workers), reflecting the predominant effect the resource expansion phase has had for employment growth in Western Australia.

Table 3: Employment changes over time in Western Australia's labour market

WA EMPLOYMENT BY INDUSTRY	Current size: (2013-14)	Difference in 2013-14 employment levels, relative to:			
		One year ago	Three years ago	Five years ago	Ten years ago
Agriculture, Forestry and Fishing	28,325	-5,675	-11,400	-13,200	-19,300
Mining	108,500	-6,100	19,800	43,450	70,200
Manufacturing	91,150	-400	3,325	-8,325	4,350
Electricity, Gas, Water and Waste Services	22,100	0	5,225	2,875	13,375
Construction	141,425	10,925	9,525	16,350	57,975
Wholesale Trade	39,200	-2,600	-750	-2,000	-425
Retail Trade	134,675	-1,950	7,200	-3,200	18,850
Accommodation and Food Services	79,325	7,575	8,250	11,800	21,875
Transport, Postal and Warehousing	72,450	8,450	15,125	9,625	25,950
Information Media and Telecommunications	14,100	-1,700	-525	-25	-1,925
Financial and Insurance Services	37,125	4,275	8,775	8,075	10,600
Rental, Hiring and Real Estate Services	29,450	6,175	7,525	5,875	8,925
Professional, Scientific and Technical Services	103,975	1,200	15,925	30,350	45,050
Administrative and Support Services	42,125	-5,975	-275	5,750	4,975
Public Administration and Safety	79,550	6,625	6,075	6,700	28,350
Education and Training	99,000	750	4,100	15,625	22,575
Health Care and Social Assistance	138,350	-2,250	18,800	19,225	44,800
Arts and Recreation Services	20,250	-2,275	-625	-275	5,375
Other Services	57,575	3,800	1,925	7,800	10,250
Total	1,338,800	20,900	118,075	156,625	372,025

Source: ABS Cat. No. 6202.0

However, the table also shows evidence of longer term structural changes in employment in the State, in respect to most of the industries that have seen contractions in employment levels (denoted as red in the table above). In particular, the Agriculture, Forestry and Fishing industry has seen a consistent downward trend in employment, mostly due to technology change and related productivity improvements in the industry, together with variable weather conditions and (towards the latter part of the decade) a persistently higher Australian dollar.

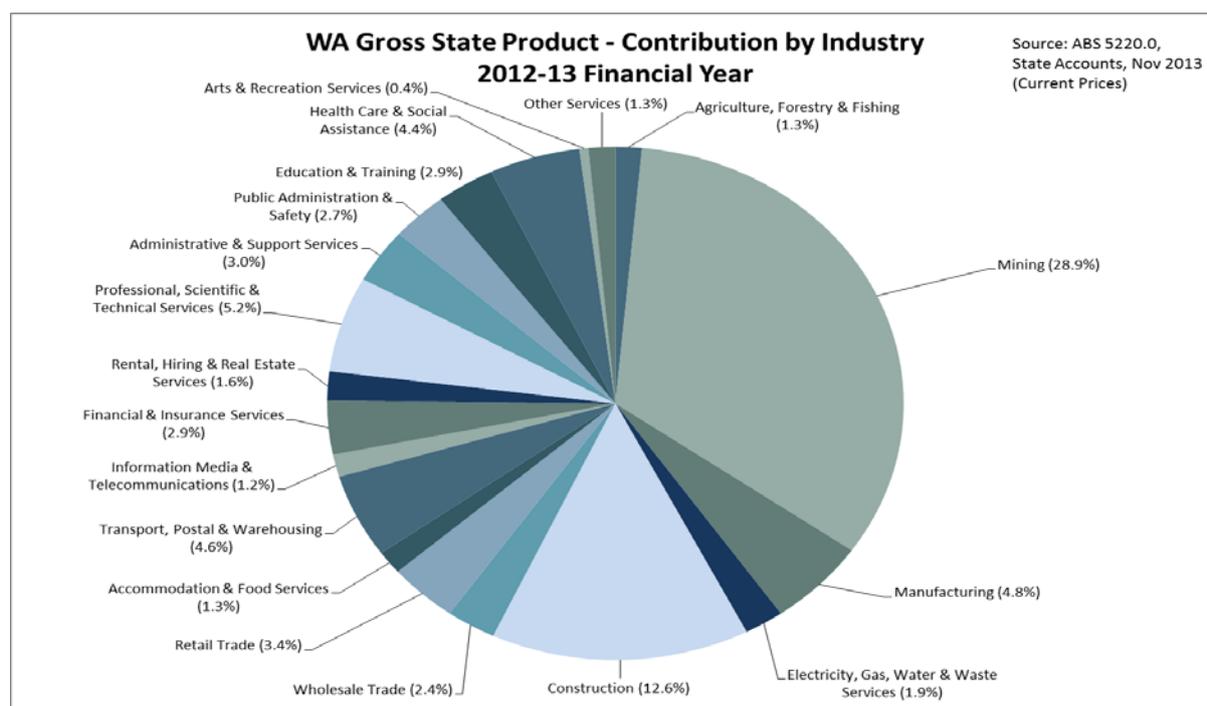
The Information Media and Telecommunications industry has also seen declines, likely due to the nature of the quite dynamic nature of the industry itself (in respect to

declines in traditional media use, labour productivity trends, and similar). Similarly, Wholesale Trade has seen falls too, likely due to trends in the Retail industry more broadly (for e.g. better integrated supply chains, 'just in time' ordering, and other similar logistics and productivity trends).

Employment levels in the State's Manufacturing industry have been somewhat more erratic across the past decade (as shown in the preceding table). The industry has been affected by factors such as tariff reductions, increasing globalisation trends (especially the outsourcing of tasks to lower cost economies), the high Australian dollar and changing technologies / consumer preferences³⁴.

In terms of each industry's contribution to the State's overall economy, the chart below shows that Mining and Construction are key components (for Mining in particular, the industry's share of the economy (28.9%) is much larger than its corresponding share of employment in the State for the same period (8.7%), due to the capital intensive nature of the industry).

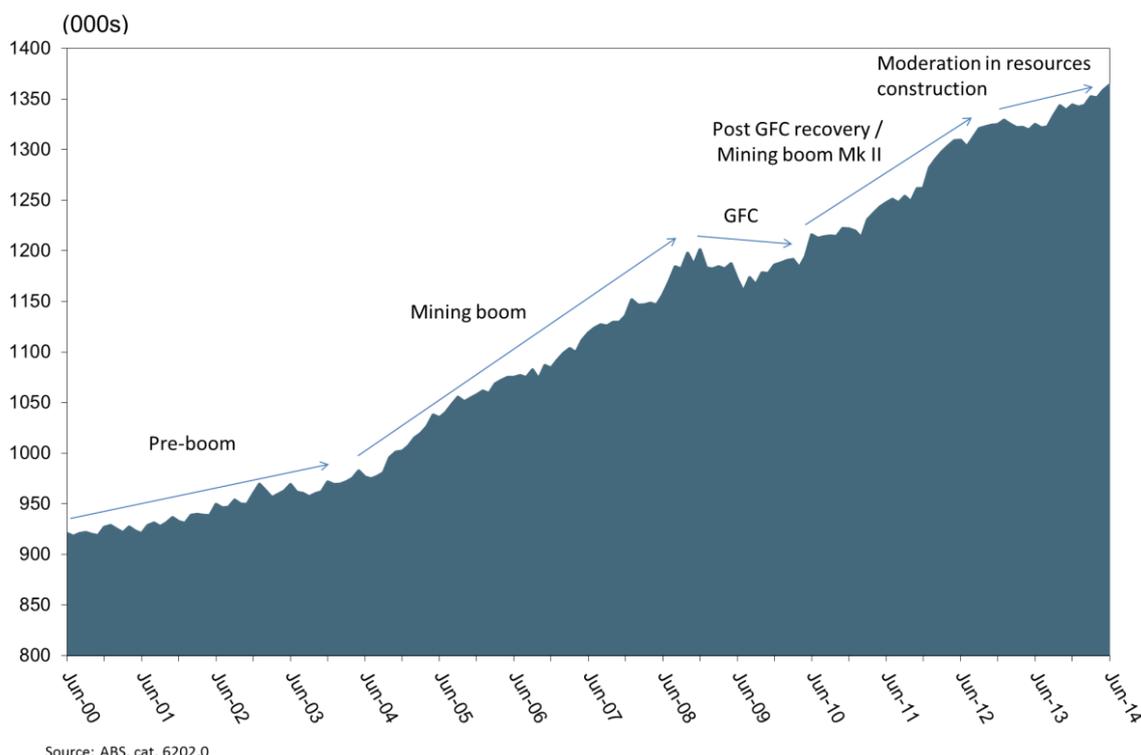
Figure 18: Industry contributions to Western Australia's economy (2012-13)



Overall, the State recorded annual average growth in employment of 1.6% over 2013–14. While this growth rate was higher than the equivalent growth rate nationally over the past year (of just 0.7%), it was below the State's average yearly rate recorded over the past decade of 3.3%.

³⁴ However, manufacturing in WA (relative to most of Australia) is more focused on manufacturing of food, niche products and especially resource-related value adding (such as bauxite to alumina processing) – for example, it does not have the same exposure to car manufacturing as other states. This mostly explains the divergent trends that have seen manufacturing employment in the State grow by about 5% over the past decade, compared to a fall of around 9% for the industry nationally.

Figure 19: Western Australia's employment levels



Softening labour demand has been reflected in employer hiring, with full time jobs growing by only 0.5% over the past year, compared to 4.7% growth in part time jobs.

This pattern was also reinforced by the overall volume of hours worked in the State over the past year, which at a growth rate of just 0.9% was significantly lower than the rate at which jobs grew by.

Despite softer labour demand in the State, Western Australia's unemployment rate³⁵ increased only moderately over the past year, from an average of 4.4% over the previous year, to an average rate of 4.8% over the year to June 2014. This was easily the lowest of all states (the next lowest was New South Wales, averaging 5.7% over the past year), and also considerably below the annual rate for Australia of 5.8%.

One of the key reasons the State's unemployment rate remained relatively low over the past year was that lower labour market participation accompanied the softening trend in labour demand, with the State's labour market participation rates³⁶ averaging 68.2% over the year to June 2014, which was significantly lower compared to an average rate of 69.0% a year prior.

Indeed, if not for declining rates of labour market participation, the State's unemployment rate could have been around 0.8 of a percentage point higher³⁷.

³⁵ Source: ABS Cat. 6202.0.

³⁶ These are calculated as the total labour force as a share of the total civilian population (aged 15 or over).

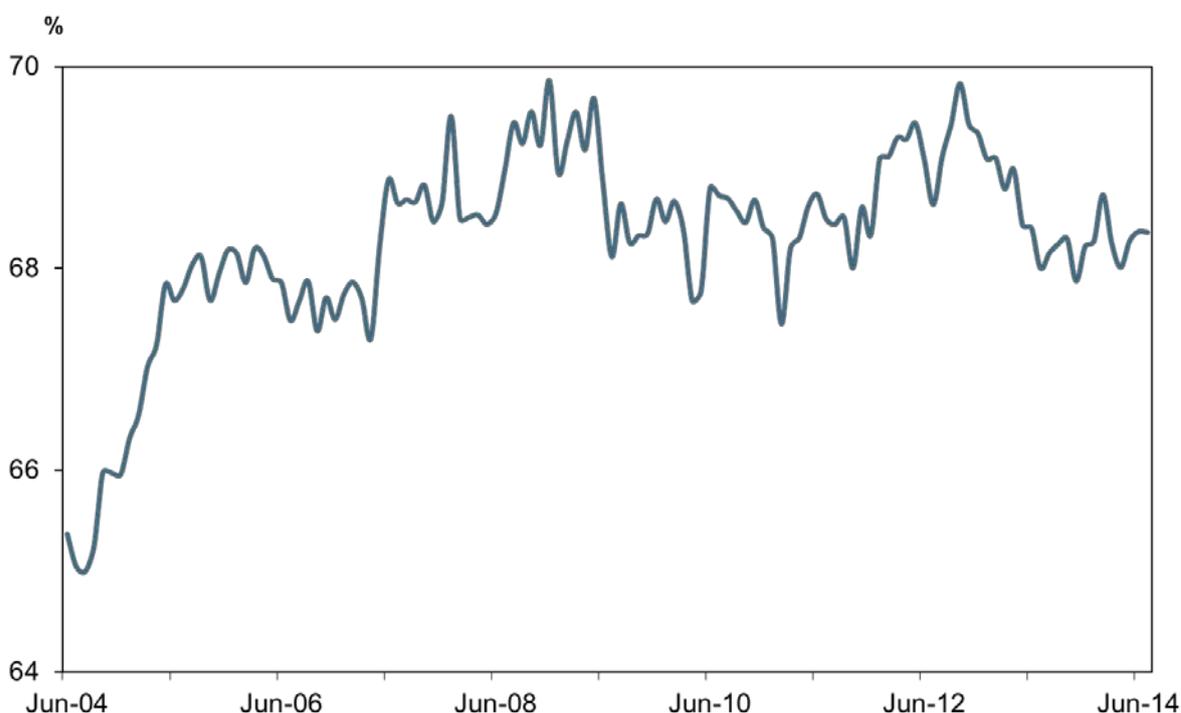
³⁷ On a presumption the vast majority of additional participating workers would not be able to find jobs.

Similar to national trends, the ageing of the State's population is a key driver of the downward trend in participation, with increasingly greater proportions of the State's population currently at (or nearing) retirement age.

To some degree also, the State's recent softening in labour demand is likely to be another of the drivers of the recent drop in participation observed for Western Australia, with some workers possibly being discouraged from looking for work by current labour market conditions³⁸.

The following chart shows the sharp drop and volatility in the State's participation rate that has occurred since late 2012. It is cautioned that for this data, it is not possible to precisely determine over time all of the reasons for people at the 'periphery' of the State's jobs market either deciding to seek work (or continue working), or deciding not to work.

Figure 20: Labour force participation rate – Western Australia

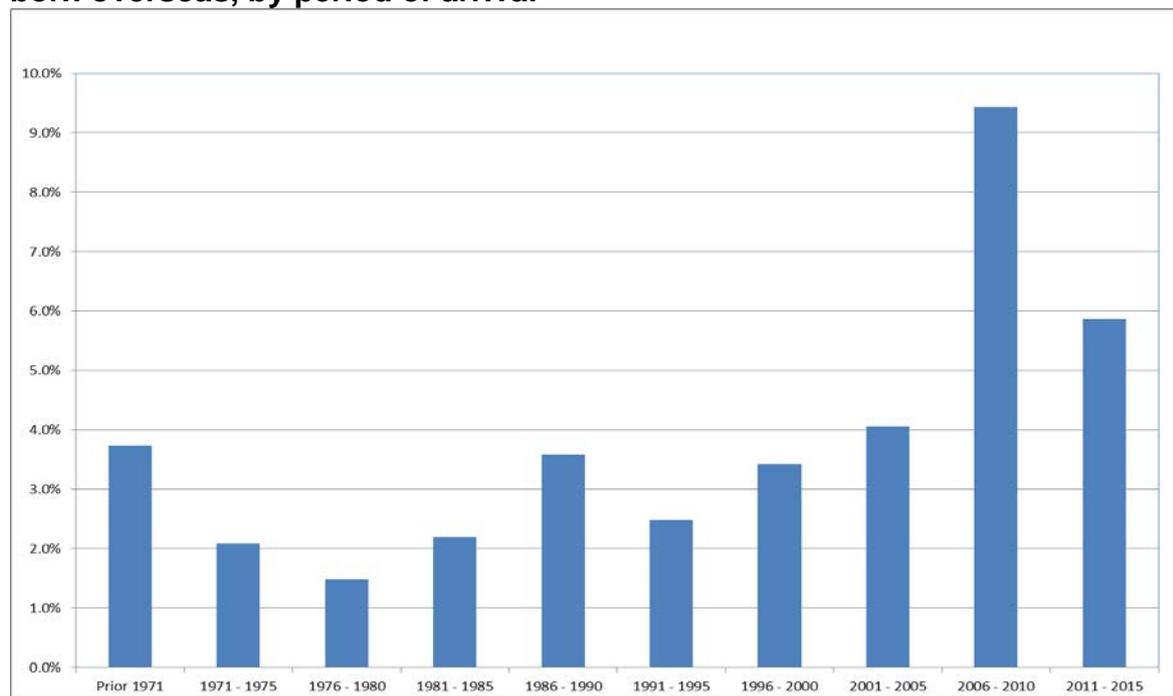


Source: ABS cat. no. 6202.0

Migration to Western Australia has been an important aspect of our skilled supply makeup over recent years, and historically as well. The Australian Bureau of Statistics has data on the State's pool of employed persons, split into those born in Australia, and those born overseas (with the latter group of migrants split into five year 'windows' of arrival into Australia), as shown by the chart below.

³⁸ Discouraged workers are those workers not currently employed, and who are available and able to work, but who are not currently actively seeking work, due to labour market conditions (i.e. they have temporarily or permanently given up looking for work). As they are not 'actively seeking employment', such persons do not come under the definition of unemployed (and are also excluded from participation rate calculations). However, there is no regularly reported data on the number of discouraged workers at the State level.

Figure 21: Western Australian employment - proportions of employed persons born overseas, by period of arrival



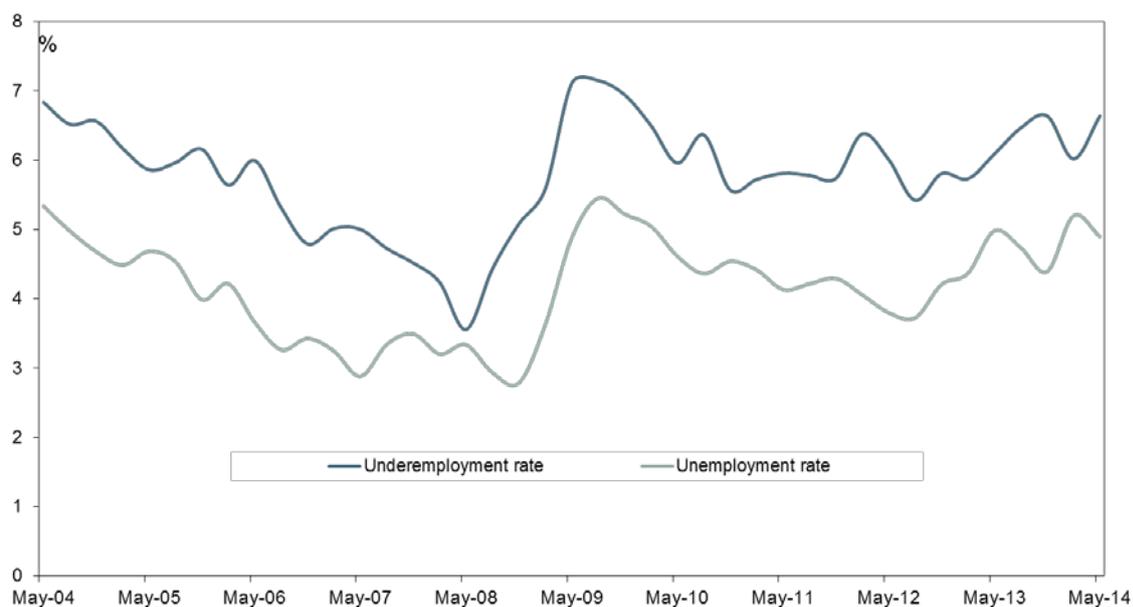
This data shown in the chart above demonstrates that currently, more than a third of the State's workforce was a migrant into Australia at some point in time – with about a quarter of all employed migrants currently working in the State having arrived in the key resource expansion period of 2006 to 2010 (that is, this group of recently arrived migrants accounts for almost 10% of all employed persons in the State).

Temporary migration (primarily through 457 visas) also acts as an important 'top up' component of short term unmet demand for skilled labour by employers (see '**Key trends in labour supply from skilled migration into Western Australia**' later in this section for more detailed information on migration trends).

The moderation in the State's labour market of the past year or so is also reflected in recent estimates of underemployment³⁹, which measures those persons who are employed, but whose labour effort is not being fully utilised. As such, underemployment is a key measure of spare capacity available in the labour market. Annual average figures show that over 2013–14, there were around 90 700 underemployed workers in Western Australia. This represented an increase of 11 300 persons over 2012–13 (or 14.2% higher), compared to a 7.1% rise for the whole of Australia.

³⁹ The number of underemployed persons is made up of: part time workers would prefer more hours, and are available to work; and full time workers who, for economic reasons, worked part time hours during the ABS Labour Force survey period. In contrast, those who are unemployed are those persons who were not employed during the Australian Bureau of Statistics reference week, and: 1) had actively looked for full time or part time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or 2) were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if the job had been available then.

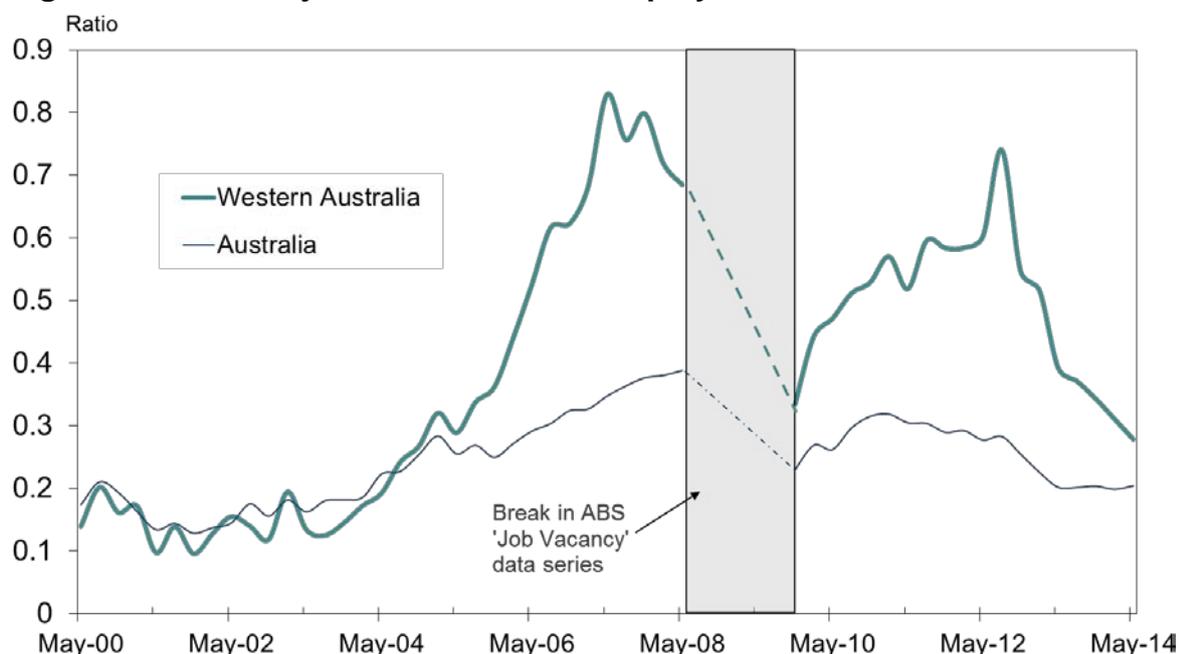
Figure 22: Labour market underemployment rate and unemployment rate – Western Australia



Source: ABS, cat. 6202.0 (seasonally adjusted data)

As a leading indicator of employment demand, job vacancy levels in the State have also seen a sizable moderation over the past eighteen months. However, the ratio of job vacancies to the number of unemployed persons shows the State’s labour market still remains above the national result (chart below).

Figure 23: Ratio of job vacancies to unemployed



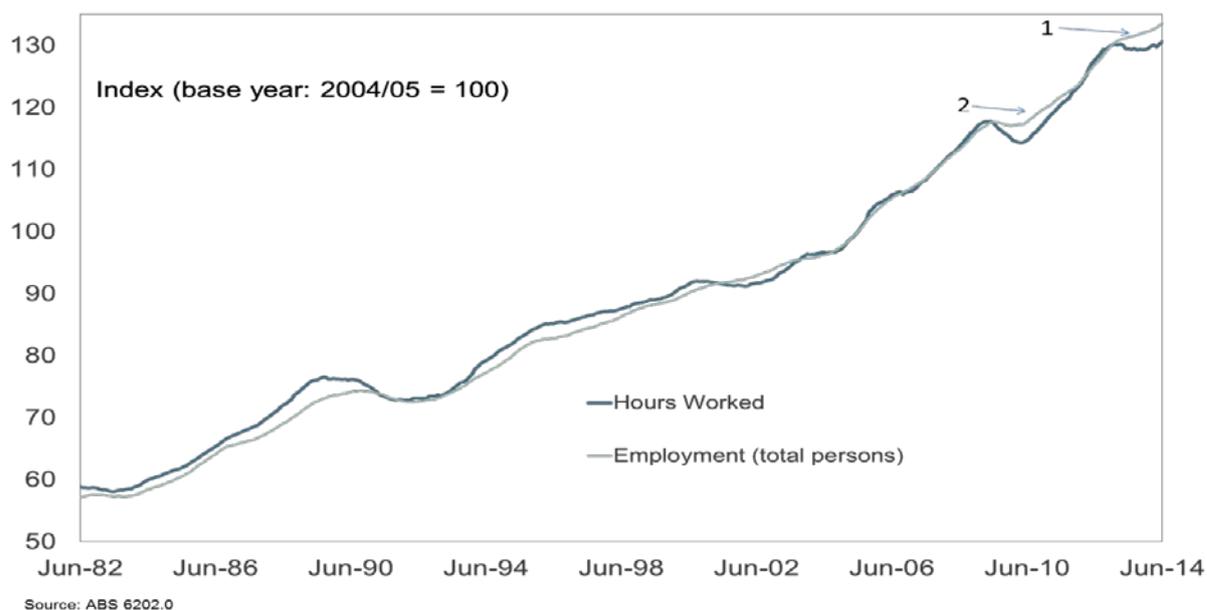
Source: ABS, cat 6202.0 and 6354.0

Consistent with this, the *Westpac - CCI Survey of Business Expectations* labour scarcity indicator increased over the June quarter 2014 (pointing to improved labour availability in the State). Only 8% of businesses reported labour as being ‘scarce’ in

the June quarter (an historic low), which was a significant decline compared to the 38% recorded eighteen months prior in the December quarter 2012.

This moderation in the labour market is further reinforced by matching jobs growth against hours worked growth (with both being expressed as indices in the chart below). This shows that over the past year employers have been reducing the hours worked by employees rather than shedding jobs (as per arrow number 1 in the chart).

Figure 24: Index of employment levels and hours worked – Western Australia



This situation is somewhat similar to the period around the GFC in 2009 (see arrow number 2 in the preceding chart), when employers quite noticeably cut hours worked of employees, rather than actual jobs.

The main difference between the two situations is that current hours worked have remained flat (rather than dipping down as per arrow number 2), and that employment levels have not currently picked up at the same strong rate they managed to do during the stimulus-induced post-GFC recovery period. This also implies that employers currently have some capacity to increase the hours of existing employees before growing job levels.

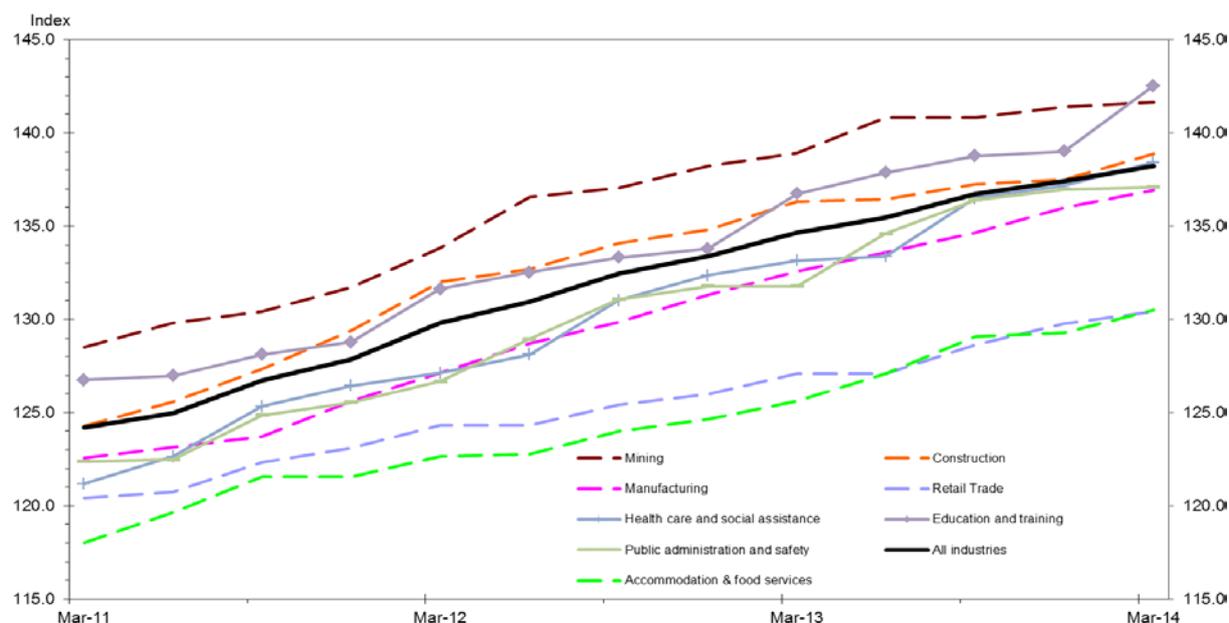
Trends in productivity, input costs and drives to gain greater efficiencies through improved use of technology and other means are also key issues currently for the State's industries of Mining and Construction, as well as most other industries. The WA Economic Regulation Authority has found that Multi Factor Productivity⁴⁰ across all sectors in Western Australia fell by an annual average rate of one per cent over the period 2006-2010, in contrast to the previous period of 2001-2005 when it grew by an annual average rate of one per cent⁴¹.

⁴⁰ Multi Factor Productivity accounts for the overall effect on productivity due to both labour and capital.

⁴¹ Source: Economic Regulation Authority: Inquiry into Microeconomic Reform in Western Australia: Draft Report, 2014. It is also worth noting that the more recent declining productivity trend for Western Australia in part was due to the resource sector's strong investment phase over 2006-2010, induced by very strong commodity prices – long lag times between construction and operation meant that not all of the investment was immediately productive.

Another broad measure of labour market ‘tightness’, wages growth, also suggests the State’s labour market has moderated over the past year, with Western Australia’s annual wages growth (as measured by the ABS Wage Price Index) easing from strong growth of 3.7% over the 12 months to March 2013 to just 2.6% over the year to March 2014.

Figure 25: Wage trends for selected industries (base year = 2005/06) – Western Australia



Source: ABS Wage Price Index data (published & unpublished) Cat. No. 6345.0

In particular, the preceding chart shows the wage differentials over recent years evident for the lower paying industries of retail trade, and accommodation and food services, and suggests that these industries may be sensitive to both structural and cyclical changes in the economy. The chart also shows that mining has continued to lead growth in wages over the past decade, although the divergence has narrowed recently. The strong growth for education and training for the past quarter reflects a recent pay rise for teachers⁴².

A further proxy for labour demand, the *Internet Vacancy Index*⁴³ (produced by the Commonwealth Department of Employment) showed that Western Australia recorded a 14.6% decrease in job vacancies over the year to May 2014 (the biggest fall out of all Australian states and territories).

In respect to labour supply in the State (another key influence on the overall tightness of the State’s labour market), while Western Australia’s labour market participation rate has slipped lower, it is worth noting that the State’s overall resident population⁴⁴ grew by 2.9% over the year to December 2013.

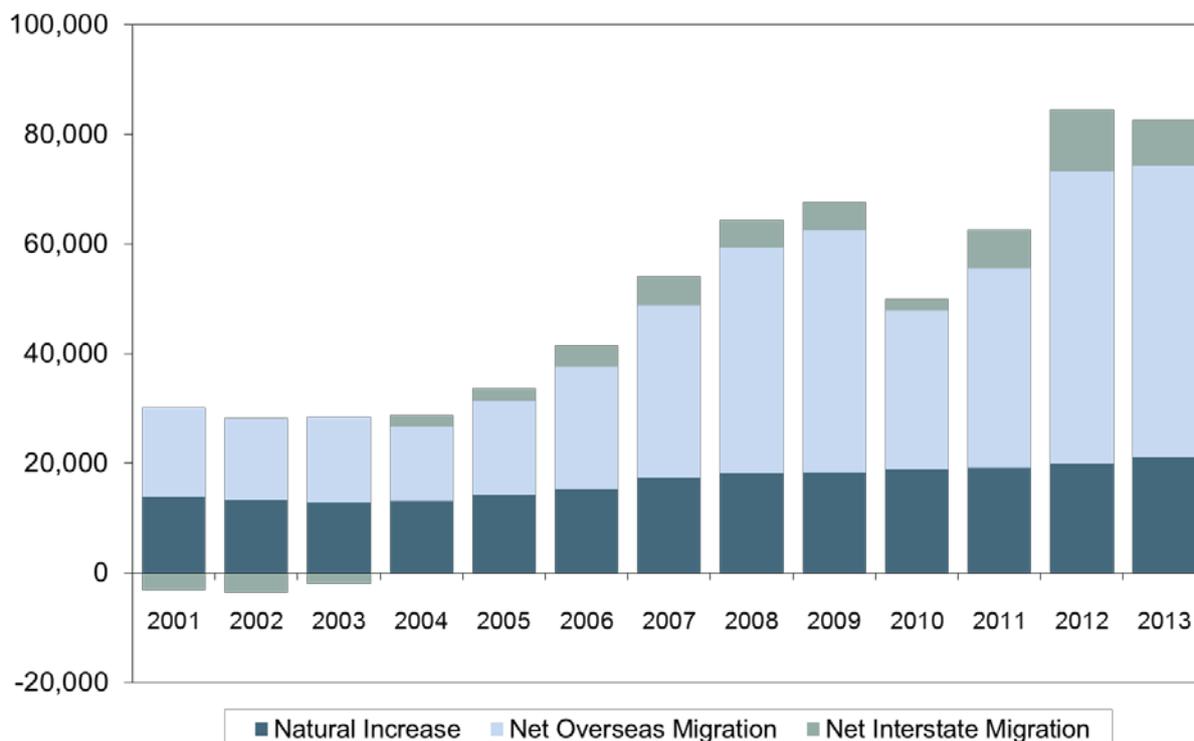
⁴² *The School Education Act Employees’ (Teachers and Administrators) General Agreement 2011*

⁴³ This index has been trended and is based on a count of online vacancies newly lodged on SEEK, My Career, CareerOne and Australian JobSearch during the month. For more information, see: <http://lmip.gov.au/default.aspx?LMIP/VacancyReport>

⁴⁴ Australian Bureau of Statistics, Cat. No. 3101.0, December 2013

This was the highest annual growth rate in Australia, and well above the national increase of 1.7%, with overseas migration a major driver, accounting for almost 64% of the State's total annual growth (see Figure 26). However, the pace of this population growth is expected to moderate over the next year or so, which in turn will place less pressure on the State's jobs market.

Figure 26: Components of Population Growth – Western Australia



It is also worth noting that the State's labour supply is frequently supplemented by inflows of skilled labour courtesy of temporary 457 visas, which help fill employers' key shortages. (Further details on 457 inflows can be found in the section 'Key trends in labour supply from skilled migration into Western Australia').

Outlook

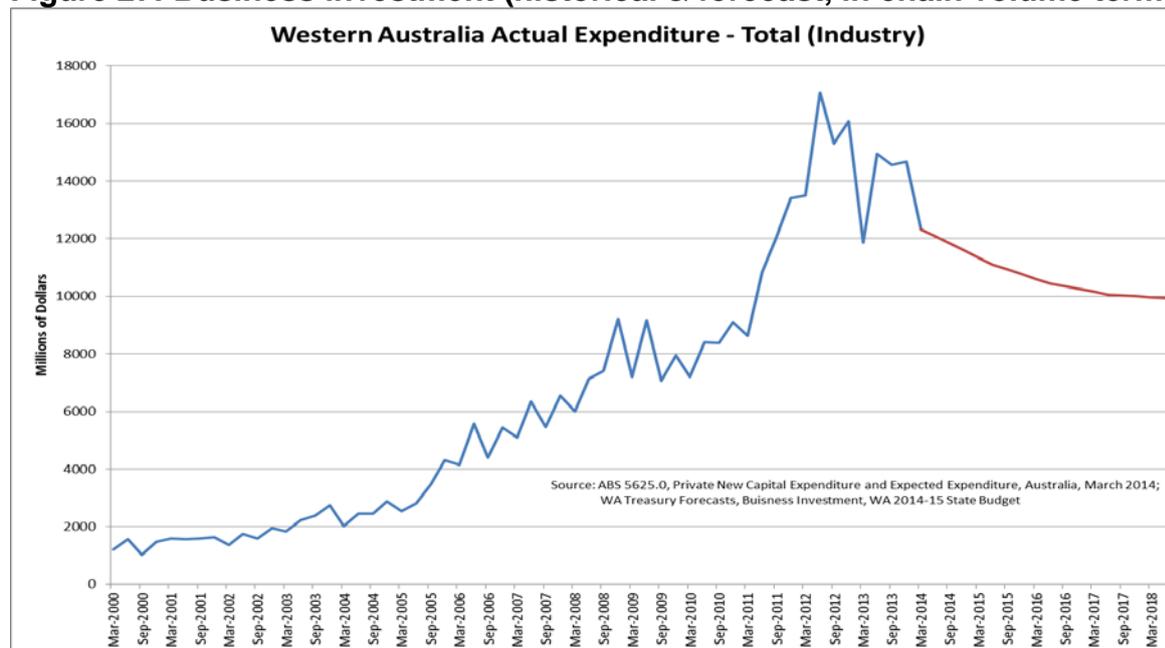
Commodity prices and the global economic recovery both continue to be somewhat volatile, with considerable uncertainty regarding their outlook. Along with a historically high Australian dollar and rising costs, these factors have tempered the outlook for resource sector investment in the State. Forecasters such as Deloitte Access Economics⁴⁵ believe that resource investment has peaked for the State and is now declining.

In respect to the views held by the State's business community for the near term economic outlook, the *Westpac – CCI Survey of Business Expectations* for the June quarter 2014 showed 46% of the businesses expect the State's economic condition to deteriorate in the coming 12 months. While 28% of respondents flagged they cut staff throughout the June quarter, 21% of respondents expect to employ more workers over the next quarter, down from 23% in the previous quarter.

⁴⁵ Deloitte Access Economics, Business Outlook, March 2014.

According to the Western Australian Department of Treasury, the State's economy is forecast to increase by 3.75% in 2013–14. Economic growth in 2014–15 and 2015-16 is then expected to ease back to rates of 2.75% and 3.0% respectively. While these forecasts show broadly healthy rates of growth are expected, they are in part predicated on increased export volumes being a major driver of the State's growth over the next few years, with business investment levels moderating, and major resource projects transitioning from their construction phases into production⁴⁶.

Figure 27: Business investment (historical & forecast, in chain volume terms)



With the large resource projects moving into the production phase over coming years, this export-driven phase will be less labour intensive, but still requiring a quite skilled (and increasingly more permanent) workforce in the State, underscoring the importance of the State's domestic training effort.

While resource sector construction activity in the State is expected to decrease in (albeit from a high base), leading indicators of residential construction continue to strengthen. Residential building approvals⁴⁷ were up 11.2% over the year to May 2014. This strength has been helped by improving affordability (for home purchases, and in particular, from lower interest rates), as well as higher yields for investors (with Perth's March quarter 2014 median weekly rent⁴⁸ up a sizable 4.7% over the year).

This is also reflected in State Treasury's expectations for strong growth in dwelling investment in Western Australia over the next few years⁴⁹, with the boost to labour demand for residential construction activity expected to help offset a moderation in construction activity on major resource projects to some degree.

⁴⁶ Western Australian Department of Treasury 2014–15 Budget, Economic and Fiscal Outlook, Budget Paper No.3, May 2014.

⁴⁷ ABS 8731.0, figures are based on the 3 months to May 2014, compared to the corresponding 3 months to May 2013.

⁴⁸ ABS 6401, Consumer Price Index, Perth.

⁴⁹ Western Australian Department of Treasury 2014–15 Budget, Economic and Fiscal Outlook, Budget Paper No.3, May 2014.

Over the short term, the Western Australian Department of Treasury expects the State to record a marginally higher average unemployment rate over 2014–15 (of 5.5%), with employment in the State growing by 1.5% in 2014-15 (around the same pace of growth in 2013-14)⁵⁰.

This is consistent with forward indicators of labour demand (such as job vacancy surveys, business expectations and consumer confidence), which all point to subdued conditions for the State’s labour market continuing over at least the next half a year or so.

Following 2014–15, State Treasury expects that growth in both labour demand and supply over the next few years will remain subdued. Accordingly, Treasury’s forecasts show employment in the State growing by an annual rate of 1.75% each year out to 2016–17. Compared to Federal Government Budget employment forecasts for Australia, this means Western Australia is likely to record employment growth that is somewhat higher than national employment growth.

While State Treasury’s employment forecasts are somewhat lower than comparative forecasts from Deloitte Access Economics, they are higher than those from Victoria University’s Centre of Policy Studies (see the first three columns of the following table).

Table 4: Headline forecasts for the State’s labour market

FORECASTER	Employment growth (%)			Unemployment rate (%)		
	2013-14	2014-15	2015-16	2013-14	2014-15	2015-16
WA Treasury (Budget May 2014)	1.5	1.5	1.75	5.0	5.5	5.25
Deloitte Access Economics (June 2014)	1.6	2.4	2.3	5.0	5.1	5.4
Chamber of Commerce and Industry (June 2014)	n/a	n/a	n/a	n/a	5.0	5.0
Centre of Policy Studies, Victoria University (Sep 2013)	0.3	0.9	0.8	n/a	n/a	n/a
Average (Rounded)	1.7 (actual)	1.6	1.6	4.8 (actual)	5.2	5.2

Nevertheless, if the average of the forecasts above (1.6% employment growth in both 2014–15 and 2016–17) were to be realised, this will mean the State will end up recording jobs growth at a rate that is considerably lower than the State’s historical average growth rate for employment (of 2.8%) for the past twenty years.

⁵⁰ Ibid.

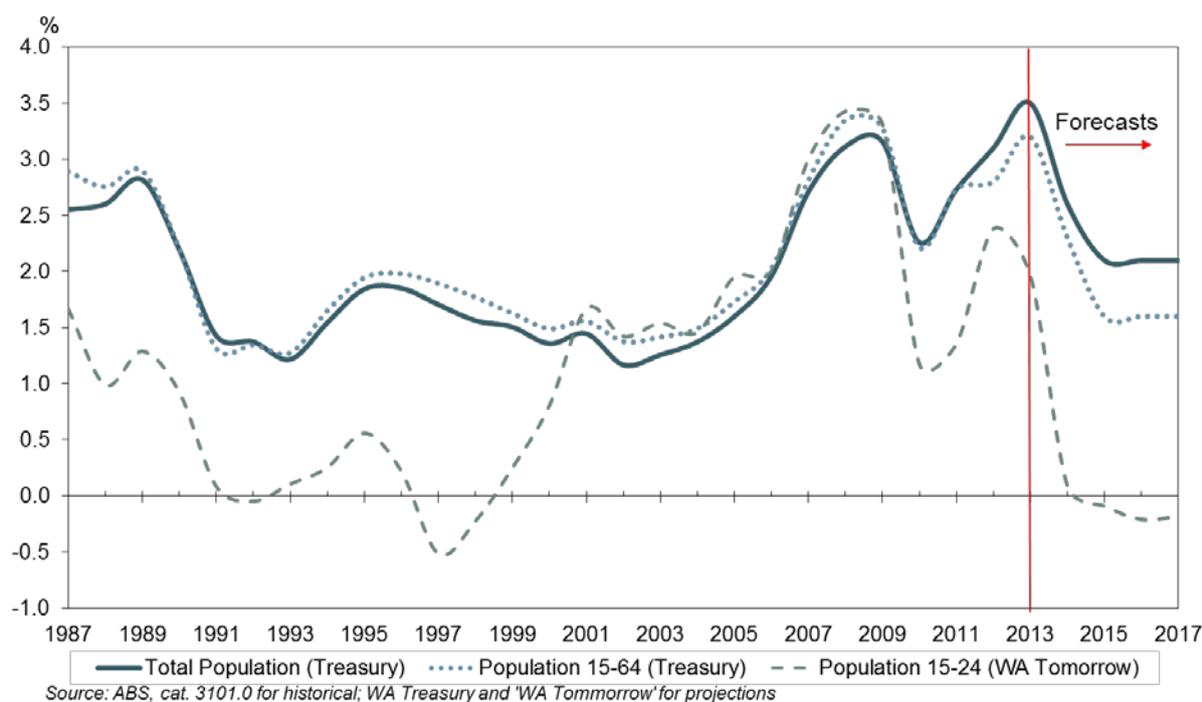
State Treasury Budget forecasts also show that after peaking at 5.5% in 2014–15, Western Australia’s unemployment rate is expected to fall marginally over following years, going to 5.25% in 2015–16, and then to 5.0% in 2016–17. Compared to Treasury, Deloitte Access Economics has broadly similar forecasts (but with unemployment peaking at 5.4% in 2015–16), while the Western Australian Chamber of Commerce and Industry expects slightly lower unemployment rates (see Table 4).

While there are no published forecasts of youth unemployment rates for the State, it is worth noting that the current youth unemployment rate (for those aged 15 to 24 seeking full time work) averaged 9.9% over the 2013–14, which is slightly above the ten year average of 8.6%. (See Appendix F for further details).

Another reason for the State’s overall unemployment rates remaining relatively moderate over the next few years relates to an expected softening in growth in labour supply in the State.

In particular, Treasury’s State Budget forecasts show a further gradual easing in labour market participation rates over the next few years (from 68.2% in 2014–15, to 67.6% in 2016–17), as well as a slowing in overall growth in the State’s population (with growth in the key working age cohort of those aged 15–64 expected to soften at an even greater rate than that expected for the State’s total population – see following figure).

Figure 28: Historical and forecast population growth rates

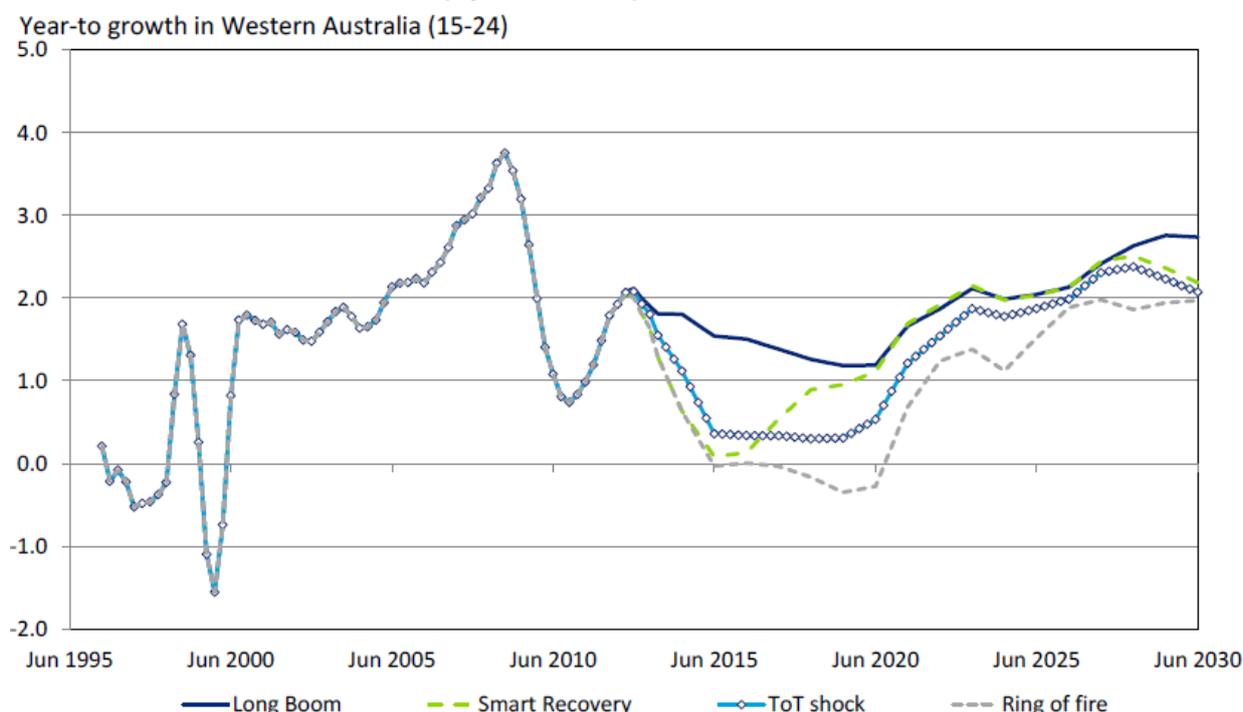


The sizable difference opening up between the forecast growth rates for 15 to 64 year olds relative to the State’s overall total population is being driven by the current age profile of the State’s population – this will become particularly pertinent as workers from older age cohorts retire in increasing numbers into the future.

As the chart above also shows, even more pronounced is the much lower growth over the next year in the State's 15 to 24 year old youth cohort (followed by contractions out to 2017). Such demographic dynamics underscore the importance of ensuring the 15 to 24 year old youth cohort is able to help boost the State's labour supply in coming years.

Such an imperative is also reflected in the scenarios modelling, which shows sharp drops in population growth for the 15 to 24 youth cohort across three of the four all scenarios (with the notable exception of the 'long boom' scenario), with growth in the cohort only picking up again from 2020 onwards – see chart below.

Figure 29: Historical and forecast population growth rates for the 15 to 24 age cohort in Western Australia (by Scenario)



Source: ABS 3101.0, Deloitte Access Economics

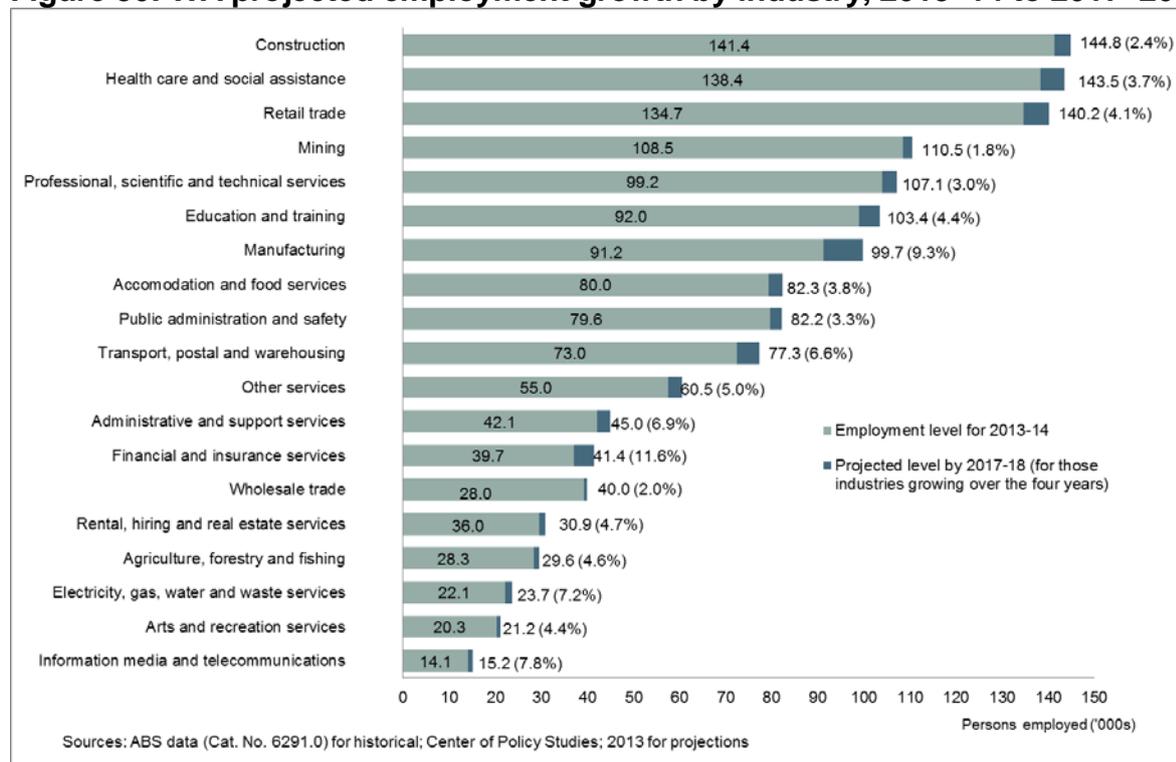
These forecasts all suggest the supply of domestic graduates in the State in the next few years will be limited by expected demographic trends. The skilling up of Western Australia's young people is therefore of significant importance, with the vocational education and training sector remaining a crucial element in connecting young people's competencies with industry needs. A focus on youth is therefore a key feature of this Plan for 2015–2018. (See Appendix F for more information on young people).

It is also useful for the purposes of this Plan to look at the expected composition of the State's expected employment growth over both the short and longer term. Over the short term (the next few years), forecasts from Victoria University's Centre of Policy Studies⁵¹ show that growth in the State's industry employment levels is

⁵¹ These employment forecasts are based on detailed labour market projections taken from the Monash model (and based on information available as at September 2013), developed by the Centre of Policy Studies (previously based at Monash University and now based at Victoria University). It should be noted that there is a certain degree of uncertainty attached to any forecast.

expected to be broadly based, occurring mostly in the industries of: Manufacturing; Retail; Health Care and Social Assistance; Transport, Postal and Warehousing; Education and Training; Financial and Insurance Services; and Construction (forecast growth in industry employment levels is shown by the darker blue parts of the bars in Figure 20 below). Together these seven industries are expected to account for around 60% of the State’s total employment growth out to 2017–18.

Figure 30: WA projected employment growth by industry, 2013–14 to 2017–2018



As also shown by the chart above, the Construction industry is expected to remain the highest employing industry in the State. Although the next few years is likely to see a decreasing requirement for labour for resource-related construction work in Western Australia, there will likely be greater volumes of residential construction work being carried out, as the State’s housing stock catches up with the very strong population growth the State has experienced over the past few years.

Following closely behind Construction, the Health Care and Social Assistance industry is projected to remain the State’s second highest employing industry, consistent with the expected demand for such services as the State’s population ages⁵².

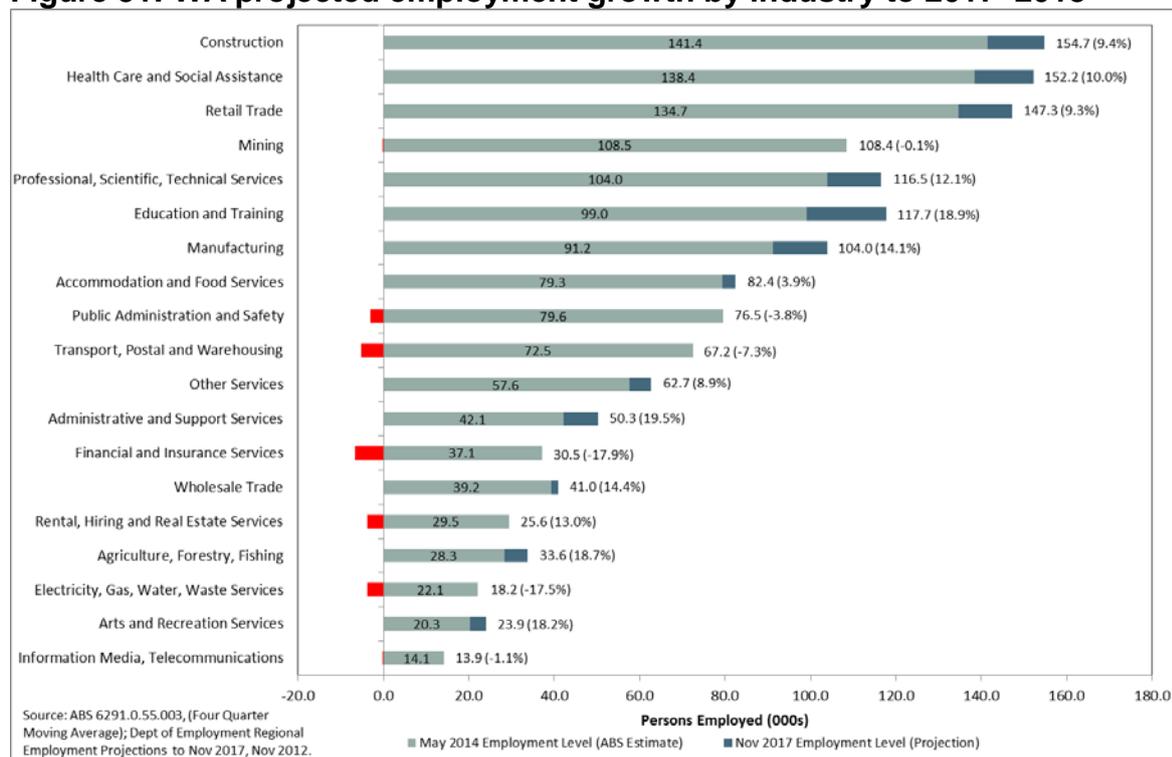
The same Centre of Policy Studies forecasts also show that the Mining industry is projected to have only modest employment growth. This is in line with remaining major resource projects transitioning from construction to their less labour-intensive operational phases, but also where the industry has already experienced very strong

⁵² The modelling projections from the STB Workforce Scenarios project show faster than average long term employment growth for the health care and social assistance industry across all scenarios compared to the average of all industries (out to 2030) reflecting a steadily ageing population into the future.

employment growth over the past few years due to newly completed mining operations projects coming on line⁵³.

Alternative projections of employment by industry in Western Australia over the next four years are also available from the Commonwealth Government’s Department of Employment (see chart below).

Figure 31: WA projected employment growth by industry to 2017–2018



While different forecasting approaches, models and assumptions will typically show different results, the broad consistencies between the two sets of forecasts are that moderate to strong levels of growth are expected in most of the State’s larger employing industries (with the notable exception of mining, which grows only marginally in respect to the Centre of Policy Studies forecasts, and remains more or less unchanged in respect to the forecasts from the Commonwealth Government’s Department of Employment).

Another consistency in both sets of forecasts is that the industries of Construction, Health Care and Social Assistance, and Retail Trade will remain the State’s top three employing industries (in that order, just as they are currently), with the three industry combined expected to account for around three out of every ten jobs in the State in four years’ time.

However, the two sets of projections are somewhat different in that they show some sizable contractions (denoted by the red bars) in employment for a number of industries (most noticeably Financial and Insurance Services; and Transport Postal and Warehousing).

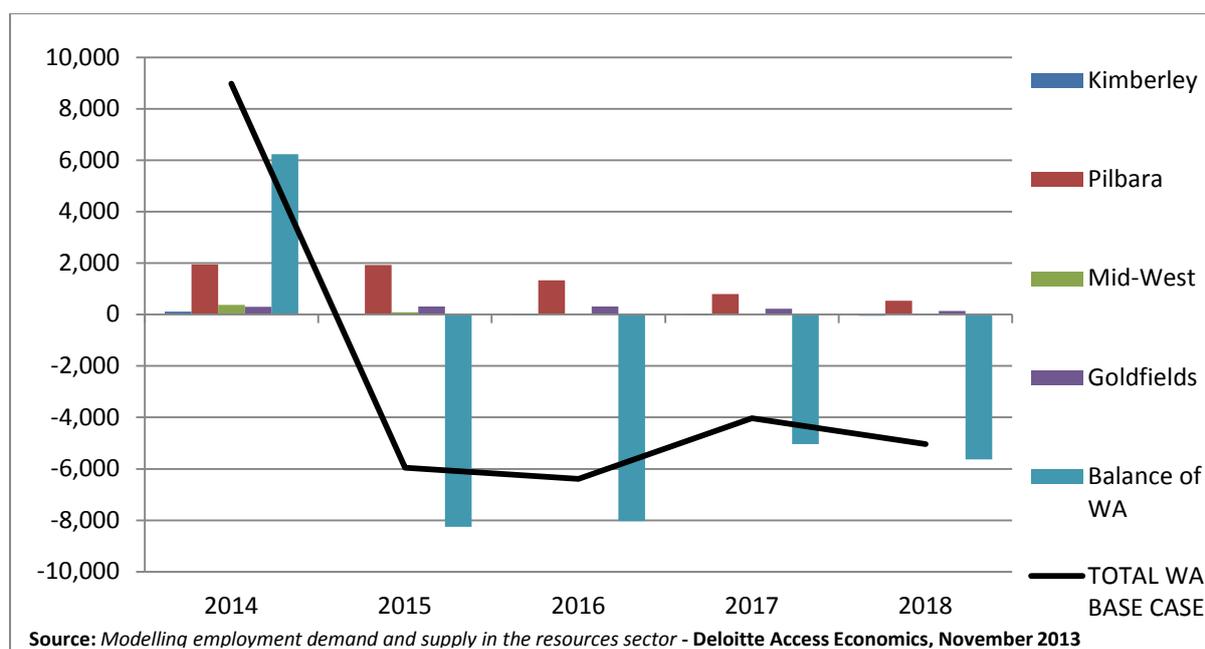
⁵³ Mining employment in Western Australia has grown from an average of around 60 000 workers in the post-GFC downturn year of 2009, up to an average of nearly 110 000 workers over 2013-14.

Indeed, it is cautioned that in the current dynamic economic environment, particularly in respect to the resource sector’s transitioning, it is very difficult for forecasters to predict in detail specific movements in employment growth, particularly in the medium to longer term, as there are many uncertainties to be considered⁵⁴. Such degrees of uncertainty were a key reason why the State training Board commissioned its Scenarios project (further results based on the modelling done for the project follow below).

In respect to the resource sector’s transitioning, and what this may mean for construction and operational employment levels in the State, another useful set of forecasts were those produced by Deloitte Access Economics, for the Australian Workforce and Productivity Agency’s *Resources Sector Skills Needs* report for 2013.

The modelling specific for Western Australia shows that while the State’s total resource sector workforce (for construction and operations combined) is expected to grow quite strongly in 2014, these gains are then expected to be more than offset by falls in employment in each of the subsequent years out to 2018 (as per solid black line in chart below).

Figure 32: Projected yearly changes in TOTAL resource sector employment in WA (yearly flow in levels shown, for WA and by region, base case scenario)

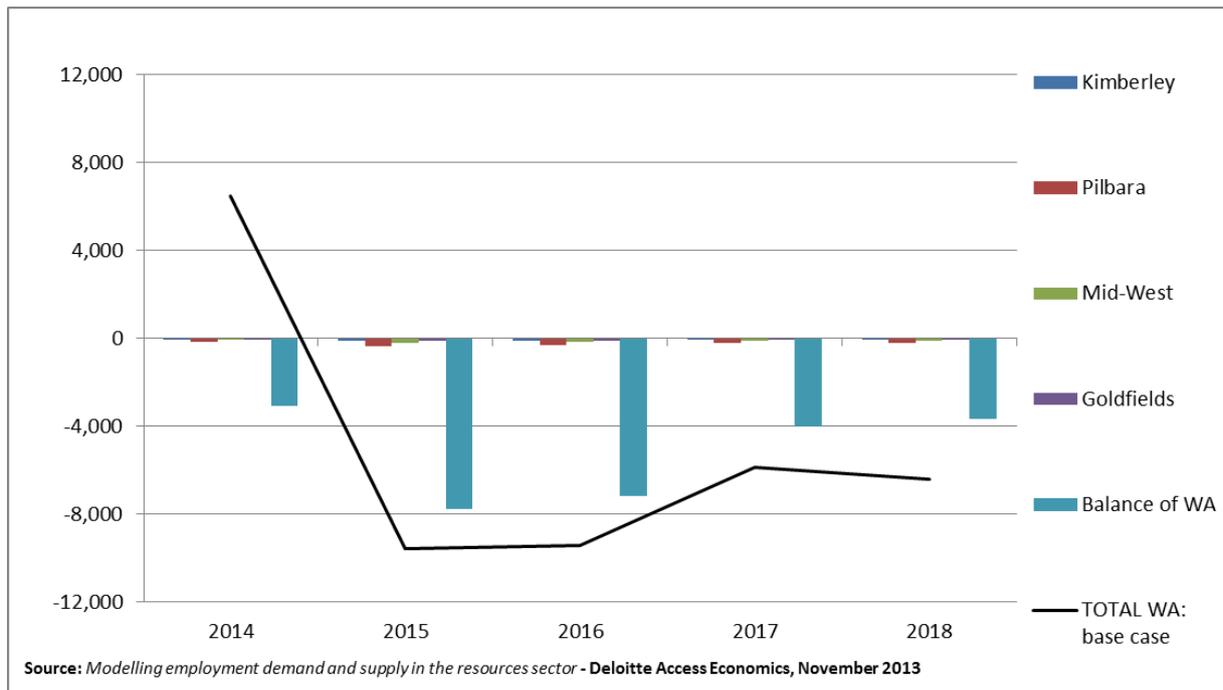


The above chart also shows expected resource sector employment gains / losses each year for the State’s key resource regions (shown by the coloured bars). The projections on this basis show that consistent resource sector workforce gains are expected in most of the State’s regions each year out to 2018 (most notably for the Pilbara), whereas sizable losses are expected to come from the ‘balance of WA’ category (predominantly Perth) from 2015 onwards.

⁵⁴ Care should therefore be exercised when interpreting the forecast movements above (particularly the detailed employment forecasts and especially the further out in time such forecasts go). The forecasts should be treated as an indicative picture of what the State’s future labour market may look like given expected growth trajectories.

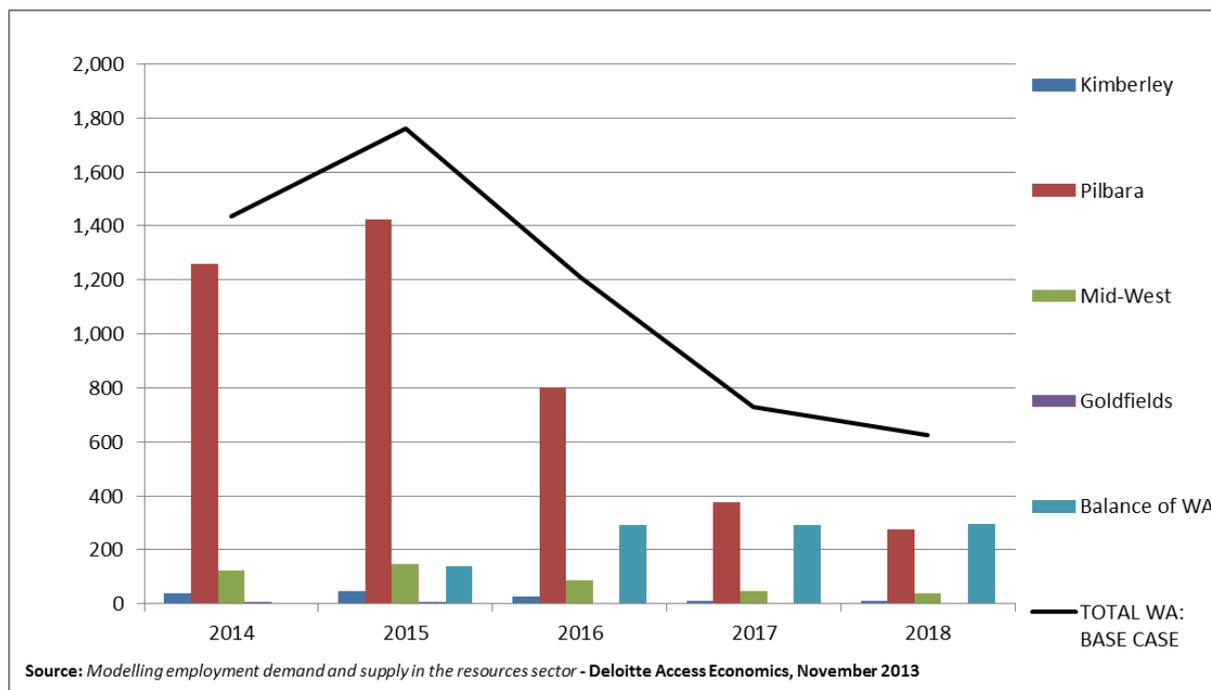
A further breakdown of the above projections show that the declines are driven by expected falls in resource project construction – predominantly coming from the 'balance of WA' (therefore most likely Perth-based Fly-in, Fly-out construction jobs, and construction-related support roles within mining company premises in Perth), as shown in the following chart.

Figure 33: Projected yearly changes in CONSTRUCTION-RELATED resource sector employment in WA (yearly flow in levels shown, for WA and by region, base case scenario)



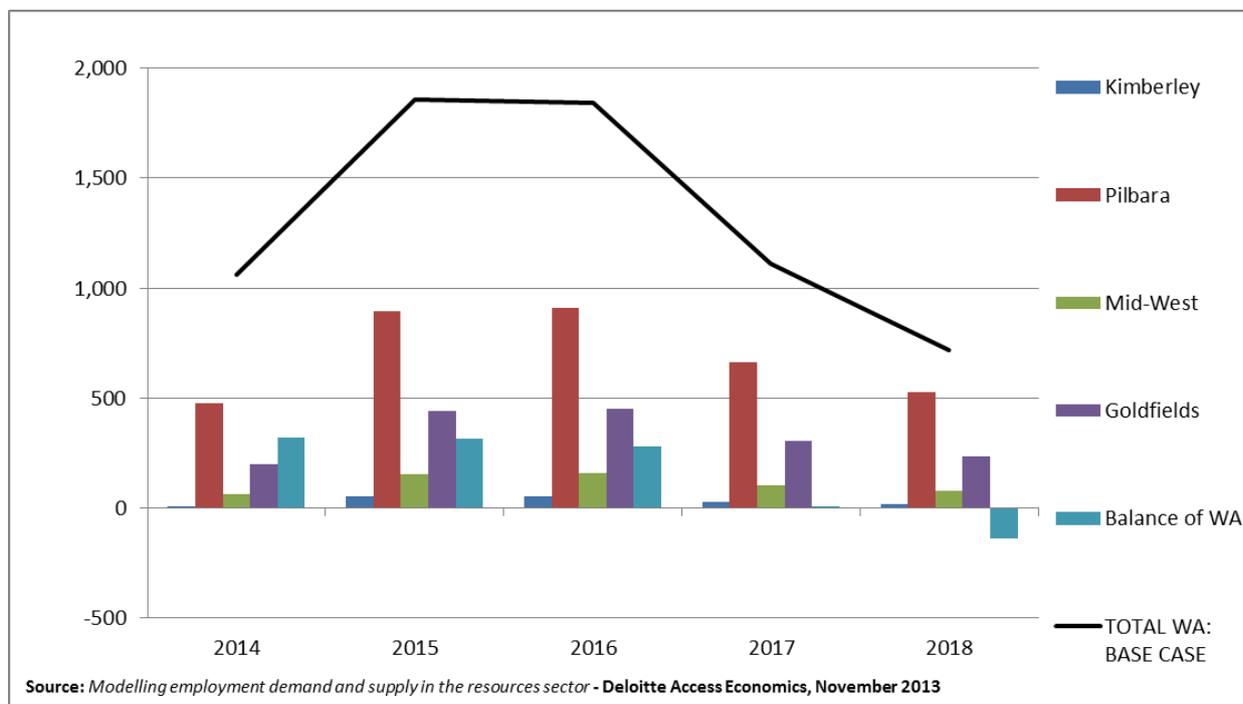
In respect to the gradual increases in employment expected in oil and gas operations in the State, the same set of forecasts show that growth is expected to mostly be seen over the remainder of 2014 and into both 2015 and 2016, with such growth predominantly being based in the Pilbara region (chart below).

Figure 34: Projected yearly changes in OIL & GAS OPERATIONS employment in WA (yearly flow in levels shown, for WA and by region, base case scenario)



In contrast, employment growth related to mining roles is expected to be a bit more evenly spread across the next few years, and also somewhat more spread out respect to its regional dimension (albeit with the Pilbara still dominating).

Figure 35: Projected yearly changes in MINING OPERATIONS employment in WA (yearly flow in levels shown, for WA and by region, base case scenario)



It is also noticeable too that the above projections suggest mining operations growth in the State in total of around 5,000 additional workers (so in contrast to the more

moderate projections from both the Centre of Policy Studies and the Commonwealth Government's Department of Employment).

The resource sector's transitioning phase will have broader implications for skill labour supply in the State, as construction workers who had been working on resource projects look to switch to working in resource operations roles and/or residential construction roles (or even work in other sectors of the State's economy).

However, the ability of resource construction workers to make a switch to other non-resource construction roles will largely depend on the transferability of such workers' skills, as well as the number of job openings available in residential, non-residential and civil engineering construction projects.

Also, a considerable unknown is the extent to which the current pool of temporary (457) visa holders in the State working on resource projects may see their circumstances as warranting a return to their home country, if they are unable to secure a permanent visa / employment (or simply do not attempt to pursue such an option, due to financial, economic or other circumstances).

While the different short term projections covered above are for the next four or so years, the State Training Board has also adopted a scenarios-based approach to develop potential strategies and policies to address the State's possible workforce issues over the longer term.

For this, Deloitte Access Economics (on behalf of the State Training Board) developed and modelled four plausible workforce scenarios for Western Australia for the period 2012–2030. This modelling included employment projections by industry, by occupation, and by qualification level for each of the scenarios⁵⁵. These projections are helpful in understanding some of the likely trends in employment that the State will face over the longer term – particularly in respect to the broad commonalities shown in the modelling across all four of the scenarios.

Looking at the scenarios' industry-based projections over the period 2012 to 2030 shows that common to all four scenarios, the industries that are all projected to have faster than average employment growth are: Health Care and Social Assistance; Education and Training; Professional, Scientific and Technical Services; Financial and Insurance Services; and Public Administration and Safety. Conversely, the industries the scenarios projections show slower than average growth rates are: Agriculture, Forestry, Fishing and Hunting; Mining; Manufacturing; Electricity, Gas, Water and Waste Services; and Retail Trade.

Overall, these broad growth trends from the scenarios modelling suggest the State's likely longer term workforce future centres around employment growth in jobs that are higher skilled, and predominantly service-orientated. The likely requirement by

⁵⁵ This scenarios project was based on similar scenarios work completed by the former Australian Workforce Productivity Agency (AWPA). The scenarios themselves are not meant to be specific projections of the future, nor a continuation of past trends. Rather, each of the scenarios represents a possible, plausible and internally consistent 'alternative future' path for the State's workforce. The scenarios therefore not only provide a longer time frame to assist strategic planning, but also allow for a much richer appreciation of the possible impacts of many other key variables (such as population growth, workforce participation, economic growth and others). The additional usefulness of scenarios comes from the fact that no single set of forecasts is likely to be completely correct. See Appendix E for further detailed information on each of the scenarios, the project's key findings, and the project itself.

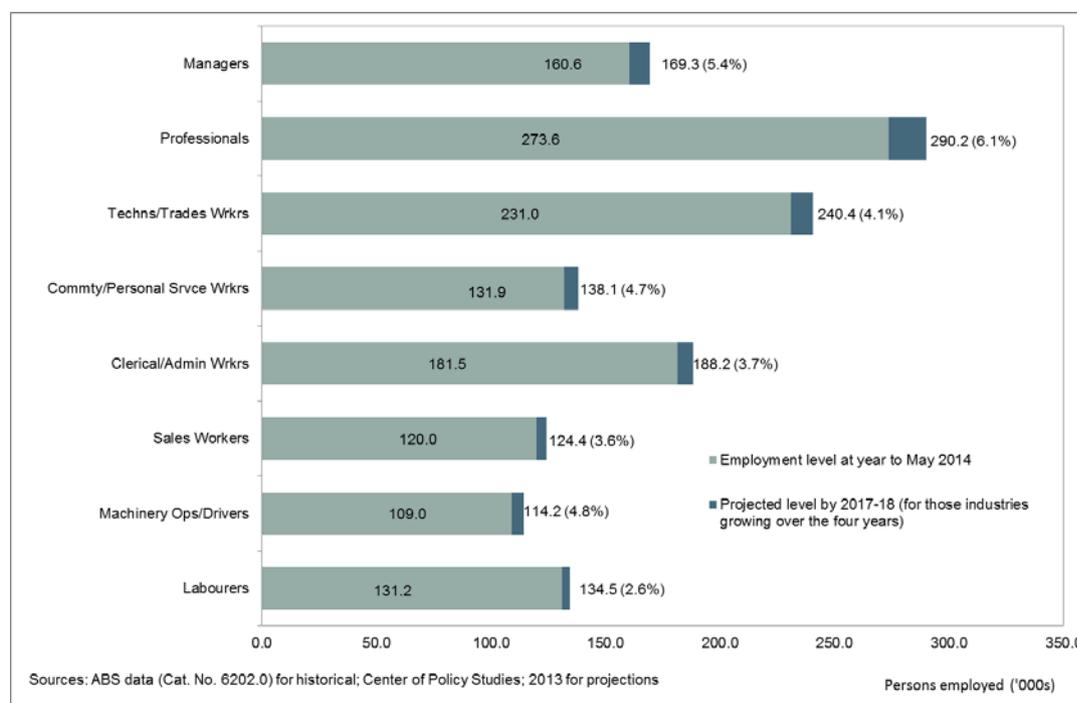
employers for higher skill levels over coming years is a key feature of both the short term Centre of Policy Studies forecasts, as well as the longer term Deloitte Access Economics scenario projections.

Looking at the longer term scenarios projections for employment on an occupational basis shows that for all scenarios, the occupations of Managers and Community and Personal Services Workers are projected to have the strongest employment growth. The employment growth of managers is driven by increasing economic sophistication over time, while growth in Community and Personal Services Workers reflects a steadily ageing population.

Professionals have the next strongest employment growth, reflecting a combination of a longer term moderation trend in mining, as well as growing demand in the State’s service sectors. However, the scenario projections show the category of Clerical and Administrative Workers is expected to be impacted adversely by increasing technological change, with only moderate growth / declines out to 2030 under the four scenarios.

The short term forecasts produced by Victoria University’s Centre of Policy Studies (as per their industry forecasts detailed above) are also broken down on an occupational basis. Such a breakdown shows that for the shorter term (the next four years), employment growth in the State is expected to occur mostly in higher skilled occupations (as shown by the darker blue parts of the bars in Figure 22).

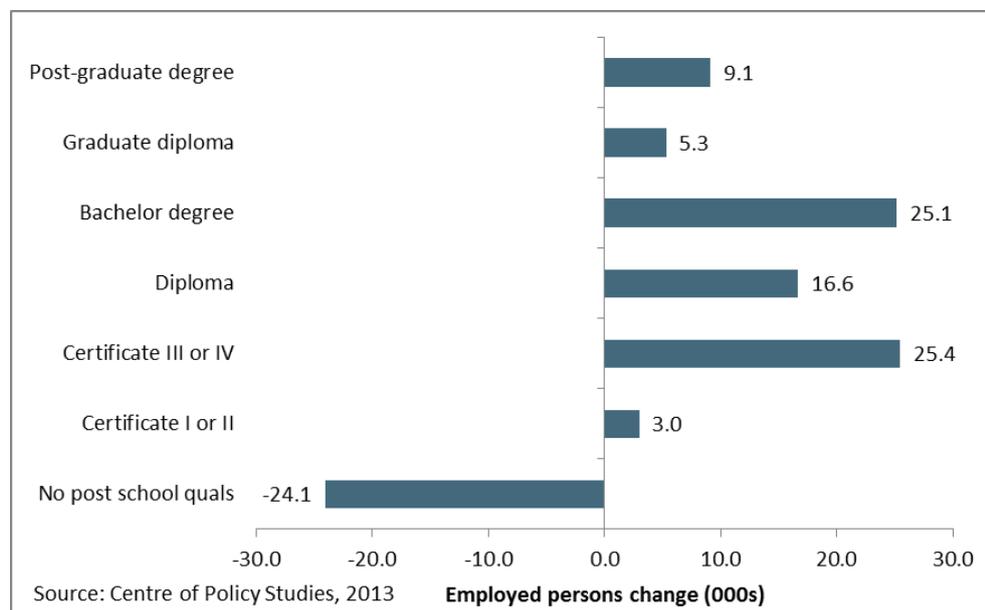
Figure 36: WA projected employment growth by occupation (from 2013–14 to 2017–18)



The likely requirement by employers for higher skill levels over the next few years is reinforced by a breakdown of the same employment projections on a qualifications basis – as shown by the chart below, employment growth in the State is mostly expected to come from those jobs requiring at least a Certificate level III or higher.

Those people with no post school qualifications are projected to experience a decline in employment.

Figure 37: WA projected employment growth by qualifications (from 2013–14 to 2017–18)



Looking at the longer term scenarios projections for employment on a qualifications level basis also reinforces the State’s likely higher skills future. A consistent theme across all four of the scenarios is that as the State’s economy heads down the path of being a higher skill / higher productivity economy over time, the qualification requirements within particular occupations likewise tend to rise over time.

The scenarios also show that by 2030, the overall share of employment by highest level of qualification held will vary across the four scenarios, from 39.5% to 41.0% in respect to VET level qualifications⁵⁶, and somewhat more considerably by between 33.5% though to 39.4% for university level qualifications⁵⁷.

Most notably, the share for those with no post-school qualifications is expected to go from its current share of around 41% (as from the ABS 2011 Census) to a much lower scenarios-derived range of between 26.9% to just 19.5%.

As well as the trend over time for the State’s workforce to have a greater propensity to hold post-school qualifications, increasingly people are also holding more than one post-school qualification. This can occur as a result of further skills deepening (gaining an additional qualification at a higher level), or skills broadening (gaining an additional qualification at the same or lower level as one already held). These trends are also seen as continuing at varying rates across all scenarios.

The preceding compositional examination of forecast short and longer term trends in the State’s future employment growth shows that while demand is expected to be relatively mixed across industries, a key feature overall is that employment demand is expected to be increasingly dependent on higher skills, underscoring the

⁵⁶ For Certificate levels I, II, III, IV; and Diplomas / Advanced Diplomas

⁵⁷ For Undergraduate and Post Graduate degrees.

importance of higher level qualifications and pathways into those higher level qualifications.

The mixed nature of the State's economic outlook also means it is likely that growth in new jobs will not be evenly spread across all sectors, meaning that there are still some areas where significant unmet demand for skilled labour will prevail. It is therefore expected that the challenges that have confronted employers in relation to the availability of suitable skills and labour, while being less acute than experienced in previous years, will remain to some degree into the foreseeable future.

Consistent with these themes, Western Australia's State Priority Occupation List⁵⁸ (SPOL) for 2014 demonstrates the importance of maintaining the highly skilled workforce required for the State's labour market. Occupations ranked the highest on the 2014 SPOL are predominantly professional in nature, requiring either a University education or high level VET training for entry.

Also, those industries heavily represented by occupations on the 2014 SPOL mostly relate to the Health and Social Assistance industry, highlighting WA's increasing and ageing population, and the related demands for services this will create.

However, consistent with SPOLs from previous years, the current SPOL retains a diverse mix, with other industries such as Education, Construction and Mining also having significant occupational representation. (Further information pertaining to the current 2014 SPOL can be found at Section 2.3).

In addition to the SPOL, this Plan relies on the Shares Model to provide an indication of how future training investment should be distributed in order to meet the future demand for new workers with VET qualifications.

Similar to the 2014 SPOL, the Shares Model⁵⁹ shows that for the top ten occupational groups that require increased training effort, the majority of these groups require high level qualifications.

Whilst identifying those occupational groupings where training effort should be increased, the Shares Model also shows where current effort exceeds forecast need.

This is evident for the occupational groupings of Carers and Aides, and Health and Welfare Support Workers. However, because of the demographics of Western Australia's ageing population and the sector's overall importance to the State, it is considered important that training delivery be at maintained at current levels. This is also supported by the findings of the Workforce Scenarios and Projections – Western Australia project undertaken for the State Training Board. (Further information on the current 2014 WA Shares Model can be found at Section 2.3).

⁵⁸ The State Priority Occupation List (SPOL) is an annually-produced list of jobs that are considered critical to the State and/or have demonstrated significant unmet demand. The list informs training priorities through the State Training Plan (and subsequently the Priority Industry Qualifications List, or PIQL, under Future Skills WA), workforce development planning, Skilling WA and the Western Australian skilled migration occupation list (WASMOL). See Section 2.3 for more information on the SPOL and its construction.

⁵⁹ Refer to Appendix C for a description of the Shares Model methodology.

Key risks to the outlook / forecast caution

It is important to note that the State's economy remains quite exposed to a very dynamic global economy, raising an appreciable risk that the State's labour market outlook could change quite rapidly. Key global economic risks to the outlook remain and include ongoing malaise with Europe's fiscal situation, Chinese economic development moving away from infrastructure building; the US economy's somewhat uncertain recovery path; and continuing geopolitical risks and instability in some parts of the world (including the many and varied current conflict 'hotspots').

In respect to the State's domestic labour market in particular, a key demand-side risk is that conditions may prove to be weaker than forecast – particularly if the decline in resource investment is either more rapid and/or more pronounced than currently expected. If such a scenario were to eventuate, a further risk is that this in turn may affect business and consumer confidence levels, as well as impacting overall hours worked and income levels, and thus acting to moderate activity in the non-resource related parts of the State's economy.

In respect to labour supply, a key risk is that population growth slows at an even greater rate than expected, and/or retirement rates are more pronounced than anticipated. In either case, these would act to further moderate the expected slowdown in labour supply growth.

A possible situation in which domestic economic conditions are worse than expected (as per above) may mean that those close to retirement age rethink their retirement intentions, with a likely bias towards working longer than they otherwise would have (thereby helping to support overall levels of labour market participation).

In contrast, softer labour demand conditions may mean the past strong rates of net overseas migration slow at a greater than expected rate, if potential migrants to Western Australia perceive that there are less job opportunities in the State than they initially envisaged. In addition, those temporary skilled migrants already in the State (for example, those on 457 visas) may see their circumstances as warranting a return to their home country, if they are unable to secure a permanent visa / employment (or simply do not attempt to pursue such an option, due to financial, economic or other circumstances). Both of these situations would lead to labour supply moderating more than expected.

A specific skills transitioning risk is the extent to which resource construction workers with increasingly less opportunities for resources work are able (and willing) to take advantage of opportunities opening up in residential / non-residential construction – particularly where this may represent a significant difference in pay and conditions.

It is also cautioned that in the current environment, it is very difficult for forecasters to predict in detail specific movements in employment growth, particularly in the medium or longer term, as there are many uncertainties to be considered. Care should therefore be exercised when interpreting forecast movements covered above and in the remainder of this State Training Plan (particularly for any detailed employment forecasts, and especially the further out in time such forecasts go). The forecasts should therefore be treated as an indicative picture of what the State's future labour market may look like, given expected growth trajectories.

The dynamics described above also underscore the importance of retaining a flexible approach to the planning and purchasing of training delivery, and crucially reinforces the usefulness of the Scenarios project in helping distil some of both the short term and longer term trends likely in the State's workforce given some of the potentially different paths it might take.

Key trends in labour supply from skilled migration into Western Australia

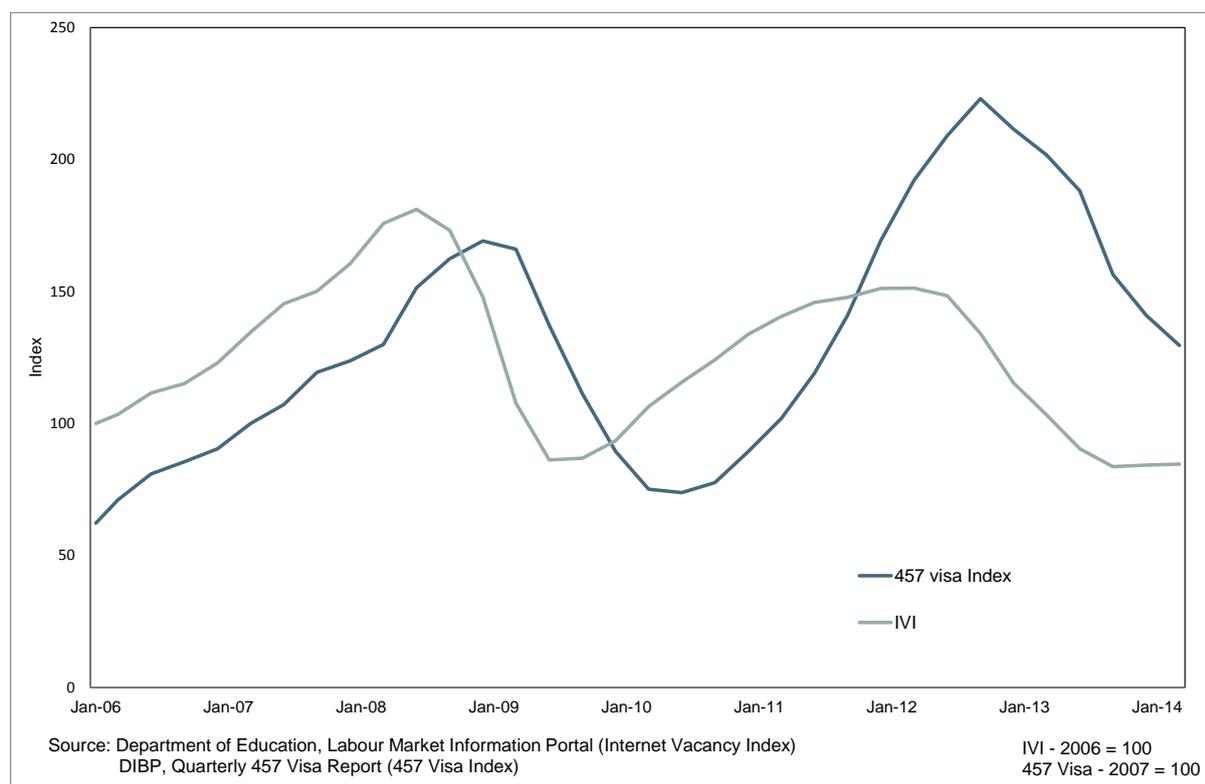
As covered above, the forecasts for the Western Australian labour market for the next few years are for continued employment growth – albeit at a more moderate pace compared to recent years – but with moderating labour demand also expected to be accompanied by an expected easing in growth in the State's labour supply.

While the State Government's first and primary workforce development priority remains the training and preparation of Western Australians for the State's workforce, current trends still suggest that it is unlikely Western Australia will be able to generate enough workers in specific occupations over the next few years, making targeted overseas migration essential. Skilled migration has been, and will continue to be, an invaluable source of skills for the State's labour market, given its important role in filling those jobs unable to be filled by the local workforce.

In this context, for the purposes of this Plan, it is worth noting that the methodology used in the annual compilation of the State Priority Occupation List (SPOL) utilises data on skilled migration as one (of many) means of assessing labour supply (along with data covering additions expected from education and training – see "Key trends in labour supply from training and education" on the following page. (Appendix B has further information on the SPOL's methodology and data sources).

In respect to migration inflows, as temporary skilled migration (i.e. 457 visas) into Australia are not subject to overall quotas from the Commonwealth Government, but instead fluctuate according to levels of employer demand, it is helpful to understand key trends in such visas. As illustrated by the following chart (which uses the Department of Employment's *Internet Vacancy Index* as a proxy for job openings), the flow of 457 visas into the State tends to be broadly responsive to overall labour market conditions (albeit with typically a half year or so lag).

Figure 38: Inflows of 457 visas into WA, relative to job advertisements



The chart above therefore suggests that the continued moderation in labour demand in the State will likely also be met with moderating 457 visa numbers into Western Australia over the next year or so. However, it is cautioned that it is hard to be too categorical on likely future use of 457 visas by employers in the State – in particular, any material changes made by the Commonwealth Government to migration policies may affect such future trends.

Temporary migration is increasingly becoming a pathway towards permanent residency in Australia for many people. For example, in 2010–11, almost nine in ten people granted a permanent Employer Sponsored visa in Australia were people who had originally entered the country on a 457 visa⁶⁰.

As shown by the next table, the number of permanent visas granted to primary applicants in Western Australia increased by 463 people between 2011–12 and 2012–13. Employer Sponsored visas made up 49.4% of the total visas granted in 2012–13, while State Sponsored visas accounted for a further 35.9% and other skilled visas made up the remaining 14.7% of total permanent visas granted.

Table 5: Permanent visas granted to the primary applicants by visa streams for Western Australia, 2011–12 to 2012–13

Visa stream	2011–12	2012–13
Employer sponsored	4,594	4,998
Skilled sponsored (Regional)	547	323
Skilled independent	723	947

⁶⁰ DIAC, *Population flows: immigration aspects 2010–11*, DIAC, Canberra, 2012, chapter 3, p. 66, <http://www.immi.gov.au/media/publications/statistics/popflows2010-11/pop-flows-chapter3.pdf>.

Business innovation and investment program	262	222
State/territory nominated	3,488	3,629
Distinguished talent	7	0
Skilled family sponsored	35	N/A
Total	9,656	10,119

Source: Department of Immigration and Border Protection, Migration Programme Outcome, unpublished data

The total number of temporary and permanent visas granted to Western Australia in 2012–13 was 24 779 people⁶¹, with temporary visas representing 59.2% of these people and permanent visas for the remaining 40.8%. Together, this reflects the additional labour capacity available to the State resulting from skilled migration. (More information on trends in labour supply from migration into the State can be found at Appendix D).

Key trends in labour supply from training and education

As discussed above, the forecasts for the Western Australian labour market show continued employment growth (albeit at a more moderate pace compared to recent years), with demand continuing for skilled workers with post school level qualifications.

Though migration can supplement a skilled labour pool, the bulk of skilled labour in the State is and will continue to be sourced from local institutions. As flagged above, it is also worth noting that the methodology used in the compilation of the State Priority Occupation List (SPOL) utilises data on additions expected from the Higher Education and Vocational Education and Training sectors. (Appendix B has further information on the SPOL’s methodology and data sources).

Higher Education

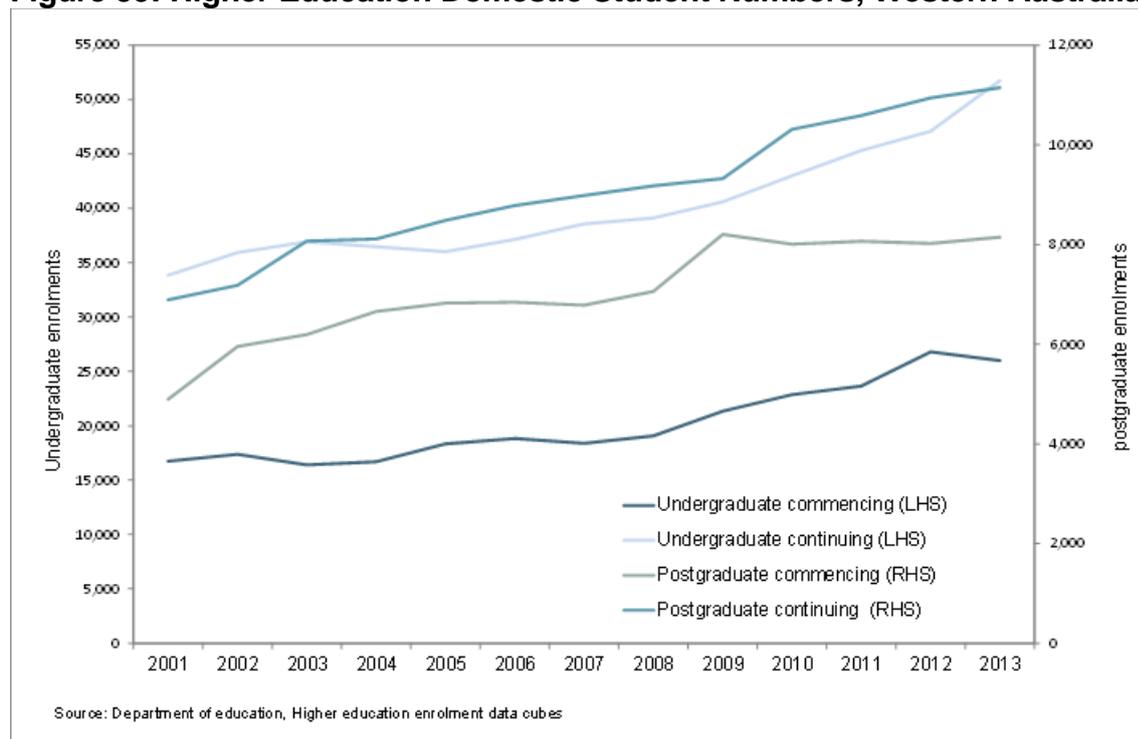
Higher education commencements for the State’s five universities were essentially quite stable between 2001 and 2006, ranging between 21 600 – 25 200 domestic student commencements each year.

In line with the Commonwealth Government decision to uncap university places, the onset of the Global Financial Crisis and the resulting impact felt across the Australian economy, there was a noticeable surge in overall commencements starting around 2007–08.

This change in the uptake of study has continued to sharply increase, despite the economic recovery in Western Australia around 2010–11. The growth in course enrolments can largely be attributed to an increase in undergraduate level commencements since this period. However, this growth now appears to have plateaued with a total of 34 150 commencements of postgraduate and undergraduate enrolments in 2013, which was a slight decrease compared to 2012 with 34 826 enrolments.

⁶¹ The total number of visas granted to the primary applicants for 2012-13 comprised of 14 660 visas under the 457 program and 10 119 visas granted under the permanent program.

Figure 39: Higher Education Domestic Student Numbers, Western Australia



Vocational Education and Training

The Vocational Education and Training (VET) sector enables students to gain educational qualifications and build workforce skills.

It should be noted however that the length of time for course completion can vary dramatically, based largely on the level of qualification and structure of individual courses. Where as an undergraduate Bachelor Degree will generally start with a standard three year course, the VET sector encompasses everything from short courses at the Certificate I level, through to Diploma and Advanced Diploma level qualifications that take three years to complete at a full time rate of study.

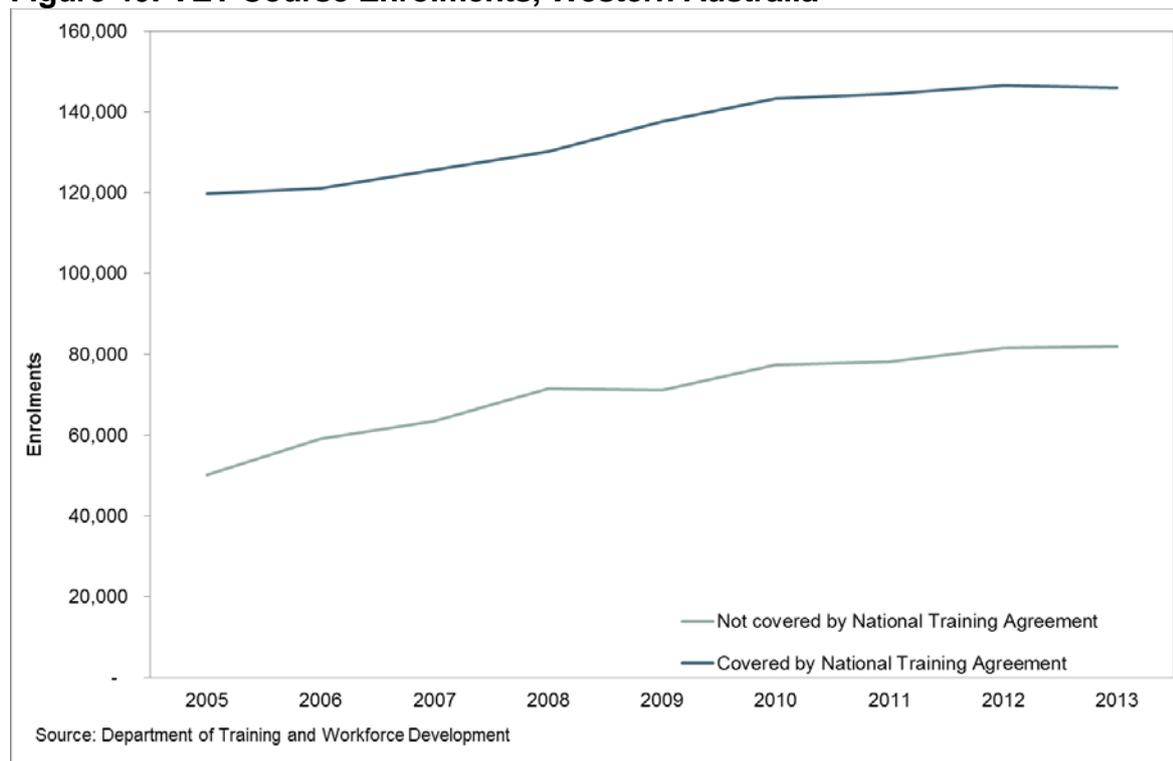
It should also be noted that not all VET students aim to complete a full course - some VET students only aim to complete skill sets⁶².

The majority of course enrolments are funded through the National Training Agreement between the Commonwealth and State Governments, with the 146 028 VET course enrolments funded in 2013 representing a rise of 22.2% over the 119 673 course enrolments funded in 2005.

Over the same period, course enrolments not covered by the National Training Agreement rose from 50 210 to 81 886, an increase of 63.1%. Course enrolments not covered by the National Training Agreement can vary year to year, as changing Commonwealth and State Government policies and funding levels administered outside of the control of the Department of Training and Workforce Development influence the VET market.

⁶² Even so, prevailing labour market (i.e. employer expectations) and policy changes are, over time, moving against this as a suitable pathway to employment, in favour of full completions of VET courses.

Figure 40: VET Course Enrolments, Western Australia



For VET planning purposes, the effects from the ‘half year cohort’ are also worth noting. Prior to 2002, children were eligible to attend Pre-year 1 in Western Australia if they turned five any time during the year. In 2002, only those who had turned five by 30 June 2002 were eligible for Pre-year 1. This resulted in a half cohort entering the school system in 2002. In 2014, the half year cohort is now in Year 12. The half year cohort, and its reduced size is expected to result in a fewer number of students entering the VET system in 2015.

Whilst the ‘half year cohort’ may have implications for VET in Schools delivery, apprenticeship and traineeship programs and the number of full-time student enrolments for the school leaver group, it is anticipated that the impact will potentially be short term, with the reduction in student numbers peaking in 2015 when the cohort enters post-secondary education and training.

Summary

Despite some notable softening in labour market conditions in the State, and expectations of moderate labour demand over the next few years, Western Australia’s VET training imperative remains strong, especially given growth in the State’s labour supply in coming years is also expected to be moderate.

In this context, Western Australia’s youth will be a vital component of the future labour supply for Western Australia, particularly with the expected ageing of the State’s population over coming years.

In addition, the early career pathways and related skilling up of Western Australia’s young people remains of significant importance in its own right, and therefore

vocational education and training sector continues to be crucial in connecting young people's competencies with industry needs.

Furthermore, while the State's resources sector will increasingly see a transitioning of many large projects into their less labour-intensive production phases over the next few years, such projects will still require a skilled and increasingly more permanent workforce.

More broadly, the mixed nature of the outlook for the State's labour market means that there are still expected to be some areas where significant unmet demand for skills could prevail, underscoring the importance of ensuring the State's training effort is appropriately targeted according to industry requirements.

Related to this, there is a key risk that such economic uncertainty, together with the moderate labour market conditions expected over the next year or so, will combine with factors such as resource construction workers 'returning' to non-resource construction roles, and the expected fall in the growth rate of the youth (15 to 24) population, to culminate in a drop in new apprenticeship numbers.

These factors and the other contextual areas and issues covered in this section therefore represent some of the key overall considerations that are important for this State Training Plan.



2.3. Occupational and Qualification Analysis

The State Training Plan focuses on ensuring that the training system is flexible and responsive and is targeted at those skilled occupations that are critical to the current and future workforce needs of industry.

This is achieved through comprehensive labour market analysis based on labour market trends and industry intelligence.

The two key analytical tools used are:

- The process to develop the State Priority Occupation List; and
- The WA Shares Model.

2.3.1. State Priority Occupation List

The State Priority Occupation List (SPOL) is an annually-produced list of jobs that are considered a priority in Western Australia. The SPOL includes those occupations that are either deemed critical to the State, have demonstrated unmet demand and/or are experiencing non-market⁶³ related factors that may influence the requirement for training. The SPOL also includes those occupations which have specialised skills that require extended learning or preparation time and have a clear education and/or training pathway.

The 2014 SPOL has been developed utilising a range of key economic and labour market data and projections, and advice and input from the Training Councils and stakeholders within the Department.

As in 2013, the supply of skilled workers has been determined by the numbers of completions of training courses and high education degrees in a specific field, or persons who have migrated to the State through a skilled migration pathway.

This has enabled the Occupational Priority Index (or 'OPI') calculations to include an allowance for whether the number of newly qualified or migrant workers for a specific occupation is meeting, not meeting or exceeding historical changes in demand. This subsequently provides a more accurate view of the 'marketplace' for skills in Western Australia.

This approach also recognises the current effort made by government at meeting skills and labour requirements within the wider economy (whether through VET/higher education outcomes, or through the migration of skilled labour into the State).

The Department of Training and Workforce Development (the Department) maintains within the SPOL database approximately 11 500 qualitative and 20 000 quantitative data items pertaining to the 1357 occupations and over 18 500 qualifications identified on the database.

⁶³ Non market factors refer to any set of factors, not related to demand or supply, which impacts upon the training or migration requirements for that occupation such as changes in regulation and licensing arrangements.

The SPOL is structured according to occupational priority – State Priority 1 or 2, or a Priority 3.

An occupation is deemed to be State Priority 1 if it is critical **and** evidence indicates that there is unmet demand or other non-market related factors influencing future training. State Priority 2 occupations are those that are critical **or** have unmet demand or other non-market related factors. Both State Priority 1 and 2 must have been ranked statistically in the top 50% of occupations in the State.

Priority 3 occupations are not considered priorities at the State level. While there may be evidence of unmet demand or other non-market-related factors impacting upon training or migration requirements at an industry (or potentially regional) level, these factors are not considered broad or deep enough to consider the occupations as State priorities.

However, while Priority 3 occupations are a lower priority than the State priority categories, they are still a higher priority than the 450-plus occupations that are not on the SPOL.

A copy of the SPOL is available in Appendix A and more detailed information on the SPOL methodology and consultation process can be found in Appendix B.

Outcomes of the 2014 SPOL

The moderating Western Australian labour market has had the most significant impact on the makeup and structure of the 2014 SPOL.

While employment growth has slowed to levels well below long term averages, the supply of skilled and semi-skilled workers has continued to remain high or increased in some areas. This has alleviated skills shortages and labour scarcity that was a hallmark of the State's labour market over the last ten years.

This has seen a reduction in the number of occupations deemed to be experiencing 'unmet demand,' which has had the effect of lowering individual occupational rating when compared to SPOL2013. In some cases, occupations have been removed from the list altogether.

Relative to the SPOL2013, 68 occupations came off the list for 2014, while 36 new occupations came onto the list. Those occupations coming onto the list were predominantly higher-skilled.

Of the full listing of 265 occupations for the 2014 SPOL, 181 occupations are deemed State priority occupations, while 84 are priority 3 occupations.

Over 84 per cent of occupations on the full list (95 per cent excluding the priority 3 occupations) are from the first three broad categories of managers, professionals, and technicians and trade workers (see next table).

Table 6: 2014 SPOL outcomes

Occupational Group	State Priority 1	State Priority 2	Priority 3	Total
1 Managers	6	15	2	23
2 Professionals	34	93	8	135
3 Technicians and trades workers	4	21	40	65
4 Community and personal service workers	3	3	18	24
5 Clerical and administrative workers	-	2	3	5
6 Sales workers	-	-	4	4
7 Machinery operators and drivers	-	-	7	7
8 Labourers	-	-	2	2
Total	47	134	84	265

This reflects one of the primary underlying principles of the list – that included occupations must incorporate specialised skills that require extended learning and preparation time.

2.3.2. Western Australian Shares Model

The WA Shares Model is an econometric tool used by the Department to provide an indication of how future training resources (in terms of student curriculum hours) should be distributed in order to meet the future demand for new workers with VET qualifications in Western Australia.

The Model helps determine the potential share of publicly funded training delivery that needs to be assigned to an occupational (ANZSCO⁶⁴) group relative to others. The aim of the Model is to ensure that each occupational group receives a share of training delivery commensurate with its expected need.

The model estimates a future distribution of student curriculum by adjusting the current distribution of student curriculum hours based on a number of different factors. The factors include:

- Forecast demand for new VET qualified workforce entrants;
- Relative training time;
- Modular completion rates;
- Return from Government investment in VET;
- Ageing workforce profile;
- Occupational churn; and
- Western Australia's State Priority Occupation List (SPOL).

It should be noted that the 2014 WA Shares Model has utilised data based on 2013 VET statistics that does not fully reflect the changes resulting from the introduction of *Future Skills WA* in 2014. For a detailed explanation of the factors contributing to the Model's determinations, see Appendix C.

⁶⁴ ABS, Australian and New Zealand Standard Classification of Occupations (ANZSCO)

The results of the WA Shares Model are indicative only and represent one of many factors considered in the overall determination of an occupational group's training needs. Other qualitative considerations sit outside the model and these also help in the overall determination of publicly funded training delivery.

Figure 41 illustrates the results of the 2014 WA Shares Model, showing the actual share of training that each VET related ANZSCO occupational group received in 2013, against the projected share needed by 2018.

According to the 2014 WA Shares Model, for the next four years to 2017–18, the top ten occupational groups which require increasing training effort are:

- Specialist managers;
- Road and rail drivers;
- Business, human resources and marketing professionals;
- Automotive and engineering trades workers;
- Design, engineering, science and transport;
- Hospitality, retail and service managers;
- Electro technology and telecommunications trades workers;
- Food trade workers;
- Sales representatives and agents; and
- Education professionals.

For all of the above occupational groupings, the main factor influencing the increased 'need' in training is the high forecast demand for new VET qualified entrants for those groupings, with in some cases, low levels of current training delivery.

The top ten occupational groups that have a share of future delivery need lower than the current training effort include:

- Health and welfare support workers;
- Carers and aides;
- Engineering, ICT and science technicians;
- Sports and personal service workers;
- General clerical workers;
- Hospitality workers;
- Arts and media professionals;
- Other labourers;
- Other technicians and trades workers; and
- Factory process workers.

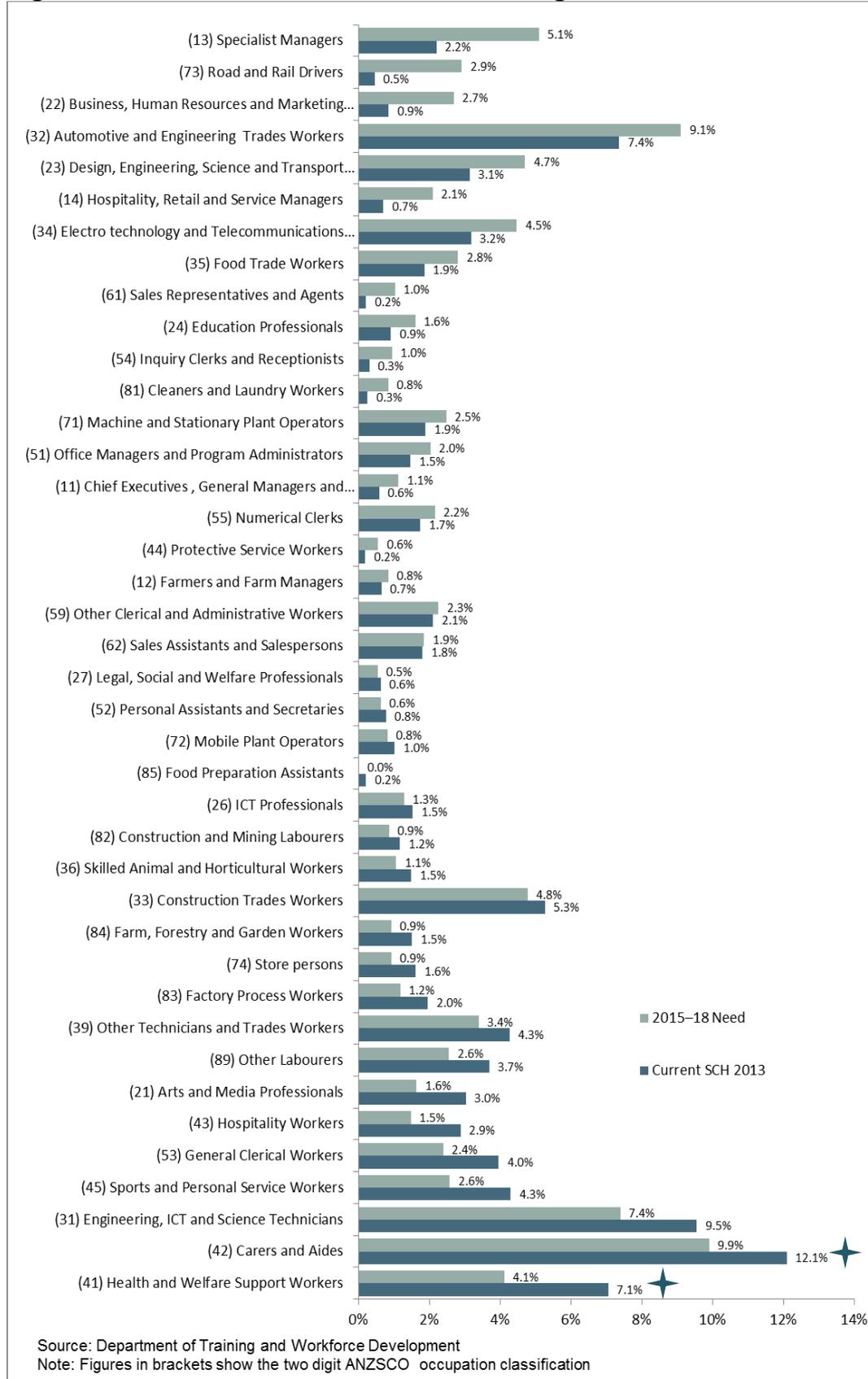
For these occupational groupings, their future training need is assessed to be lower than the current effort due to already existing high levels of delivery in conjunction with relatively low demand for new entrants with VET qualifications anticipated for their workforce in the next four years. For hospitality workers, high levels of occupational churn had a consequential impact of lowering the social return from Government investment in VET, which contributed to their decrease in their projected future training needs.

As per the previous State Training Plans, it has been recommended that some allowance should be given to qualifications that relate to Health and Community Services sector occupations in the State purchasing priorities. According to the WA Shares Model, current effort exceeds forecast need for the occupational groupings of Health and welfare support workers, and Carers and aides. This is a result of a range of factors including an ageing workforce and churn. However, because of the current and projected employment growth for this sector⁶⁵, the demographics of Western Australia's ageing population and the sector's overall importance to the State, it is again recommended that training delivery to those health and community services qualifications not showing a greater need in the Shares Model be maintained at current levels.

It should be noted that the results from the 2014 WA Shares Model are very similar to the 2013 WA Shares Model which was used in the previous 2014–2017 State Training Plan. This reflects the moderation in labour market conditions in Western Australia over the past two periods.

⁶⁵ The modelling projections from the STB Workforce Scenarios project show long term employment growth for community and personal services workers (out to 2030) that reflect a steadily ageing population into the future.

Figure 41: 2014 WA Shares Model: Percentage Distribution of VET Delivery



★ Note: While the current effort for these occupational groups exceeds forecast need, it is recommended that delivery is maintained at current levels. Please see preceding paragraphs on page 72 for further details.

2.3.3. Foundation Skills

The Department of Training and Workforce Development considers the development of foundation skills as important to the training agenda in Western Australia.

Foundation skills (language, literacy, numeracy and employability skills) underpin workforce participation, productivity and social inclusion.⁶⁶ In Australia, businesses have advised that they are adversely affected by poor language, literacy and numeracy in the workforce⁶⁷.

Forty five per cent of Australians (aged 15-74 years) have low levels of literacy and 55% have low levels of numeracy⁶⁸.

Raising the levels of language, literacy and numeracy has been identified as a national priority for skills and workforce development. The Western Australian Government is a signatory to the *National Foundation Skills Strategy (NFSS)* and is committed to raising the levels of language, literacy, numeracy and employability skills as a significant component of workforce development.

Foundation skills training is comprised of accredited courses and qualifications that focus on:

- English language, literacy and numeracy (LLN) – listening, speaking, reading, writing and use of mathematical ideas; and
- employability skills, such as collaboration, problem solving, self-management, digital literacy, learning and information and communication technology (ICT) skills required for participation in modern workplaces and contemporary life.

Analysis undertaken by the Department of Training and Workforce Development has identified those foundations skills courses and qualifications that are important to Western Australia.

Foundation Skills List

Each year the Department of Training and Workforce Development releases a *Foundation Skills List* which contains all the accredited courses and qualifications that are eligible to receive a government subsidy, subject to available budget. This list guides the Department's purchase of foundation skills training.

The current list is available on the Department's website at www.dtwd.wa.gov.au in the *Future Skills WA* section.

In recognition of the importance of foundation skills training, under *Future Skills WA*, at the discretion of the training provider, eligible students enrolled with an approved provider in a Certificate II, III or IV vocational qualification are able to get support to develop and apply foundations skills to increase their chances of successfully completing their training.

⁶⁶ Skills Australia (2010). *Australian Workforce Futures*.

⁶⁷ Skills Australia and Australian Industry Group (2010). *Report on Employers Views on Workplace Literacy and Numeracy Skills*.

⁶⁸ Australian Bureau of Statistics (2013) Programme for the International Assessment of Adult Competencies, Australia, 2011-2012. Cat. 4228.0

Two dual enrolment courses, which are always co-delivered with vocational training and fee free, will be used to provide this support:

- the *Course in Applied Vocational Study Skills (CAVSS)* which supplies a team teacher to support reading, writing and maths skills; and
- the *Course in Underpinning Skills for Industry Qualifications (USIQ)* which supplies additional tutorial support in a broader range of skills to meet the need of some groups.

While other foundation skills courses on the Foundation Skills List 2014 are not free, they will attract the lowest student course fees.



2.4. National and State Vocational Education and Training (VET) Priorities

2.4.1. National VET Priorities

The National Agreement for Skills and Workforce Development (NASWD) operates under the Intergovernmental Agreement on Federal Financial Relations Act (2009). The Agreement operates indefinitely unless the parties to the Agreement (the Commonwealth and all States and Territories) by unanimous agreement in writing revoke it. The NASWD was revised on 13 April 2012 but there is no end date.

The key outcomes of the NASWD include:

- the skill levels of the working age population are increased to meet the changing needs of the economy;
- all working age Australians have the opportunity to develop skills; and
- training delivers the skills and capabilities needed for improved economic participation for working age Australians.

The NASWDs long term targets are to:

- halve the proportion of Australians nationally aged 20-64, without qualifications at Certificate III and above between 2009 and 2020; and
- double the number of higher level qualification completions (diploma and advanced diploma) nationally between 2009 and 2020.

Under this agreement, the Commonwealth Government will provide funding contributions to the State to support the training system. For the period 2013-14 to 2017-18 of the agreement, the Commonwealth contribution will be \$821.5 million. Historically, the State Government contributes around three times this amount.

In 2013, training delivery funded through the Department resulted in the provision of over 146 000 subsidised course enrolments in Western Australia, benefiting almost 116 000 clients.

There are various time limited National Partnership Agreements (NPs) and Project Agreements (PAs) between the Commonwealth Government and the State Government relating to training and workforce development. These agreements provide funding for the achievement of specific structural reform milestones, training delivery outcome targets and project milestones that broadly support progress towards the higher level outcomes set out in the NASWD.

The following section provides an overview of the NPs and PAs in place in Western Australia.

National Partnership Agreement on Skills Reform (1 July 2012 to 30 June 2017)

The Skills Reform NP contains key reform initiatives under four reform directions of Transparency, Quality, Efficiency, and Access and Equity, and training outcome targets.

For the remaining period 2013-14 to 2016-17, the Commonwealth will provide a total financial contribution to the State of \$157.4 million over the four years. Sixty five per cent of the funding provided is on the basis of delivery of structural reforms and the remaining 35 per cent tied to performance in achieving training outcomes. Payment will be made by the Commonwealth subject to the achievement of agreed milestones and targets.

Western Australia finalised its *Implementation Plan for the Skills Reform NP* in December 2012, setting out its proposed strategies to achieve the milestones and targets.

The reforms relate to:

The introduction of a *training entitlement model*. A training entitlement provides more accessible training for working age Australians and, in particular, a more equitable training system. This includes the introduction of a national entitlement to a government subsidised training place to a minimum of the first Certificate III qualification. Western Australia's entitlement model is encapsulated in the State Government's *Future Skills WA* (see Section 2.4) which was implemented on 1 January 2014. This includes the availability of VET FEE-HELP (income-contingent loans) for Diploma and Advanced Diploma qualifications and for selected Certificate IV qualifications.

Transparency reform. The aim of the transparency reform is to create a more transparent VET sector, which enables better understanding of the VET activity that is occurring in each jurisdiction. The suite of initiatives currently being implemented under the *Transparency* reform direction include the introduction of a unique student identifier to track student data; collection of total VET activity to enable in-depth research and analysis; improved timelines for data submissions; and publication of RTO performance information on the *My Skills* website.

Quality reform. The aim of the quality reform is to create a higher quality VET sector, which delivers learning experiences and qualifications that are relevant to individuals, employers and industry. Under the *Quality* reform direction, Western Australia has established an audit and education function within the Department of Training and Workforce Development and implemented an External Validation Pilot project of RTO assessment practices in identified industry areas.

Efficiency reform. The aim of the efficiency reform is a more efficient VET sector, which is responsive to the needs of students, employers and industry. This includes improvements in government-to-government information sharing through the development of a shared information model. It also includes the development and implementation of strategies which enable public providers to operate effectively in an environment of greater competition. Under the *Efficiency* reform direction, the Department continues to implement a robust governance framework that enables the State Training Providers to operate effectively in an open and competitive market.

The *training outcome targets* within the Skills Reform NP aim to improve overall qualification completions over its term, with particular focus on:

- higher qualifications (Certificate III and above);

- completions by Indigenous Australians;
- people with a disability; and
- regional and remote students.

National Partnership on TAFE Fee Waivers for Child Care Qualifications (1 January 2010 to 31 December 2014)

This National Partnership aims to improve the qualification levels of child care workers. This is done by removing student fees for eligible enrolments in specified Diploma and Advanced Diploma of Children’s Services courses delivered by State Training Providers. The regulated student fee is waived by the institution and the fee revenue foregone reimbursed via Commonwealth payments. The introduction of *Future Skills WA* has resulted in revised and increased forward estimates of Commonwealth payments to Western Australia. In the 2014-15 Commonwealth budget (Budget Paper No. 3) the Commonwealth has estimated payments of \$1.6 million in 2013-14 and \$1.4 million in 2014-15 to Western Australia under this partnership.

Joint Group Training Program (JGTP) Project Agreement (1 July 2013 to 30 June 2014)

The Joint Group Training Program (JGTP) is a long standing program that provides funding to Group Training Organisations (GTOs) to support the employment of apprentices and trainees in skills shortage occupations; from under-represented groups; and in remote regions.

The JGTP encompasses strategies and initiatives to improve commencements and completions in Australian Apprenticeships in nationally agreed priority areas.

The JGTP has existed in its current form since 2002. The State has entered into annual agreements with the Commonwealth to receive funding for the JGTP. The total JGTP funding (includes State and Commonwealth contributions) has historically been in the order of \$6 million per year.

The term of the Project Agreement for 2013-14 concludes on 30 June 2014. The Commonwealth Government, however, has been undertaking a review of the JGTP during 2014. The review findings are expected towards the end of the 2013-14 financial year. The review findings will inform the Commonwealth Government’s funding decision in 2014-15 and beyond.

Apprenticeship reforms

The reform of the apprenticeship system supports outcomes of the Skills Reform National Partnership by creating a nationally consistent apprenticeship system. The harmonisation of apprenticeship agenda is aligning State and Territory systems to encourage apprentice mobility and increase apprentices’ training opportunities.

Through the Australian Apprenticeships Reform (AAR) Working Group, the Commonwealth and States and Territories have agreed to seven national harmonisation principles for the apprenticeship system. The harmonisation principles aim to reduce barriers to apprentice labour mobility, increase consistency of pathways into apprenticeships across States and Territories and reduce costs for business.

A key piece of work is to align occupations and qualifications suitable for an apprenticeship at a national level. This includes nationally consistent nominal durations of apprenticeships, probationary periods and apprenticeship pathways. This will benefit employers, particularly national employers, and will potentially allow apprentices to be more mobile and responsive to employment opportunities.

2.4.2. State VET Priorities

To improve workforce participation and to support the State's economic growth, the priorities for vocational education and training in Western Australia are guided by:

- *Skilling WA: A workforce development plan for Western Australia*;
- *Future Skills WA: Training for tomorrow's opportunities*;
- Occupational priorities as identified in the State Priority Occupation List and the WA Shares Model; and
- *Training together – working together*. Aboriginal workforce development strategy.

Skilling WA – A workforce development plan for Western Australia

Skilling WA is the overarching workforce planning and development framework aimed at maximising the availability of a skilled workforce for the State whilst also providing opportunities for Western Australians to achieve their own career aspirations.

Released in December 2010, *Skilling WA* was developed in collaboration with industry, community and government stakeholders. It outlines a suite of strategies designed to build, attract and retain a skilled workforce to support the current and future workforce needs of the State.

As the economic and labour market landscape has changed significantly since its release, the content and focus of *Skilling WA* is now under review.

Following an extensive consultation process, it was determined that the original five strategic goals remained relevant and will be retained.

The five strategic goals of *Skilling WA* are:

1. Increase participation in the workforce particularly among the under-employed and disengaged, mature-aged workers, Aboriginal and Torres Strait Islander and other under-represented groups;
2. Supplement the Western Australian workforce with skilled migrants to fill employment vacancies unable to be filled by the local workforce and address those factors which support a growing population;
3. Attract workers with the right skills to the Western Australian workforce and retain them by offering access to rewarding employment and a diverse and vibrant community and environment to live in;
4. Provide flexible, responsive and innovative education and training which enables people to develop and utilise the skills necessary for them to realise their potential and contribute to Western Australia's prosperity; and
5. Plan and coordinate a strategic State Government response to workforce development issues in Western Australia.

Skilling WA Edition 2 is currently under development with a release planned for late 2014. It continues the whole of government approach taken in the original *Skilling WA*, with over 35 stakeholder organisations contributing Priority Actions, including 22 State Government agencies.

Future Skills WA: Training for tomorrow's opportunities

On 1 January 2014, the State Government introduced *Future Skills WA*. This reform was implemented in response to the requirements of the National Partnership Agreement on Skills Reform and expected employment growth and ongoing strong demand for high-level skills in Western Australia.

Future Skills WA supports goal four of *Skilling WA*, which relates to skills development and is aimed at ensuring the sustainability of the Western Australian training system.

It provides Western Australians with greater ownership of their career decisions and encourages students to train for jobs that are, or will be, in high demand, helping ensure industry access to the skilled workers it needs both today and into the future.

To achieve this, *Future Skills WA* guarantees training will be subsidised in State priority courses for eligible students where a training place is available. These State priority courses include:

- all apprenticeships and eligible traineeships in Western Australia;
- priority industry qualifications which have been identified in the Priority Industry Qualification List; and
- two priority foundation skills courses.

Future Skills WA is a new way of funding training and will bring about changes to the current student subsidies and fees in Western Australia to ensure the training system is financially sustainable.

Under *Future Skills WA*, training programs are classified into the following four distinct categories:

- Diplomas and above;
- Apprenticeships and Traineeships and priority industry qualifications (Certificate IV and below);
- General Industry Training (Certificate IV and below); and
- Foundation Skills.

These categories determine the level of government subsidy, the tuition fees to be charged, whether students have access to a guaranteed training place, and whether students have access to the Commonwealth Government's VET FEE-HELP scheme.

A range of fee assistance measures have been introduced to assist eligible students, including fee caps and a continuation of concession arrangements. Concessions are available for eligible students studying all courses up to Certificate IV level under *Future Skills WA*. The one exception is foundation skills courses due to the very low level of fees. Around one third of all publicly funded training delivery is accessed through a concessional fee arrangement.

For the first time, VET FEE-HELP is available to eligible students enrolled in government subsidised Diploma and Advanced Diploma courses and provides students with a loan to cover their course fees. This means that eligible students are able to defer their fees and only start making repayments through the tax system once they earn above a certain income threshold, which is around \$50 000 per year in 2014.

In addition, eligible students enrolled in Certificate IV courses in Aged Care, Disability, Community Services Work, Youth Work, and Education Support between 2014 and 2016 also have access to VET FEE-HELP.

More information on *Future Skills WA* can be found at www.futureskillswa.wa.gov.au.

The designation of State priority courses in *Future Skills WA* is underpinned by extensive labour market analysis and industry advice. This is primarily informed by the State Priority Occupation List, which includes those occupations that are deemed industry-critical or where there is demonstrated significant unmet demand in Western Australia.

The WA Shares Model is also used to inform the development of the Priority Industry Qualification List under *Future Skills WA*. The WA Shares Model indicates where there is a potential under-supply or over-supply of training based on the gap between the assessed need and current level of training delivery. Funding policy considerations are also taken into account to determine the final list.

Information on the SPOL and the WA Shares Model is provided in Section 2.3.

Apprenticeships and traineeships continue to be central to ensuring Western Australia has a skilled workforce for the future. Apprenticeship programs combine paid work with structured training and tend to be in traditional technical trades, such as automotive, building and construction, electrical and metals trade areas.

A wide range of Apprenticeship and Traineeship pathways are available including school-based pre-apprenticeships, apprenticeships and traineeships, and higher level apprenticeships and traineeships, both full time and part time.

Apprenticeships and traineeships are important as there is a direct one-to-one relationship between employment and training, and is a demand driven approach.

VET in Schools

The VET in Schools program in Western Australia provides students with opportunities to gain a nationally recognised qualification, workplace experience and skills development whilst completing their secondary education.

Since 2009, the strategy for VET in Schools has been to more closely align enrolments in VET in Schools programs with State industry priorities.

Whilst there has been an expansion of VET in Schools over the years, and some success in aligning VET in Schools with industry need, it was apparent that a clear 'student centred' strategy that took into account the complexities of changing national and State VET policy settings would be required. Changes to the Western

Australian Certificate of Education (WACE) from 2015 also provided an opportunity to examine the VET in Schools program.

In April 2014, the Minister for Training and Workforce Development and Minister for Education released a number of resources to support the VET in Schools reform agenda. These included:

- a *Joint Ministerial Statement on VET in Schools*⁶⁹ which sets a clear strategic direction to support the reform of VET in Schools. It affirms the importance of VET in Schools as a valuable pathway for senior secondary students and provides direction as to how best meet the needs of students undertaking VET qualifications during these years;
- a VET in Schools Qualifications Register which provides parents, students and schools with industry guidance about the suitability of qualifications for delivery in a VET in Schools context and quality requirements for successful delivery to meet industry standards;
- a number of Good Practice Models which showcase schools that have demonstrated a strong commitment to providing quality VET in Schools programs. The models outline the systems and processes the selected schools have implemented to achieve quality outcomes, and highlight key enablers that support these processes; and
- a dedicated VET in Schools section on the Department of Training and Workforce Development's VETinfoNet website. In addition to housing these resources, the website will provide VET in Schools professionals with resources and links to support them to deliver quality programs.

It is anticipated that these resources, and, in particular, the VET in Schools Qualifications Register, will support schools to more closely align their VET in Schools programs with industry needs, and meet industry standards and requirements to ensure quality delivery.

Western Australian Certificate of Education Reforms

The Joint Ministerial Statement on VET in Schools supports the changes to the Western Australian Certificate of Education (WACE) which will be implemented from 2015. The WACE is a nationally recognised qualification (under the Australian Qualifications Framework (AQF)) and is awarded to senior secondary school students who meet the specified requirements. Whilst there is no specific time limit for completion of the WACE, students normally complete this certificate in their final two years of senior secondary studies.

In the revised WACE, students will be required to achieve either an Australian Tertiary Admission Rank (ATAR) or a minimum of a Certificate II VET qualification. The Department of Training and Workforce Development has worked closely with the Department of Education and other school systems to ensure VET in Schools is positioned as a valued senior secondary pathway with high quality and industry recognised outcomes.

⁶⁹ A copy of the Joint Ministerial State on VET in Schools can be found at: <http://vetinfo.net.dtwd.wa.gov.au/VETinschools>

The current WACE reforms in senior secondary education have focused very strongly on the need to provide the opportunity for a successful transition into further education, training or employment.

Training together – working together: Aboriginal workforce development strategy

In June 2010, *Training together – working together: Aboriginal workforce development strategy* was launched as a collective approach to improve the employment and training outcomes of Aboriginal people in Western Australia.

The key recommendations outlined in the *Training together – working together* strategy includes connecting employers with Aboriginal job seekers, promoting Aboriginal role models and removing barriers to participation in the workforce.

The key elements of the strategy include:

- a network of Aboriginal Workforce Development Centres in Perth, Broome, Geraldton, Kalgoorlie and Bunbury;
- implementation of the Aboriginal mentoring strategy across the State;
- an Aboriginal workforce development website providing information to jobseekers, employers and training providers; and
- identification and promotion (through the use of short videos) of Aboriginal role models who provide inspiration to Aboriginal jobseekers and counteract negative stereotypes of Aboriginal employees.

A review of actions against the above key elements in the *Training together - working together: Aboriginal workforce development strategy* was completed in 2013. The review identified considerable progress had been made and has resulted in a *Training together - working together Strategy Update* which was launched in May 2014. The update outlines the achievements to date and outlines the next steps for the *Training together – working together strategy*.

The key features identified in the *Strategy Update* include:

- formalising an Employer Engagement Strategy which is sufficiently flexible to meet local needs in each of the regions serviced by an Aboriginal Workforce Development Centre (AWDC);
- formalising a Youth Engagement Strategy with the aim of assisting young people to successfully transition from school to further education, training or employment; and
- developing social media communication strategies to support existing on-line and face-to-face service delivery by AWDCs.

Further information regarding the *Training together-working together* strategy can be found on the State Training Board website at www.stb.wa.gov.au



2.5. Other Key Inputs to the State Training Plan

Key inputs into the State Training Plan include industry and regional workforce development plans and other relevant research conducted by the State Training Board.

2.5.1. Industry intelligence

The Western Australian training system works closely with industry to ensure that the State has access to a workforce with the right level and mix of skills necessary to meet its economic goals.

Engaging with industry provides the training system with valuable intelligence regarding emerging workforce development and skill needs.

State Training Board

The State Training Board is a statutory body established by Part 3 of the *Vocational Education and Training Act (VET Act) 1996* and is the peak industry advisory body to Government regarding vocational education and training.

The Board's role is to provide high level expert advice to the Minister for Training and Workforce Development on matters relating to training and workforce planning and development.

The State Training Board members are appointed by the Minister for their experience and expertise in education and training, industry or community affairs and for their ability to contribute to the strategic direction of the State's training system.

As part of its work plan, the Board also undertook the following strategic projects related to vocational education and training and workforce development.

Youth Unemployment Project

In 2012 the State Training Board established a committee to examine youth unemployment in Western Australia. The aim of the project is to develop a Strategic Youth Workforce Development Plan for Western Australia.

Despite Western Australia's relatively well performing labour market, youth (aged between 15 and 24 years) are experiencing significantly higher rates of unemployment than people aged 25 to 64 years. Young people are often the first casualties of a moderating economy. Early school leavers are especially vulnerable in an uncertain labour market due largely to their age, poor literacy and numeracy, lack of skills, experience and/or knowledge and lack understanding of their rights in an employment market. Without adequate support they are more likely to face periods of unemployment or underemployment.

The report from phase 1 of the project, *Youth Matters: a study of youth education, training, employment and unemployment in Western Australia*⁷⁰, identifies key issues relating to youth in Western Australia. It is provided as an introduction to the

⁷⁰ Available for download at <http://www.stb.wa.gov.au/Pages/YouthUnemploymentProject.aspx>

challenges associated with the transition from secondary education and training to the workplace. It focuses on when young people fail to make a successful transition and the complexities of youth unemployment.

The research shows the majority of young people (around 75 per cent) make the transition from school to further education or training or work with little difficulty and go on to establish a permanent place in the labour market. Mainstream education, training and career advice services are suitable for these young people allowing them to self-navigate the information they feel is relevant to their circumstances.

Around 15 per cent of young people will need additional services or support to overcome some difficulties or problems during their school years but eventually make the transition to sustainable employment and will be active participants in the labour market. Many of these young people will access foundation courses, mentoring programs and other support services in addition to their education/training programs to overcome any difficulties they experience. Some will have false starts but will eventually make the transition successfully.

The remaining 10 per cent of young people will find the transition from school a very difficult process, many will be early school leavers, and will move directly from school to unemployment. This group require intensive, long-term support and services that go well beyond the normal transition requirements as many of these young people have multiple barriers to overcome and reside in areas of deeper economic and/or social disadvantage.

The challenges of youth unemployment

Key factors contributing to young people failing to effectively transition to the labour market include:

- Poor literacy and numeracy;
- Low educational expectations;
- Drug and alcohol use;
- Dysfunctional family life;
- Lack of secure housing or homelessness;
- Health issues, including mental health problems;
- Poor understanding of education and career pathways;
- Inadequate alternative educational programs; and
- Current welfare dependency.

Effective responses for disadvantaged and unemployed youth

Many of the young people who struggle with transition would benefit from access to models of alternative education and training that provide a flexible approach to learning. Although these services are available they are insufficient to deal with the demand and more support is needed in this area.

While there is some strength in the current arrangements there are weaknesses that impact on the capability of the overall system to support young people during transition. These weaknesses include:

- Fragmentation between institutions and services;
- Gaps in local service provision;
- Lack of responsiveness within services;

- Lack of accountability for explicit outcomes;
- Lack of information about the services; and
- Failures to monitor the progress of young people through the system.

The way forward

In 2013 the State Training Board launched phase two of the Youth Unemployment project. Phase 2 will build on the work of Youth Matters but will have considerably broader and deeper objectives and scope.

The Steering Committee proposes to consult with youth on their experiences and challenges as a way of ensuring services and programs target their needs. The Committee also proposes to share these findings with providers, employers and government in the development of a fully collaborative community based program to promote cooperative and 'joined up' services or 'wrap around' action to maximise the impact of government interventions at the local level. It will build on the work already undertaken by the State Government and promote and build partnerships with local communities. Local initiatives work best when all the available resources and capabilities are applied at the problem.

Crowding Out: Competition for Skilled Labour Project

The *Crowding Out* project coordinated by the State Training Board commenced in 2012. The project aimed to provide strategic advice to the Minister for Training and Workforce Development to mitigate the competitive pressures for skilled labour across all industries so that the State can meet the labour and skill requirements for existing and future projects critical to the Western Australia economy.

The State Training Board commissioned ACIL Tasman to undertake desktop research and analysis of the competition for skilled labour in the State and to identify 'crowding out' of skilled labour in non-resource industries. For the study ACIL Tasman developed a methodology for identifying the critical occupations for which the construction and operations associated with major mining and infrastructure projects (already underway or committed) are likely to lead to the displacement of workers from non-resource industries. The study relied on 2006 and 2011 Census data and a range of published sources regarding skill demand and supply in the Western Australian labour market. A key part of the methodology involves estimating the likely demand for workers in specific occupations required by the mining and heavy construction industries based on the projected construction and projects in each year to 2020 compared with the corresponding value in August 2006 and August 2011. This data includes the qualification profile (in terms of level and field of education) associated with each occupation in each industry.

The methodology for identifying which non-resource industries are likely to be 'crowded out' by the fast growing mining and heavy construction industries is based on each industries willingness (or capacity) to pay for hiring a person in a certain occupation, approximated by the average weekly income of a person in that occupation in an industry on Census Night 2011. The industry with the highest willingness (or capacity) to pay is allocated its demand first, the industry with the second highest second and so on until the total demand for that occupation is met or supply is depleted. Crowding out occurs when supply is depleted before all industries have satisfied demand.

The *Crowding Out: Competition for Skilled Labour* report identified 25 critical occupations for which a skills shortage is very likely to occur in the next several years. In phase 2 of the project, the State Training Board aimed to test and validate the key modelling results from Phase 1. The scope of the project was to engage with industry to understand the impact of crowding out, analyse transferrable skills and recommend strategies.

Since the completion of phase 1 of the Crowding Out project the Western Australia labour market has softened with rising rate of unemployment and falling employment growth. In addition there has been a rapid fall in the use of 457 visas within Western Australia, including in the critical occupations identified through the project. The softening of the labour market has seen an increase in the number of applications per vacancy in the rapid growth industries (resources and infrastructure projects). This softening was predicted in the phase 1 report as the resources industry moves from the construction-based phase to the production phase.

WA Future Workforce Scenarios and Projections to 2030

The State Training Board has adopted a scenarios-based approach to develop potential strategies and policies to address potential and plausible long term workforce futures for Western Australia. In 2012, the Department of Training and Workforce Development commissioned Deloitte Access Economics (on behalf of the State Training Board) to develop and model four plausible workforce scenarios for Western Australia for the period 2012–2030.

The *Workforce Scenarios and Projections – Western Australia* (the scenarios report)⁷¹ is based on similar work completed by the former Australian Workforce Productivity Agency (AWPA) which included four alternative visions of the potential future. The scenarios are not meant to be projections of the future nor are they based on past trends. Rather, they help deal with the uncertainties and risks of the future as well as those developments we can be reasonably certain of. Modelling of the supply and demand for skills and qualifications has been developed on the basis of these scenarios.

The scenarios adopted in Western Australia were:

- **Long Boom:** is largely based on the steady growth view of the Australian economy. It is generally characterised by a steady rate of economic and employment growth being achieved over the forecast horizon to 2030. Population growth in Western Australia is above the national average as is overall economic growth. There are strong job opportunities in the mining and associated industries.
- **Smart Recovery:** the current difficulties facing the Australian and global economies live on for several more years. Australia follows a low growth path to 2016, but after that date the global economy improves and Australia's economic fortunes begin to make a turnaround and the Australian economy moves back towards its potential growth path. Indeed, the period of economic stagnation forms a trigger for greater take-up of technology and improvement in productivity. Western Australia is hit harder than most in the years up to 2016 with commodity prices falling away and the pipeline of resource projects reducing significantly.

⁷¹ Appendix E provides further detailed information regarding the scenarios project including key findings

- **Terms of trade shock:** the global economy continues to grow at a healthy rate over time. However, compared with the long boom, the benefits to Western Australia of this growth are reduced because there is a more substantial reduction in commodity prices. The State's mining sector still enjoys a significant expansion in this scenario, but the returns on that expansion are far less than if the terms of trade had remained high.
- **Ring of Fire:** combines a lower global growth path over time with significant volatility. Some years after the official end of the GFC, the world economy remains in a state of flux, with low growth and high debt in developed countries a major concern. In this scenario the world economy is unnervingly volatile. Overall, new job opportunities are limited with employment growth staying at low levels over the long term.

The Board is currently examining the policy implications of Western Australia's long term workforce challenges, building on its modelling of the above four workforce scenarios.

Five key policy areas for improvement are emerging: opportunities for young people, VET and university pathways, harnessing technology, workforce portability and evolving skill needs, and the ageing population. The early policy implications of this work are:

- The education system must fully equip students in foundational skills to help them be successful in further study or work.
- Tertiary pathways and transition points should be re-designed to be student-centred (rather than system-centred) to enable students to make informed choices.
- Closer engagement between industry and the education system (at each level) should be pursued to ensure young people have the skills and mindset to prosper in the workforce.
- The existing tertiary sector (VET and Higher Education) needs to be simplified and more transparent to enable students, particularly young people, to navigate autonomously and successfully.
- Policy settings need to be reshaped to facilitate the expansion of VET and higher education pathways in order to meet the higher skill needs of the workforce.
- There is a need to create an agile workforce and training system that supports workers and employers in times of rapid or sudden change.
- The wider introduction of skills sets (defining skills sets and in some case funding them); and, supported development of initiatives that enable cross-industry portability, especially in industries subject to structural adjustment; and
- Graduates (both VET and Higher Education) would benefit from partnerships between tertiary providers and industry that provide employment places on graduation.

Industry Training Advisory Arrangements

The State Training Board, under section 22 (1) (b) of the *VET Act* recognises industry training advisory bodies. In Western Australia, the current industry advisory arrangements comprise ten Training Councils which are contracted and funded by the Department of Training and Workforce Development under Service Agreements.

The Training Council network in Western Australia receives a wide-range of input from key stakeholder representatives, including peak employer, employee and industry organisations and is responsible for providing:

- a leadership role in promoting training within industry areas, including strengthening partnerships between industry and the VET sector;
- industry advice regarding the development of strategic policy for Vocational Education and training (VET) in Schools;
- high level, strategic information and advice that informs the State Training Board on the training needs and priorities of industry in Western Australia;
- market intelligence on skills supply and demand, in particular, current or emerging skills shortages and recommends training strategies to support industry skill development needs; and
- detailed advice regarding the establishment/variation of apprenticeships and traineeships.

Training Councils provide a valuable contribution to the State Training Plan, particularly through the provision of critical occupation information which is used to inform the State Priority Occupation List (SPOL).

Each Training Council also develops an Industry Workforce Development Plan. The Plans identify major issues impacting on workforce development within the Training Council's industry areas of coverage and includes priority actions to address these issues.

The Industry Workforce Development Plans are aligned to the five strategic goals of *Skilling WA* and outline the key challenges to workforce development across the industry areas. Through these plans, industry, government and community sector strategies are identified at a local and State level to address these key challenges to workforce development in Western Australia.

Whilst each plan is industry specific, an evaluation of the ten industry plans has identified a number of common workforce development and training issues that impact across all industries. These include, but are not limited to:

- VET in Schools - attracting young people into industries where skill shortages exist have highlighted the need for more alignment of this training delivery to these industries;
- Ageing workforce – the lack of new entrants to meet the future workforce demands of industry.
- Participation in training – increasing participation for underrepresented groups such as Aboriginal people, youth, mature aged workers and people with a disability;
- Competition for labour - challenges for industry sectors which have less capacity to match the wages and employment conditions of the resources sector; and
- Low levels of language, literacy and numeracy skills are continuing to impact on workers ability to undertake work practices especially in trade industries.

Workforce Development Plans for each industry Training Council can be found on the following websites:

- Community Services, Health & Education Training Council: <http://csheitc.org.au/>
- Construction Training Council: <http://bcitf.org>
- Creative and Leisure Industries Training Council: <http://www.futurenow.org.au>
- Electrical, Utilities, and Public Administration Training Council: <http://www.eupa.com.au/>
- Engineering and Automotive Training Council: <http://eatc.com.au/>
- Financial Administrative and Professional Services Training Council: <http://www.fapstc.org.au>
- Food, Fibre & Timber Industries Training Council: <http://www.fftitrainingcouncil.com.au/>
- Logistics Training Council: <http://logisticstc.asn.au/>
- Resources Industry Training Council: <http://ritcwa.com.au>
- Retail and Personal Services Training Council: <http://www.rapstc.com.au/>

Training Councils also provide advice to the Department regarding the development of strategic policy in relation to VET in Schools.

Since 2009, the strategy for VET in Schools has been to more closely align enrolments in VET in Schools programs with industry priorities. To achieve this, the Department has worked collaboratively with key stakeholders to progress the strategic reform of VET in Schools to ensure these programs better meet the needs of industry and students.

The Department of Training and Workforce Development consulted extensively with the Training Councils in the development of the VET in Schools Qualifications Register. It is anticipated that this will be a valuable resource in communicating industry needs and requirements to schools and influencing which qualifications are delivered in VET in Schools programs.

The Department also conducted a series of workshops with the Training Councils, schools and the education systems/sector to develop overarching strategies and principles for more effective involvement between these groups. A School and Industry Engagement Framework is being developed and will be implemented over the coming years. This will also strengthen the connection between VET in Schools programs and delivery, and industry needs.

2.5.2. Regional workforce development plans

Under the framework of *Skilling WA*, the Department and local regional alliances are responsible for developing and implementing a suite of workforce development plans for each of the nine regions within the State.

The plans identify each region's current and future workforce development and skill needs and provide whole-of government, industry and community sector strategies to ensure these needs can be addressed.

In 2013, plans for the Kimberley, Goldfields-Esperance, Wheatbelt, Great Southern, South West and Pilbara regions were launched. Copies of these plans and their executive summaries are available to view at www.dtwd.wa.gov.au.

Regional plans are expected to be released for the Gascoyne, Peel and Mid West regions during 2014-2015.

A number of common themes relating to workforce development have emerged in the regional plans. These themes are briefly outlined below:

- The challenge of attracting and retaining young people in regional communities and therefore the workforce. The key factors contributing to this include the availability of education and training (in particular, higher education), perceived lack of career prospects and lifestyle issues.
- Increasing the participation of under-represented groups – This issue is critical to addressing their skills and workforce development needs over the coming years, particularly among the underemployed and disengaged, mature-aged workers, Aboriginals and Torres Strait Islanders and people with disabilities.
- Competition between the regions for skills and labour - This is not just limited to the 'non-mining' regions, which highlight their inability to attract and retain workers, but also to the Mid-West and Goldfields/Esperance regions which raise concerns about their capacity to meet their skill and labour demands when competing with major resource projects in the Pilbara region. The occupational categories where competition is occurring is wide ranging and includes professionals, trade and technical workers, community service workers, plant operators and a number of semi-skilled occupations.
- Housing availability and affordability - A lack of available and affordable housing in many regions and/or sub-regions has resulted in some businesses experiencing difficulties attracting and retaining staff to the point where some businesses have become unviable.
- Lack of language, literacy and numeracy standards is a concern for employers.
- Lack of childcare workers within the regions and/or sub-regions - the staffing of childcare facilities are important to the attraction and retention of families and sole parents in the region.

As is the past, the regional plans provide context and some background information to help validate the occupational and training needs for the State.



2.6. Progress towards State Training Plan Priorities

Previous State Training Plans have targeted training priorities to assist in growing the number of skilled workers and supporting higher levels of workforce participation for all Western Australians.

Taking into account the State and national VET policy settings and trends identified through economic and labour market analysis, the State Training Board's objective over the years has been to 'shape' the profile of training to meet the needs of industry and the State's economy.

Preceding State Training Plans have identified the need for continued growth in apprenticeships and traineeships, increased institutional delivery for priority occupations and increased training efforts in higher level qualifications. In addition, the Plans have focussed on providing increased training opportunities for Aboriginal people, people with a disability and those residing in regional and remote areas of the State.

Using appropriate data, a review of how the priorities have progressed over the years is provided in this section.

Achievement against previous State Training Plan priorities

Western Australia's purchasing priorities have continually supported the delivery of training in those occupational areas that are considered critical to the State.

Figure 42 illustrates the actual student curriculum hours (SCH) delivered for each of the occupational groupings⁷² during the period 2011 to 2013. Those occupations that were identified as a priority in previous Plans are marked with the symbol ↑.

Occupational categories with the largest forecast growth have also been taken into account when determining purchasing priorities. As such, previous State Training Plans have recommended that training be targeted at managers, professionals, machinery operators and drivers, and Technicians and Trade Workers.

Figure 42 illustrates that increases in the delivery of training have occurred for many of the identified priority areas including:

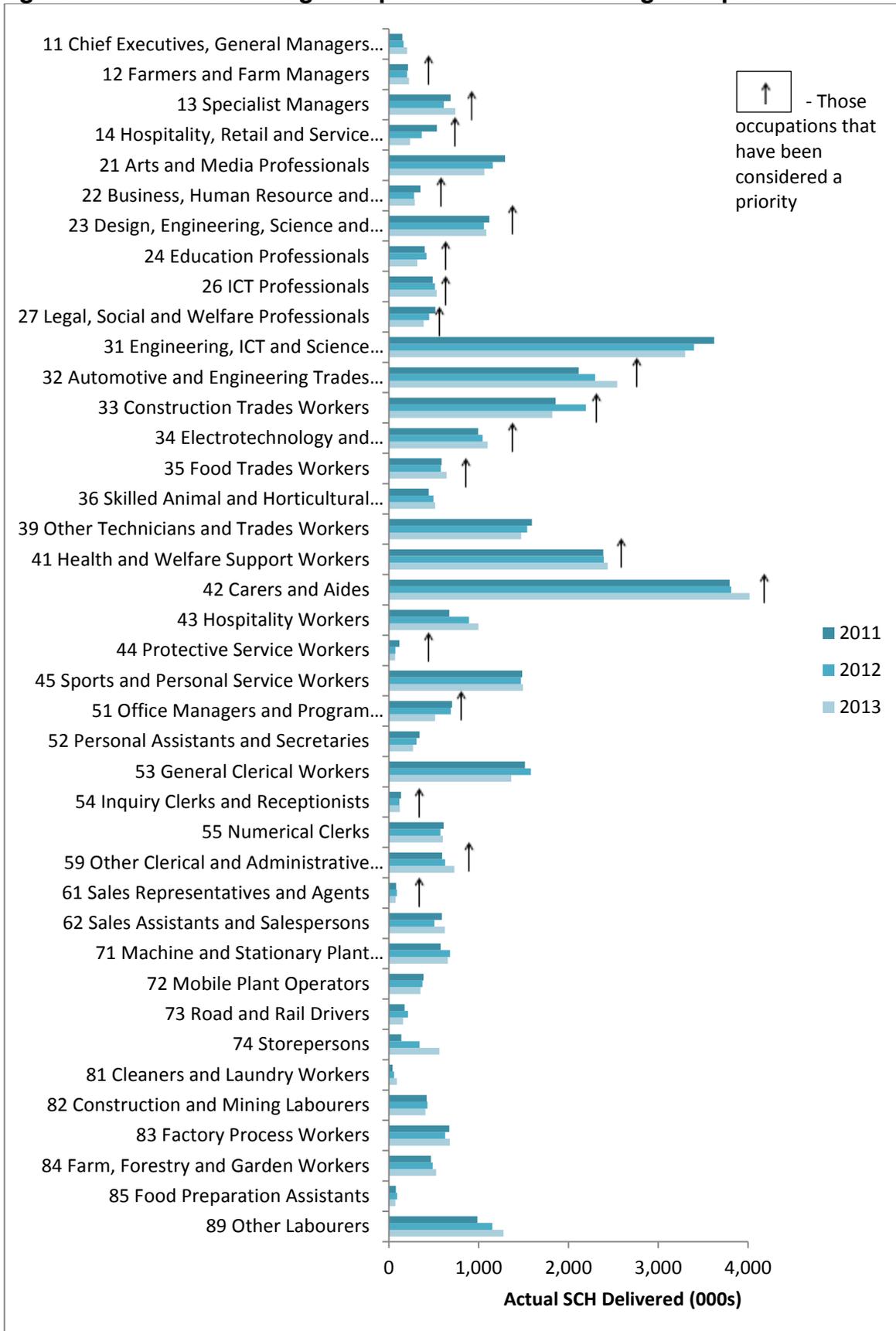
- farmers and farm managers;
- specialist managers;
- ICT professionals;
- automotive and engineering trades workers;
- electrotechnology and telecommunications trades workers;
- food trade workers;
- carers and aides; and
- health and welfare support workers.

⁷² 2 digit ANZSCO code

Based on current policy settings and the assessed needs of the Western Australian labour market, it is apparent that this State Training Plan will need to focus on similar priorities as those identified in previous plans.

For those priority industry areas where the delivery of training did not increase, further research and analysis is currently being undertaken by the Department where additional consideration may be required depending on the findings.

Figure 42: Achievement against previous State Training Plan priorities



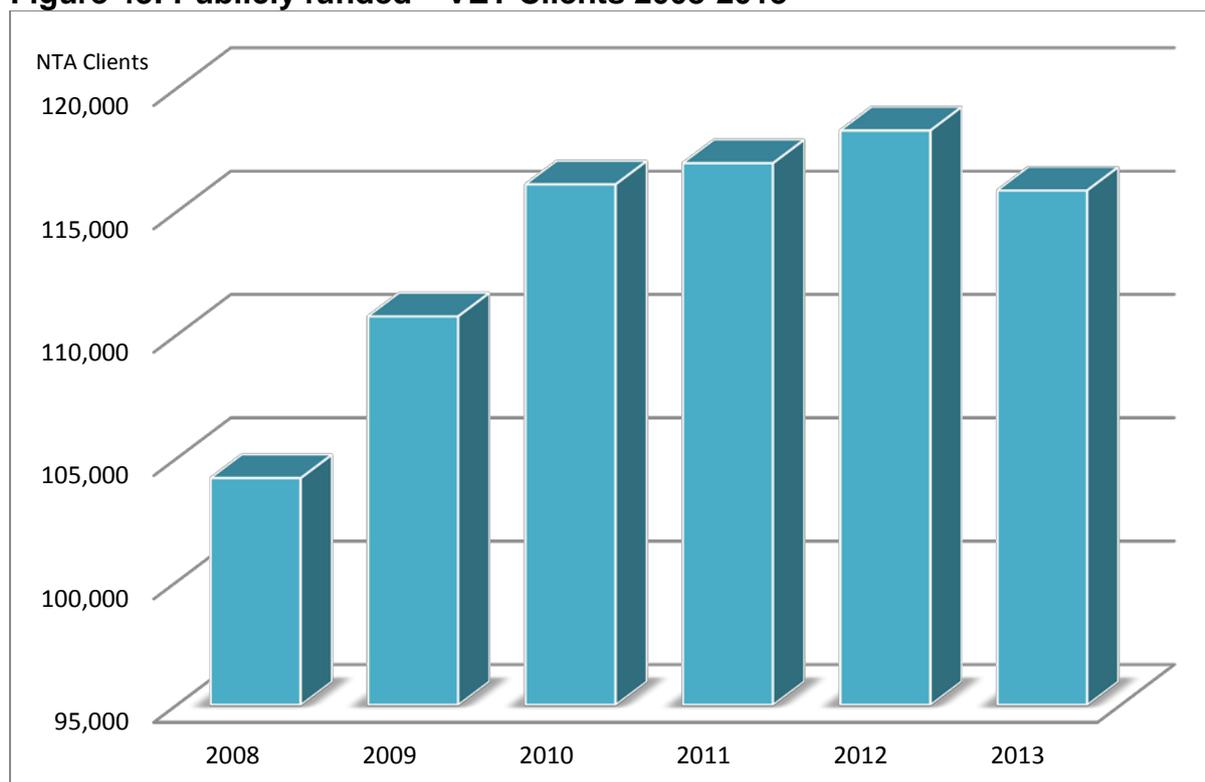
Source: Department of Training and Workforce Development, AVETMISS VET Provider Collection: Note: Excludes General Education and Training

Participation in training

Increasing the skill and qualification levels of Western Australians is crucial to meeting the future economic growth of the State. In line with reforms under the National Partnership and key strategies of *Skilling WA*, previous Plans have focused on increasing the participation of Western Australians in training.

As illustrated in Figure 43, between 2008 and 2013, there has been an 11.2% increase in the number of people participating in training. Since 2010, the increase has moderated.

Figure 43: Publicly funded⁷³ VET Clients 2008-2013



Source: Department of Training and Workforce Development, VET enrolment data collection

Increasing apprenticeships and traineeships

Apprenticeships and traineeships are important to the State as they allow individuals to gain qualifications while supplying skilled workers to Western Australian industries and previous Plans have strongly supported growth in these areas.

The table below shows the number of apprentices and trainees 'in training' and the number of commencements and completions for the period 2004-2013.

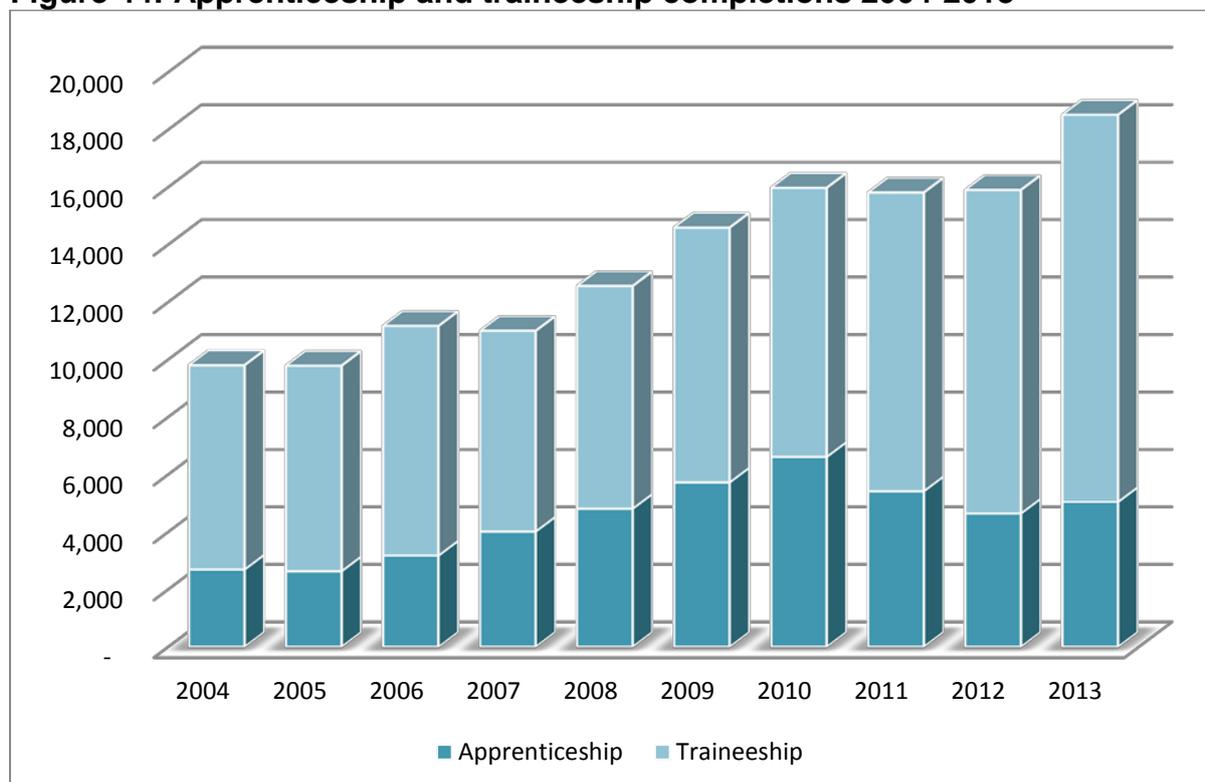
Over the last decade, the table and Figure 44 illustrates that overall, the number of apprenticeship and traineeship completions have increased with a combined growth of almost 89%. This growth has been predominantly in traineeships, whereas apprenticeship completions have declined from a high in 2010.

⁷³ Funded under the National Training Agreement

Table 7: Apprenticeships and traineeships participation 2004-2013

	Apprenticeships			Traineeships		
	In training	Completed	Commenced	In Training	Completed	Commenced
2004	14,328	2,692	6,451	11,845	7,110	13,353
2005	17,164	2,633	7,808	12,366	7,152	13,407
2006	19,867	3,180	8,917	11,794	7,989	13,709
2007	21,604	4,013	9,403	12,360	6,983	14,442
2008	21,582	4,809	8,779	14,220	7,748	16,919
2009	19,059	5,726	7,111	16,176	8,867	17,098
2010	18,698	6,613	10,355	18,653	9,363	19,186
2011	18,559	5,416	9,832	19,188	10,394	19,745
2012	19,090	4,642	9,676	23,681	11,260	26,175
2013	18,529	5,045	8,703	24,367	13,473	22,665

Figure 44: Apprenticeship and traineeship completions 2004-2013

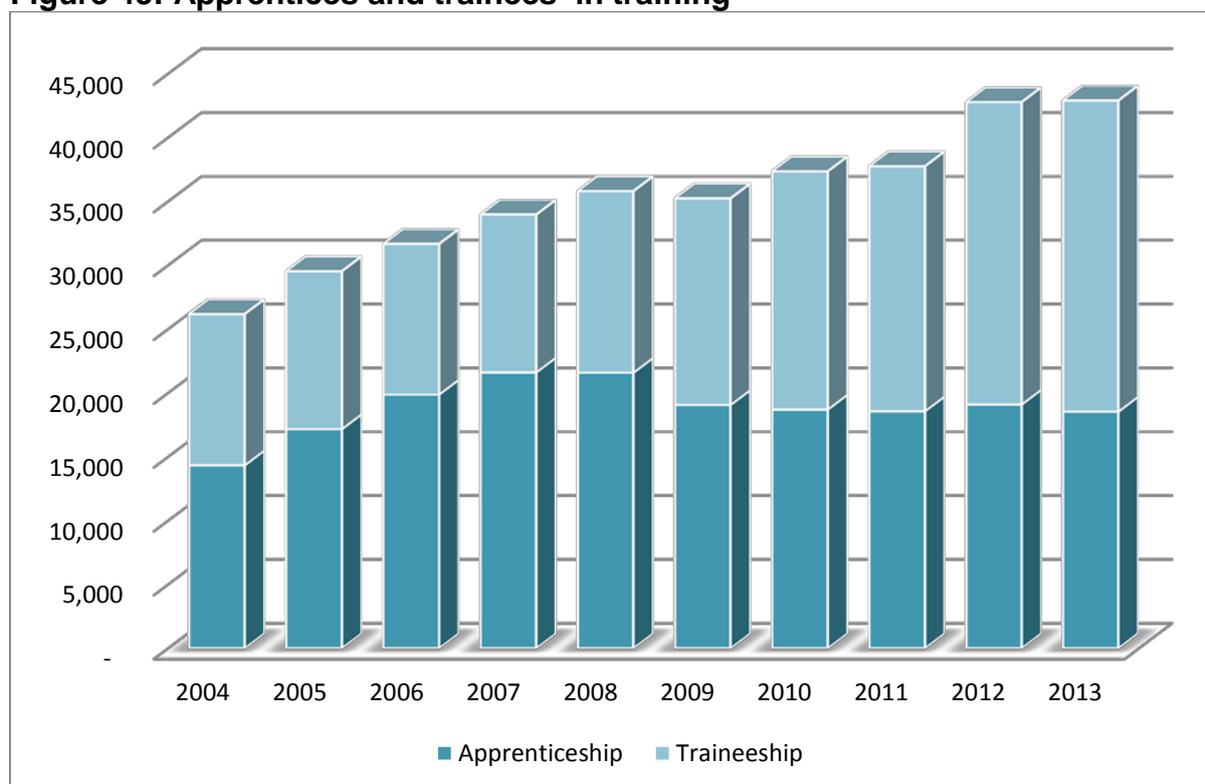


As illustrated in Figure 45, whilst there has been an overall increase of 63.9% in the combined number of apprentices and trainees ‘in training’ since 2004, Western Australia experienced a decline in the number of apprentices ‘in training’ in 2009. This is likely due to the effects of the economic downturn in 2008 which subsequently impacted on those industries that have a considerable number of apprenticeships.

Since then, the levels of apprentices ‘in training’ have remained reasonably stable which may be in part due to business uncertainty around future economic conditions.

Further research and analysis on these trends is being undertaken by the Department in conjunction with industry.

Figure 45: Apprentices and trainees ‘in training’



Source: Department of Training and Workforce Development, VET enrolment data collection

Participation of under-represented groups in training

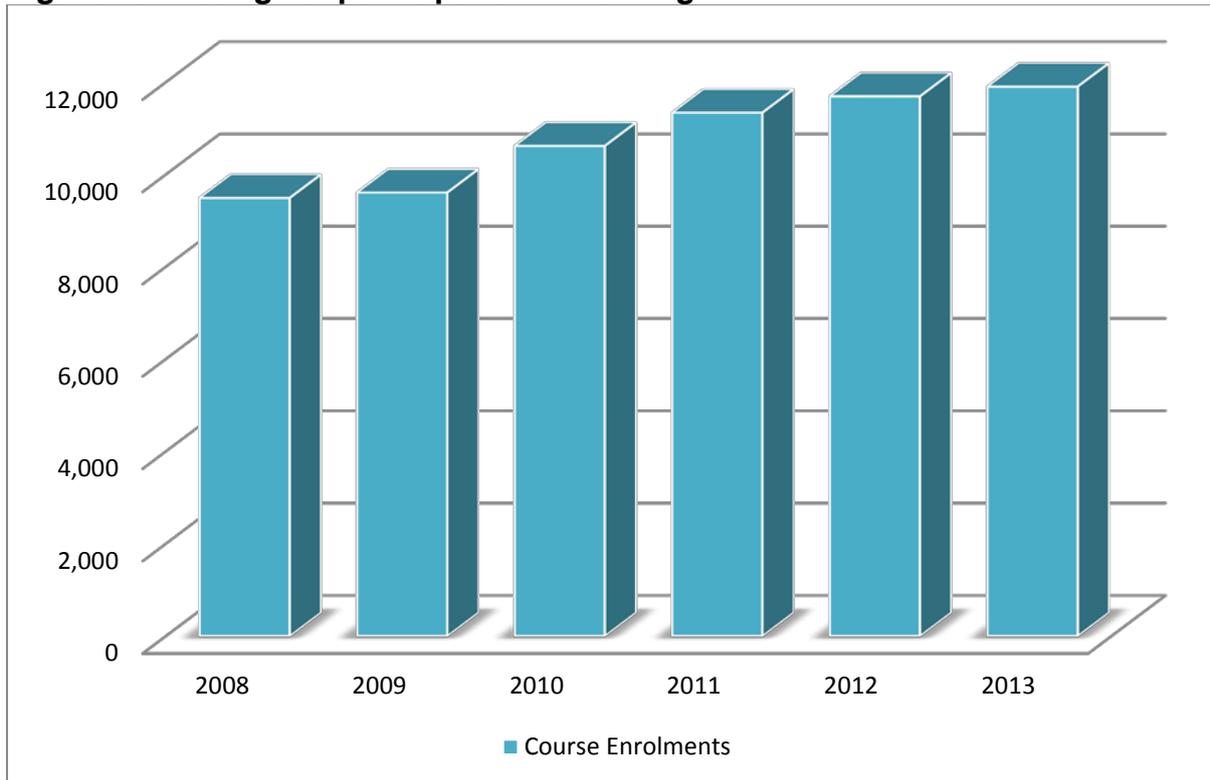
Previous State Training Plans have identified the need to increase participation of under-represented groups in training and the workforce.

In June 2010, the *Training together-working together: Aboriginal workforce development strategy* was launched as a collaborative approach to address the problem of low levels of participation by Aboriginal people in the State’s workforce. A key element of the initiative included the establishment of an Aboriginal Workforce Development Centre in the metropolitan area and four centres in regional Western Australia. Since inception until June 2014, the Aboriginal Workforce Development Centres have placed over 900 Aboriginal people into employment and over 450 Aboriginal people into training that is closely linked to job opportunities.

Figure 46 illustrates that since 2008 there has been a 25.4% increase in the number of Aboriginal people participating in public funded⁷⁴ training. This growth has likely been supported by the implementation of the *Training together – working together strategy*.

⁷⁴ Funded under the National Training Agreement (NTA)

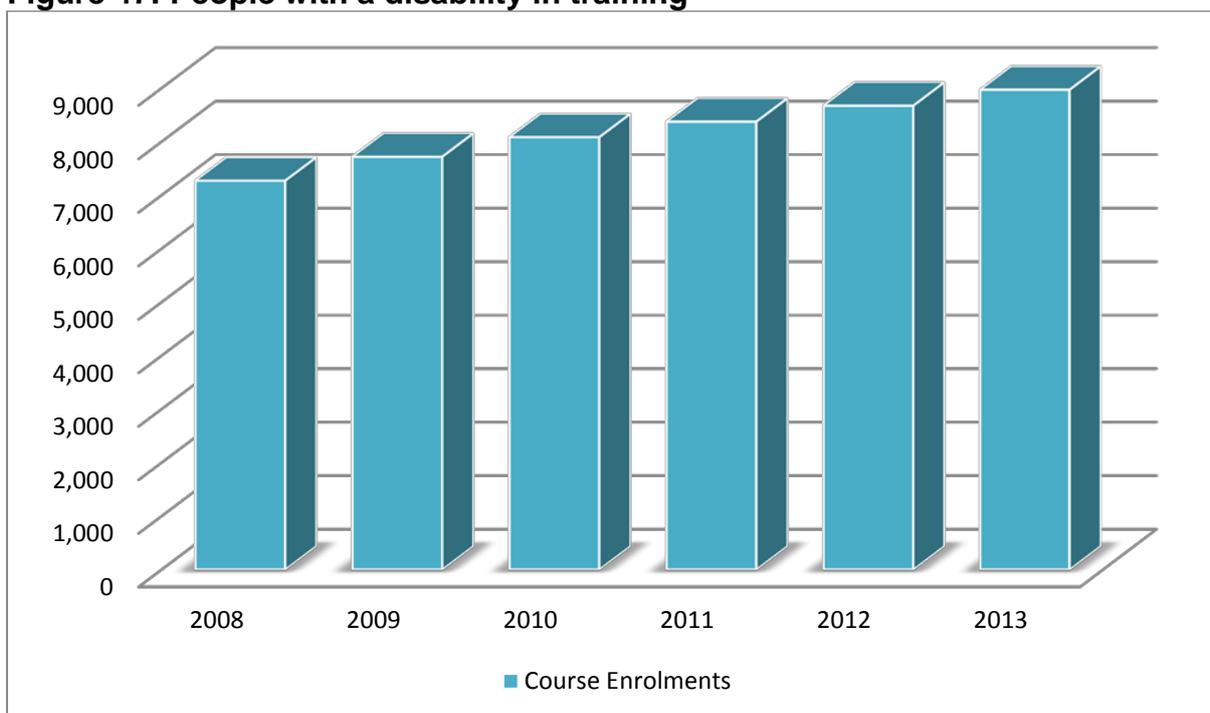
Figure 46: Aboriginal participation in training



Source: Department of Training and Workforce Development, VET enrolment data collection

Another priority of previous State Training Plans has been to increase the training opportunities for people with a disability. The figure below illustrates that there has been steady growth in the delivery of training for this group with an overall increase of over 23% during 2008 to 2013.

Figure 47: People with a disability in training



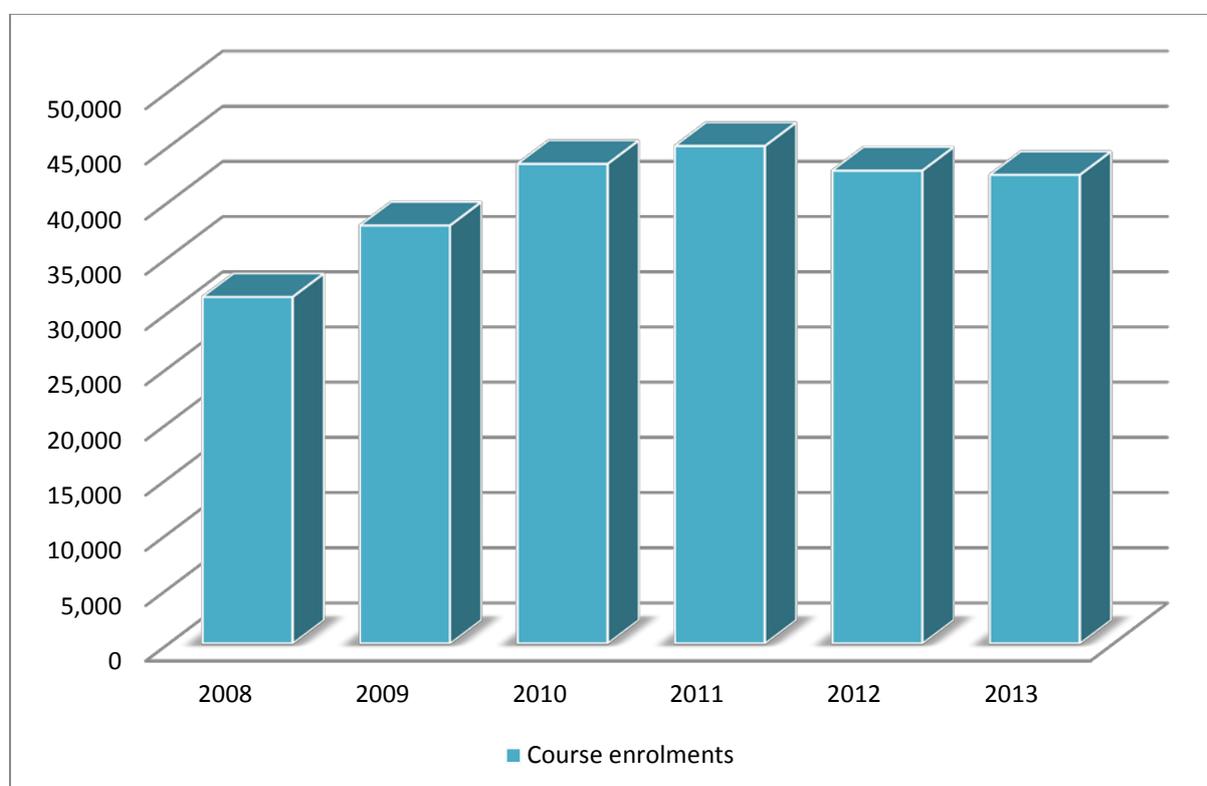
Growth in higher level qualification enrolments

To meet the Skills Reform NP targets regarding higher level qualification completions and to address industry's need for higher level skills, previous Plans have recommended increasing the take up of higher level qualifications.

As can be seen in Figure 48, Western Australia has experienced considerable growth in the delivery of high level training between 2008 and 2013. Despite the number of Certificate IV and above qualifications moderating marginally since 2011, there were 42,438 course enrolments in Certificate IV and above qualifications in 2013, representing an increase of over 35% since 2008.

The decrease in the delivery of training between 2011 and 2013 is likely in part due to the completion of the Productivity Places Program (PPP)⁷⁵ and its associated funding in June 2012.

Figure 48: Certificate IV and above training delivery 2008-2013



Source: Department of Training and Workforce Development, VET enrolment data collection

⁷⁵ The National Partnerships Agreement on the Productivity Places Program (NP PPP) provided funding for training growth above the baseline activity levels of the National Agreement for Skills and Workforce Development. As documented in previous Plans, by the end of 2011, Western Australia had delivered an additional 76,000 places surpassing the cumulative target set by the NP PPP.



2.7. Recommended Training Investment Priorities 2015-2018

The following recommended priorities are aligned to the current and future needs of the State and the imperatives outlined previously.

It should be noted that whilst previous plans have focussed on occupational priorities, the recommended priorities in this year's Plan are pitched at a more strategic level, taking into account not only the implementation of *Future Skills WA*, but also the findings of research work undertaken by the State Training Board.

These priorities will continue to provide guidance to the Department of Training and Workforce Development on the areas that should be given emphasis in the purchase of training from the State Training Providers and private providers.

It should also be noted that the provision of training is largely demand driven and occurs across a wide range of qualifications including apprenticeships and traineeships, priority industry training and general industry training qualifications.

This State Training Plan 2015-2018 will continue to apply the '80/20 rule' whereby a large part of the training needs are addressed by meeting the demand of consumers, that is, students and employers.

It is recommended that the priorities listed below be applied to the development of *Future Skills WA* policy settings for 2015.

PRIORITIES

Occupational priorities

Continued focus on:

- ❖ apprenticeships and traineeships;
- ❖ those qualifications that are a priority of industry (those listed in the Department of Training and Workforce Development's Priority Industry Qualifications List); and
- ❖ essential foundation skills.

Youth

Stronger emphasis on pathways to higher level qualifications and/or employment

Addressing language, literacy and numeracy (LLN) skills with continued emphasis on foundation skills training.

Under-represented groups

Continued emphasis on training opportunities for Aboriginal people, people with a disability and those people living in regional and remote areas.

Addressing language, literacy and numeracy (LLN) skills with continued emphasis on foundation skills training.

Ageing population

Continued emphasis on training for health and community services occupations.

In addition to the above, it is recommended that further consideration be given to increasing pathways to University.



2.8. Procurement of Training Priorities

The Department is responsible for the purchase of training and related services in accordance with the State's priorities and the State Training Plan.

This involves the strategic planning, formation and management of service agreements, contracts with, or grants to, external stakeholders, including, State Training Providers, private training providers, the Western Australian Academy of Performing Arts (WAAPA), Workforce Development Centres, Group Training Organisations and other providers. The Department's Service Resource Management Directorate manages all aspects of this process and the relationships with contractors and service providers.

The Department's procurement processes reflect the priorities of this Plan, which take into account the long term planning goals of *Skilling WA – A Workforce Development Plan for WA*; State priorities and Commonwealth priorities which include the National Agreement for Skills and Workforce Development and other National Partnership Agreements.

In the case of State Training Providers (STP's), this is done through the Delivery and Performance Agreements process. Delivery and Performance Agreements contain negotiated training delivery profiles which are aligned to the guarantee of a subsidised training place under *Future Skills WA* and other priorities identified in the State Training Plan. The profiles also identify General Industry delivery priorities that among other things support higher level qualifications and skills pathways and training delivery for targeted access groups and youth.

The majority of procurement with private training providers is done through competitive tender and grant processes which are also aligned where required with State training priorities, with a particular focus on those qualifications that have guaranteed training places under *Future Skills WA*. In some instances however, training contracted through these processes will specifically target special needs groups including people who have a barrier to accessing mainstream training and/or employment opportunities. In line with State Government procurement practices, these tenders and grants are advertised on the State Government Tender site, Tenders WA.

Tender and grant documentation for all programs are designed to clearly articulate the purchasing priorities for each program. This is done to ensure transparency of process and to facilitate market comprehension of the purchasing priorities in order to obtain the most targeted response from providers.

Under *Future Skills WA*, the contracting arrangements in 2014 have been streamlined to ensure a more efficient and effective process for the selection and subsequent management of contracted Registered Training Organisations (RTOs). The aim of this arrangement is to achieve greater quality training provision while providing healthy competition and choice for students and employers.

Department procurement processes and the development of programs are designed to ensure that targeted purchasing of training is strongly aligned with the State Training Plan.

2.9. Appendices

2.9.1. Appendix A – State Priority Occupation List (SPOL) 2014

State Priority 1

ANZSCO	ANZSCO Description	ANZSCO	ANZSCO Description
121214	Grain, oilseed or pasture grower	253321	Paediatrician
121312	Beef cattle farmer	253324	Thoracic medicine specialist
133111	Construction project manager	253411	Psychiatrist
133112	Project builder	253511	Surgeon (general)
134111	Child care centre manager	253512	Cardiothoracic surgeon
134212	Nursing clinical director	253513	Neurosurgeon
231111	Aeroplane pilot	253514	Orthopaedic surgeon
231113	Flying instructor	253516	Paediatric surgeon
231114	Helicopter pilot	253517	Plastic and reconstructive surgeon
232212	Surveyor	253521	Vascular surgeon
233913	Biomedical engineer	253911	Dermatologist
241511	Special needs teacher	253912	Emergency medicine specialist
251212	Medical radiation therapist	253913	Obstetrician and gynaecologist
251214	Sonographer	254211	Nurse educator
251411	Optometrist	254311	Nurse manager
251912	Orthotist or prosthetist	323211	Fitter ((general) - including mechanical fitters and plant mechanics)
252112	Osteopath	341111	Electrician (general)
252311	Dental specialist	341112	Electrician (special class)
253211	Anaesthetist	342111	Air-conditioning and refrigeration mechanic
253311	Specialist physician (general medicine)	421111	Child care worker
253312	Cardiologist	421114	Out of school hours care worker
253314	Medical oncologist	423111	Aged or disabled carer
253316	Gastroenterologist		
253317	Intensive care specialist		
253318	Neurologist		

State Priority 2a (Critical Occupations)

ANZSCO	ANZSCO Description	ANZSCO	ANZSCO Description
111111	Chief executive or managing director	241213	Primary school teacher
121313	Dairy cattle farmer	241311	Middle school teacher
121322	Sheep farmer	241411	Secondary school teacher
121411	Mixed crop and livestock farmer	241512	Teacher of the hearing impaired
132311	Human resource manager	241513	Teacher of the sight impaired
133211	Engineering manager	251211	Medical diagnostic radiographer
134211	Medical administrator	251213	Nuclear medicine technologist
139912	Environmental manager	251311	Environmental health officer
221111	Accountant (general)	251312	Occupational health and safety adviser
222311	Financial investment adviser	251412	Orthoptist
222312	Financial investment manager	251511	Hospital pharmacist
231211	Master fisher	251512	Industrial pharmacist
231212	Ship's engineer	252312	Dentist
231213	Ship's master	252411	Occupational therapist
231214	Ship's officer	252511	Physiotherapist
232111	Architect	252611	Podiatrist
232611	Urban and regional planner	252711	Audiologist
233111	Chemical engineer	252712	Speech pathologist
233112	Materials engineer	253111	General medical practitioner
233211	Civil engineer	253112	Resident medical officer
233212	Geotechnical engineer	253313	Clinical haematologist
233213	Quantity surveyor	253315	Endocrinologist
233214	Structural engineer	253322	Renal medicine specialist
233215	Transport engineer	253323	Rheumatologist
233311	Electrical engineer	253399	Specialist physicians not elsewhere classified
233411	Electronics engineer	253515	Otorhinolaryngologist
233511	Industrial engineer	253518	Urologist
233512	Mechanical engineer	253914	Ophthalmologist
233513	Production or plant engineer	253915	Pathologist
233611	Mining engineer (excluding petroleum)	253917	Diagnostic and interventional radiologist
233612	Petroleum engineer	253918	Radiation oncologist
233911	Aeronautical engineer	253999	Medical practitioners not elsewhere classified
233912	Agricultural engineer	254111	Midwife
233915	Environmental engineer	254411	Nurse practitioner
234112	Agricultural scientist	254412	Registered nurse (aged care)
234211	Chemist	254413	Registered nurse (child and family health)
234411	Geologist	254414	Registered nurse (community health)
234611	Medical laboratory scientist		
234711	Veterinarian		
241111	Early childhood (pre-primary school) teacher		

ANZSCO	ANZSCO Description
254415	Registered nurse (critical care and emergency)
254416	Registered nurse (developmental disability)
254417	Registered nurse (disability and rehabilitation)
254418	Registered nurse (medical)
254421	Registered nurse (medical practice)
254422	Registered nurse (mental health)
254423	Registered nurse (perioperative)
254424	Registered nurse (surgical)
254425	Registered nurse (paediatrics)
254499	Registered nurses not elsewhere classified
262112	ICT security specialist
263111	Computer network and systems engineer
263112	Network administrator
263113	Network analyst
263311	Telecommunications engineer
263312	Telecommunications network engineer
271111	Barrister
271311	Solicitor
272311	Clinical psychologist
272399	Psychologists not elsewhere

ANZSCO	ANZSCO Description
	classified
272511	Social worker
311211	Anaesthetic technician
311214	Operating theatre technician
311312	Meat inspector
312311	Electrical engineering draftsman
312312	Electrical engineering technician
312411	Electronic engineering draftsman
312412	Electronic engineering technician
322312	Pressure welder
322313	Welder (first class)
334115	Roof plumber
342412	Telecommunications cable jointer
342413	Telecommunications linesworker
351111	Baker
351112	Pastrycook
351211	Butcher or smallgoods maker
351311	Chef
411111	Ambulance officer
441212	Fire fighter

State Priority 2b
(Occupations with unmet demand)

ANZSCO	ANZSCO Description
133512	Production manager (manufacturing)
133513	Production manager (mining)
133611	Supply and distribution manager
142111	Retail manager (general)
149311	Conference and event organiser
149413	Transport company manager
149913	Facilities manager
222113	Insurance broker
223111	Human resource adviser
223112	Recruitment consultant
312113	Building inspector
312912	Metallurgical or materials technician
312913	Mine deputy
399212	Gas or petroleum operator
399213	Power generation plant operator
452414	Lifeguard
511112	Program or project administrator
512211	Health practice manager

Priority 3 Occupations

ANZSCO	ANZSCO Description	ANZSCO	ANZSCO Description
132211	Finance manager	342211	Electrical linesworker
135112	ICT project manager	342212	Technical cable joiner
234111	Agricultural consultant	342313	Electronic equipment trades worker
234212	Food technologist	342314	Electronic instrument trades worker (general)
234912	Metallurgist	342315	Electronic instrument trades worker (special class)
242211	Vocational education teacher	342414	Telecommunications technician
272112	Drug and alcohol counsellor	361211	Shearer
272412	Interpreter	361311	Veterinary nurse
272413	Translator	394111	Cabinetmaker
272613	Welfare worker	399211	Chemical plant operator
311111	Agricultural technician	411112	Intensive care ambulance paramedic
311215	Pharmacy technician	411213	Dental technician
312114	Construction estimator	411411	Enrolled nurse
312211	Civil engineering draftsman	411511	Aboriginal and Torres Strait islander health worker
312212	Civil engineering technician	411711	Community worker
312911	Maintenance planner	411712	Disabilities services officer
321111	Automotive electrician	411716	Youth worker
321211	Motor mechanic (general)	422111	Aboriginal and Torres Strait Islander education worker
321212	Diesel motor mechanic	423211	Dental assistant
322211	Sheetmetal trades worker	423311	Hospital orderly
322311	Metal fabricator	423312	Nursing support worker
323111	Aircraft maintenance engineer (avionics)	423313	Personal care assistant
323112	Aircraft maintenance engineer (mechanical)	423314	Therapy aide
323113	Aircraft maintenance engineer (structures)	441211	Emergency service worker
323214	Metal machinist (first class)	442111	Prison officer
324111	Panelbeater	451211	Driving instructor
324211	Vehicle body builder	451399	Funeral workers not elsewhere classified
324311	Vehicle painter	452215	Outdoor adventure instructor
331111	Bricklayer	542114	Medical receptionist
331212	Carpenter (includes joiner)	551211	Bookkeeper
332111	Floor finisher	599599	Inspectors and regulatory officers not elsewhere classified
332211	Painting trades worker	611211	Insurance agent
333111	Glazier	621111	Sales assistant (general)
333211	Fibrous plasterer	621411	Pharmacy sales assistant
333212	Solid plasterer	621511	Retail supervisor
333411	Wall and floor tiler		
334111	Plumber (general)		
334112	Air-conditioning and mechanical services plumber		
334113	Drainer		
334114	Gasfitter		

ANZSCO	ANZSCO Description
711914	Sterilisation technician
712211	Driller
712918	Train controller
712921	Waste water or water plant operator
721111	Agricultural and horticultural mobile plant operator

ANZSCO	ANZSCO Description
731311	Train driver
733111	Truck driver (general)
821211	Concreter
899211	Deck hand (including integrated ratings)

2.9.2. Appendix B – State Priority Occupation List 2014 – Guidelines and Methodology

1. Introduction

This information paper details the process undertaken in the creation of the *State Priority Occupation List (SPOL)* released in mid-2014. This paper also outlines key concepts, sources and methodologies behind the SPOL, as well as the SPOL's main uses.

Described below are the actions undertaken by the Department of Training and Workforce Development throughout the first half of 2014 in order to produce the SPOL. Included are detailed descriptions of:

- the statistical methodologies used to determine the initial rankings of 746 occupations in Western Australia;
- the nature of consultations with industry in Western Australia via the State's Training Council network;
- the business rules employed in order to determine the priority weightings for the final 181 state priority occupations and 84 priority 3 occupations; and
- details on changes to the methodology for 2014, relative to the 2013 SPOL.

2. Background

The SPOL is an annually-produced list of occupations that are considered a priority in Western Australia. The main use of the SPOL is to help guide purchasing of publicly-funded training in Western Australia through the State Training Plan and Future Skills WA.⁷⁶ It is also used for migration purposes, such as informing the development of the *Western Australian Skilled Migration Occupation List (WASMOL)*, used to guide State Sponsored migration.⁷⁷

The list also has a further broad use in informing workforce development planning in the State and is used as a key source of labour market evidence in a number of policy areas.

The systems and methodology behind the SPOL ensures it captures key relevant evidence in a way that makes it robust, defensible and fit for purpose. Notwithstanding this, given the above principles (particularly the training focus) and the Department's specific uses for the SPOL, it should be noted that it is not specifically designed for use as a list of 'skills shortages' in the State. Though measurements of unmet demand are a component of determining the ratings attributed to the occupations on the list, it is not designed to be an exact measure of under or over-supply of labour for a specific occupation.

⁷⁶ Section 21(1)(a) of Western Australia's Vocational Education and Training Act (1996) requires the State Training Board to prepare for the Minister's approval a State Training Plan. The Plan contributes to the policy and purchasing direction for the training system in Western Australia (for more information, see <http://www.stb.wa.gov.au/Publications/Pages/StateTrainingPlans.aspx>). The current policy framework through which the Plan is implemented is Future Skills WA (<http://vetinfor.net.dtwd.wa.gov.au/FutureSkillsWA/Pages/Home.aspx/>).

⁷⁷ For further information on the WASMOL, see <http://www.migration.wa.gov.au/skilledmigration/Pages/Occupationsindemand.aspx>.

Furthermore, it should not be seen as a 'crystal ball' for labour market conditions in the medium to long term. The way the SPOL utilises evidence covering both current and projected conditions means it is best viewed as being more accurate closer to the time it is done, rather than many years out. This is a key reason why it is updated annually.

Occupations will be considered for the SPOL if one or more of the following conditions can be met, where:

- an occupation is considered a *critical occupation*;
- there is significant evidence of *unmet demand*, that is, where employers have faced difficulties in filling vacancies (sometimes called 'skill shortages'); and / or
- there are *non-market factors* impacting on the occupation (such as changes in regulations and licensing arrangements). This is a new condition included in 2014.

Criteria for consideration

The following criteria are applied to determine whether an occupation should be considered for the SPOL.

a) Valid data

There must be an adequate level of quality information about the occupation in order to assess and validate the needs of the occupation. In practice, this means that the occupation must have a valid Australian and New Zealand Standard Classification of Occupation (ANZSCO) code from the Bureau of Statistics (ABS) at the six-digit level.

b) High levels of skill

The occupation must have specialised skills that require extended learning and preparation time. Occupations that do not require post-school qualifications prior to entry, such as labourers, process workers, and kitchen hands, are excluded from the list of occupations.

c) Clear and open pathways

The occupation should have clear education and/or training pathways or qualifications that can be obtained within Australia, and where the skills learnt can be matched to the requirements of the occupation. Where an occupation does not have any educational or VET qualifications associated with it, it is excluded from the eligibility list. Examples of these include judges and members of parliament.

The occupation must also operate in the normal labour market, that is, there is a regular recruitment process to fill vacancies and there are many employers available. Occupations that are highly regulated, or with tightly controlled recruitment practices with specialist skills are not eligible for inclusion. Examples of these include defence force personnel, police officers and air traffic controllers.

d) Occupational impact

An occupation will be considered if any disruption in its supply would result in significant impacts more broadly across the industry or the State economy. These impacts may manifest themselves in higher unemployment and/ or slower growth due to supply bottlenecks.

3. Methodology

The ABS / Statistics New Zealand's *Australia and New Zealand Standard Classification of Occupations* (ANZSCO) coding structure is used for the identification and analysis of occupations for inclusion in the State priority occupation list. ANZSCO includes over 1 350 occupational codes. From this list, a number of occupational codes were removed because they:

- were 'catch-all' type codes designed for the Census collection and which do not refer to any specific 'real' occupations;
- are of a lower skill level, not requiring any post-school qualifications or experience; or
- did not have clearly-articulated training or higher education pathways.

This left a total of 746 occupations deemed of sufficient relevance or importance to the Western Australian economy and therefore for potential inclusion on the SPOL.

Critical occupations

A critical occupation is an occupation:

'... where specialised skills are learned in formal education and training is needed at entry level, and the impact of market failure is potentially significant.'

It is an occupation that is highly important to industry operations and/or growth and development. Demand for a critical occupation may see short term fluctuations over time. However, continued supply is crucial in order to avoid bottlenecks due to shortages in these occupations, which will be felt exponentially throughout the industry. Because many other occupations and/or sub-industry sectors rely upon the ready availability of these critical skills, business viability and/or operations of essential services could be seriously harmed if shortages are not addressed.

In general, an occupation cannot be considered critical if it is:

- Seasonal in nature;
- Low or unskilled;
- Difficult to fill because of industry pay and conditions; or
- A result of attraction and retention issues.

A full review of critical occupations was undertaken by the Department as part of the 2014 SPOL process. As a result, 205 occupations were deemed critical occupations in Western Australia.

Unmet demand - occupational ranking

There are six primary, State-based indicators used to determine occupational rankings which underpin the SPOL:

- *Employment level* – based on 2011 ABS Census (ANZSCO 6 Digit);
- *Past labour demand or supply (PLDOS)* – (based on a number of data sources) – indicates if current training and migration settings are meeting occupational demands for labour;
- *Future labour demand or supply (FLDOS)* – (based on a number of data sources) – indicates if current training and migration settings will meet expected future occupational employment growth;
- *Average age of employed* – based on 2011 ABS Census (ANZSCO 6 Digit);
- *Employee Earnings and Hours* for full time adult employees – based on an ABS Custom Request (ANZSCO 3 Digit), related to ABS Catalogue Number 6306.0; and
- *Employee Earnings and Hours* for wages growth – based on an ABS Custom Request (ANZSCO 3 Digit), related to ABS Catalogue Number 6306.0.

PLDOS and FLDOS are measures that were implemented in 2013. These have been made possible via agreements reached with the Commonwealth Department of Immigration and Border Protection, and the Commonwealth Department of Industry.

Employment, employment growth (including occupational ‘churn’), ageing of the workforce, wages and wages growth data are used as proxy indicators of demand for skilled workers. The supply of skilled workers is determined by the numbers of completions of training courses and higher education degrees in a specific field, or persons who have migrated to the State through a skilled migration pathway.

The use of both demand and supply indicators enables a more accurate view of the ‘marketplace’ for skills in Western Australia. It also recognises the current effort made by government at meeting skill and labour requirements within the wider economy, whether through VET / higher education outcomes, or through the migration of skilled labour into the State. In 2014, with introduction of Future Skills WA (FSWA), there has been a ‘step-change’ in the policy framework surrounding the delivery of VET. The full impact of this change upon the time series for VET completions will only become apparent as more data becomes available over coming years. This can be taken into consideration during the formulation of future priority institutional qualification lists (PIQLs).

Further details of these measures and their impact on the SPOL are provided in Attachment 4. Details on additional data sources used in the production of the SPOL are provided in Attachment 5.

Occupational Priority Index

The overall standard deviation of each occupation against each of the above indicators is calculated. The advantage of using standard deviations is that it allows a valid comparison across all six indicators, each of which represent different datasets and would not otherwise be comparable.

The standard deviation for each indicator can be weighted and summed to determine an overall standard deviation factor for each occupation. The following weightings were then applied to each indicator.

Table 1: Indicator weightings

Indicator	Weighting
Employment	10.0%
FLDOS	20.0%
PLDOS	40.0%
Average weekly wage	15.0%
Average weekly wage growth	5.0%
Age	10.0%
Total	100.0%

As can be seen, the bulk of the weighting (70%) is applied to employment level and labour supply and demand-related indicators. This recognises the primary purpose of the SPOL as being employment-related.

The results from the weighted calculations provide each occupation with an overall standard deviation factor (or 'SDF'). Further information on the use of standard deviations in a SPOL context can be found at Attachment 3.

An additional weighting is applied to each occupation following the above calculations to reflect that occupation's lead time – the length of time it takes to educate and/or train an individual in the skills required for an occupation. These occupational lead times are included within the ABS ANZSCO coding structure as the designated skill level for the occupation.

SDFs are calculated for all ANZSCO occupations using each of the six indicators and converted to a positive value by adding the absolute value of the lowest (negative) SDF to the SDF result for each ANZSCO. This new value is then multiplied by its respective occupation's lead time, and the resulting set of values for all occupations is deemed the Occupational Priority Index (OPI). This process ensures that a highly-skilled occupation with a long lead time is not disproportionately affected by a low SDF.

A blanket rule is applied to low or unskilled occupations, in the form of a manual adjustment of the OPI to a score of -30. This does not completely eliminate these occupations from consideration for SPOL,⁷⁸ but does ensure there is no undue

⁷⁸ There are approximately 750 occupations currently eligible for SPOL (cf. 'Criteria for consideration' section above). However OPIs are calculated for 1007 occupations. This allows for analysis and potential consultation which may occur in future as occupational requirements (and therefore skill requirements) change over time.

effort put towards prioritising for migration or VET training delivery when those options are not available for those occupations.

Incorporating this business rule, as well as weighting the SDF by occupation lead times, skews the results heavily and purposefully in favour of skilled occupations.

The level of an occupation's OPI score will determine its rank against all of the occupations – basically the higher the OPI score, the higher the occupation's ranking. An example of some of the calculations for a sample of occupations is included in Attachment 1.

Further occupation-related data

In addition to the OPI described above, a raft of supplementary information sources are investigated in the Department's assessment of unmet demand, such as the Commonwealth Department of Employment skills shortage data, major projects data and Treasury forecasts. Evidence provided by these other sources is generally not broad enough to be included in OPI calculations. Consequently, these sources are treated as supplementary sources of research and data, which are used to either support or qualify data from other, more comprehensive sources. These tertiary data sources are listed in Attachment 5.

Significant levels of primary-sourced qualitative data, primarily provided by Training Councils, are also heavily incorporated in the Department's assessment of unmet demand, and these are detailed below.

Non-market factors

Non-market factors basically refer to any set of factors, not related to demand or supply, which impacts upon the training or migration requirements for that occupation. An example of a non-market factor would include situations such as regulation changes which, for instance, may require upskilling of an existing workforce to higher level qualifications (as in the case of child care, where state-based legislative changes have seen the industry move to a requirement for higher qualifications, in line with the National Quality Framework).

The requirement to make training available in these situations is recognised as legitimate and therefore affected occupations should be considered for inclusion on SPOL.

To ensure a systematic and transparent approach to incorporating these factors, the 2014 SPOL questionnaire to the Industry Training Council network included a question specifically to highlight such non-market factors. Information garnered from this questionnaire, combined with additional ongoing research undertaken by the Department, saw 32 occupations highlighted as experiencing non-market related factors influencing the requirement for training.

4. Training Council consultation

Western Australia's current industry training advisory arrangements comprise 10 Training Councils, each covering a particular industry sector of the State's economy. Among other roles, the Training Councils provide advice on the training needs and priorities of industry in Western Australia. This involves the provision

of market intelligence on skills supply and demand, and advice on current or emerging skills shortages.

Consultation methodology

Similar to previous years, for their role in the compilation of the SPOL, Training Councils were sent a standardised questionnaire. In 2014, the availability of a broad range data now available (including detailed information from Training Councils) meant that an in-depth analysis of occupations could be undertaken by the Department prior to the questionnaires being sent out.

This analysis meant that the Department considered 220 occupations should be included on 2014 SPOL, based on existing quantitative and qualitative evidence. Therefore Training Councils were not required to provide evidence relating to these 220 occupations.

Rather, Training Councils were asked to report by exception on a list of 171 occupations which the Department did not have sufficient evidence for inclusion on 2014 SPOL. This list included all occupations that Training Councils had previously provided comments on. Additionally, Training Councils were invited to provide evidence relating to the remaining 355 occupations (where no comments had previously been received) or, indeed, any comments on the list of 220 occupations should they feel an occupation should *not* be considered for 2014 SPOL.

This by-exception methodology both eased the process for Training Councils in providing evidence, as well as allowing for far greater rigour in the Department's analysis of responses.

Consultation process

All ten Training Councils were provided with the questionnaire on 30 January 2014. A face-to-face group workshop on the 2014 SPOL methodology and questionnaire was hosted by the Department a week later on 7 February 2014. All Training Councils were in attendance and given the opportunity to ask technical or methodology related questions about the 2014 process directly of Departmental staff.

Each Training Council was provided with five explicit questions about each ANZSCO occupation where information was required, along with relevant definitions and supporting information. Each Training Council was provided with a customised questionnaire to reflect their own scope of occupational coverage.

In *all* cases where claims were made relating to specific occupations, Training Councils were required to provide sufficient evidence to back their claims, including relevant citations of appropriate sources wherever appropriate. If such evidence was not provided, Training Councils were advised that the occupation would not be considered for inclusion on the SPOL.

A copy of the questionnaire is provided in Attachment 2.

The Training Councils were given five weeks (to 6 March 2014) to complete the questionnaire and submit their responses electronically to the Department. All Training Councils provided their submissions to the Department on schedule. In all, responses relating to 156 occupations were received by the Department. Two-thirds of these claimed there were unmet demand or non-market factors impacting upon the occupation.

Departmental staff then undertook a comprehensive analysis of the responses, as well as a statistical review of the OPI, as described in above. As a result of this analysis, it was deemed that a case had been established for an additional 36 occupations to be included on the list. A further 64 occupations were not considered due to insufficient evidence for inclusion.

The results of the Department's analysis (including draft occupational rankings) were provided back to the Training Councils on 4 April 2014⁷⁹ for their information and consideration. They asked to provide any additional evidence by 2 May 2014.

All Training Councils were also offered a face-to-face meeting with Departmental staff to go through their responses in detail, provide reasonings for the Departmental analyses and outcomes, and generally raise any concerns they may have. Six Training Councils requested meetings, all of which were attended by Departmental staff.

As a result of further evidence provided at these meetings, an additional 9 occupations were added to the overall list. No additional responses were received from those Training Councils which did not request a meeting.

5. Business rules for the prioritisation of the final list

The SPOL includes a three-tier structure indicating occupational priority. The first two occupational tiers are simply called 'State Priority 1' and 'State Priority 2'. The third tier is deemed 'Priority 3' and includes occupations which are priorities at an industry or regional level, but not at the State level. The terminology gives an indication of each occupation's relative priority, and provides a transparent reasoning underpinning that relative priority.

Each tier has a specific set of business rules which include references to statistical information about each occupation, as well as the nature of qualitative advice provided by various sources, including Training Councils.

Summarised below are the business rules used in determining the relative priority for each occupation on the SPOL.

⁷⁹ The by-exception methodology meant that this was achieved 2 weeks ahead of schedule (17 April 2014).

State Priority 1

An occupation is deemed to be within the 'State Priority 1' tier if:

- the occupation is a critical occupation;
- there is sufficient evidence that the occupation is experiencing;
 - unmet demand, **or**
 - other non-market related factors influencing future training; **and**
- it has a statistical OPI rating in the top 50% of occupations in the State;

OR

- the occupation is a critical occupation;
- there is sufficient evidence that the occupation is experiencing;
 - unmet demand, **and**
 - other non-market related factors influencing future training; **and**
- it has a statistical OPI rating in the bottom 50% of occupations in the State.

There are 47 occupations in the 2014 SPOL which are deemed State Priority 1.

State Priority 2

An occupation is deemed to be within the *State Priority 2A* tier if:

- the occupation is a critical occupation; **and**
- it has a statistical OPI rating in the top 50% of occupations in the State.

OR

- the occupation is a critical occupation; **and**
- there is sufficient evidence that the occupation is experiencing;
 - unmet demand, **or**
 - other non-market related factors influencing future training; **and**
- it has a statistical OPI rating in the bottom 50% of occupations in the State.

An occupation is deemed to be within the *State Priority 2B* tier if:

- the occupation is not a critical occupation, but is a skilled occupation;
- there is sufficient evidence that the occupation is experiencing unmet demand; **and**
- it has a statistical OPI rating in the top 50% of occupations in the State.

OR

- the occupation is not a critical occupation, but is a skilled occupation;
- there is sufficient evidence that the occupation is experiencing;
 - unmet demand, **and**
 - other non-market related factors influencing future training; **and**
- it has a statistical OPI rating in the bottom 50% of occupations in the State.

Occupations within the tier that are critical are designated 2a; with those occupations within the tier that are not critical but are experiencing unmet demand are designated 2b. This delineation allows for a more nuanced evaluation of these occupations within a migration or training purchasing context.

In all, this tier has 116 critical (2a) occupations, and 18 occupations experiencing unmet demand (2b), making a total of 134 State Priority 2 occupations (and an overall 181 State priority occupations – both tiers combined).

All State Priority 1 and 2 occupations for 2014 SPOL are listed at Appendix A.

Priority 3

An occupation is deemed to be 'Priority 3' if:

- The occupation is a skilled occupation;
- The occupation is either;
 - critical, **or**
 - experiencing unmet demand, **or**
 - experiencing other non-market related factors influencing future training; **and**
- it has a statistical OPI rating in the bottom 50% of occupations in the State.

Priority 3 occupations are not considered priorities at the State level. While there may be evidence of unmet demand or other non-market-related factors impacting upon training or migration requirements at an industry (or potentially regional) level, these factors are not considered broad or deep enough to consider the occupations as State priorities.

However, while Priority 3 occupations are a lower priority than the State priority categories, they are still a higher priority than the 450-plus occupations that are not on the list.

There are 84 priority 3 occupations, and these are provided in Appendix A.

6. Additional Information

Manual adjustments

Some final manual adjustments may be required to ensure related/similar/joined occupations are given a joint rating. For example, this is required to occur in the case of carpenters and joiners. While the official trade in Western Australia is 'carpenters and joiners', it is commonly referred to as simply 'carpenters'.

This impacts on the collection of Census and labour market data which indicates significant levels of employment under the 'carpenters' category and little under 'carpenters and joiners' even though the official trade in Western Australia is the latter and the former does not officially exist. In this case, the occupations are grouped at a broader occupational level.

Similar rules were applied for occupations that relate to registered nurses and child care centre workers and managers.

Tertiary sources of evidence and pathways to employment are considered in these adjustments.

In 2014, the need for undertaking these adjustments has been minimal.

ANZSCO Revision

In 2013, the ABS announced a minor revision to the ANZSCO classification – Revision 1.2 (*ABS Cat No 1220.0*). While there were minimal changes limited to the detailed 6 Digit level, some new occupations have been included on Commonwealth migration lists. Accordingly, the new occupations were reviewed. In all but one instance, being Registered Nurse (Paediatrics), there was insufficient evidence available to include these on the SPOL. Suitable quantitative evidence for the other occupations now included as part of this revision process is likely not to be available until after the 2016 census.

In fact, Registered Nurses (Paediatrics), was only included on the basis of its similarity in educational pathways to existing registered nurse ANZSCOs, as outlined in the 'Manual adjustments' section above.

Labour Force Survey Rebalance

In January 2014, labour force survey figures were rebalanced by the ABS to bring them into line with the 2011 Census results. In effect this slightly altered the employment levels by occupation across the majority of ANZSCO's dating back to 1991.

All data work undertaken as part of the OPI/SPOL process was completed prior to Christmas 2013 and does not take the rebalancing changes into account. Testing was done in early 2014 to see the impact of using the rebalanced figures would have on the Standard Deviations inputted to generate the OPI. The result of the testing indicated any impacts would be minimal. It is noted that the most recent labour force survey occupational data used in this methodology is already proportioned out at the 6 Digit ANZSCO by Census 2011 data.

ATTACHMENT 1

Example of Calculations of the Occupational Priority Index (OPI)

Occupation	Emp	PLDOS	FLDOS	Avg Age	Avg Weekly Earnings (AWE)	AWE Growth	SDF (Prelim)	SDF + min SDF score (-3.82)	Lead Time	OPI
253324 Thoracic Medicine Specialist	- 0.036	0.074	0.001	0.196	0.628	0.010	0.872	0.918	13.000	61.033
253311 Specialist Physician (General Medicine)	- 0.035	0.060	- 0.003	0.197	0.628	0.010	0.857	0.902	13.000	60.837
253323 Rheumatologist	- 0.036	0.078	0.002	0.164	0.628	0.010	0.845	0.890	13.000	60.681
253314 Medical Oncologist	- 0.036	0.073	0.002	0.165	0.628	0.010	0.842	0.888	13.000	60.650
253521 Vascular Surgeon	- 0.036	0.073	0.001	0.154	0.628	0.010	0.829	0.875	13.000	60.477
253914 Ophthalmologist	- 0.034	0.073	0.003	0.148	0.628	0.010	0.826	0.872	13.000	60.442
253411 Psychiatrist	- 0.026	0.067	- 0.000	0.148	0.628	0.010	0.826	0.872	13.000	60.439
253312 Cardiologist	- 0.034	0.094	0.003	0.120	0.628	0.010	0.821	0.867	13.000	60.370
253316 Gastroenterologist	- 0.036	0.074	0.001	0.142	0.628	0.010	0.818	0.864	13.000	60.331
253512 Cardiothoracic Surgeon	- 0.036	0.078	0.002	0.122	0.628	0.010	0.802	0.848	13.000	60.124
253399 Specialist Physicians, nec	- 0.033	0.095	0.002	0.099	0.628	0.010	0.800	0.846	13.000	60.105
253915 Pathologist	- 0.030	0.100	0.004	0.086	0.628	0.010	0.797	0.843	13.000	60.062
253313 Clinical Haematologist	- 0.036	0.078	0.002	0.113	0.628	0.010	0.794	0.839	13.000	60.018
253513 Neurosurgeon	- 0.036	0.074	0.002	0.113	0.628	0.010	0.790	0.836	13.000	59.976
253318 Neurologist	- 0.036	0.076	0.002	0.109	0.628	0.010	0.790	0.835	13.000	59.963
253514 Orthopaedic Surgeon	- 0.033	0.076	0.003	0.096	0.628	0.010	0.780	0.825	13.000	59.835
253511 Surgeon (General)	- 0.035	0.029	- 0.014	0.143	0.628	0.010	0.761	0.807	13.000	59.596
253913 Obstetrician and Gynaecologist	- 0.032	0.069	- 0.004	0.056	0.628	0.010	0.725	0.771	13.000	59.129
253999 Medical Practitioners, nec	- 0.034	0.029	- 0.007	0.080	0.628	0.010	0.705	0.751	13.000	58.869
253317 Intensive Care Specialist	- 0.035	0.082	0.001	0.016	0.628	0.010	0.701	0.747	13.000	58.814
253911 Dermatologist	- 0.035	0.072	0.002	0.021	0.628	0.010	0.698	0.743	13.000	58.768
253321 Paediatrician	- 0.031	0.042	- 0.012	0.060	0.628	0.010	0.696	0.741	13.000	58.741
253912 Emergency Medicine Specialist	- 0.028	0.111	- 0.003	0.025	0.628	0.010	0.693	0.738	13.000	58.705
253517 Plastic and Reconstructive Surgeon	- 0.036	0.062	0.002	0.017	0.628	0.010	0.682	0.728	13.000	58.565
253518 Urologist	- 0.036	0.074	0.001	0.004	0.628	0.010	0.681	0.727	13.000	58.550
253515 Otorhinolaryngologist	- 0.036	0.067	0.001	0.002	0.628	0.010	0.671	0.717	13.000	58.422
253322 Renal Medicine Specialist	- 0.036	0.075	0.001	- 0.008	0.628	0.010	0.669	0.715	13.000	58.401
253315 Endocrinologist	- 0.037	0.074	0.001	- 0.008	0.628	0.010	0.668	0.714	13.000	58.382
253516 Paediatric Surgeon	- 0.037	0.071	0.001	- 0.008	0.628	0.010	0.665	0.711	13.000	58.343
111111 Chief Executive or Managing Director	0.184	0.208	0.261	0.156	0.516	0.158	1.482	1.528	10.000	53.052
133611 Supply and Distribution Manager	0.090	0.273	0.080	0.071	0.285	0.108	0.907	0.953	10.000	47.303
133112 Project Builder	0.122	0.159	0.091	0.099	0.285	0.108	0.866	0.911	10.000	46.887
253211 Anaesthetist	- 0.019	0.095	- 0.005	0.072	0.628	0.010	0.780	0.825	10.000	46.028
253112 Resident Medical Officer	0.012	- 0.537	- 0.355	- 0.091	0.628	0.010	- 0.334	- 0.288	13.000	45.359
149413 Transport Company Manager	0.016	0.091	0.075	0.130	0.049	- 0.018	0.343	0.389	10.000	41.662
231213 Ship's Master	- 0.007	- 0.042	- 0.051	0.068	0.237	0.066	0.271	0.317	10.000	40.942
599599 Inspectors and Regulatory Officers, nec	0.017	0.249	0.041	0.057	- 0.117	- 0.030	0.216	0.262	10.000	40.390
133513 Production Manager (Mining)	0.067	0.545	0.082	0.071	0.285	0.108	1.158	1.204	8.000	39.848
312913 Mine Deputy	0.057	0.716	0.074	0.055	0.141	0.028	1.070	1.116	8.000	39.146
133111 Construction Project Manager	0.101	0.233	- 0.033	0.063	0.285	0.108	0.758	0.803	8.000	36.645
232111 Architect	0.023	- 0.352	- 0.100	0.043	0.120	0.095	- 0.173	- 0.127	10.000	36.503
312114 Construction Estimator	- 0.011	0.128	0.017	0.028	0.141	0.028	0.331	0.377	8.000	33.231
232111 Civil Engineer	0.075	- 0.861	- 0.222	- 0.018	0.210	- 0.030	- 0.846	- 0.800	10.000	29.770
312113 Building Inspector	- 0.017	0.112	0.016	0.113	0.141	0.028	0.393	0.439	7.000	29.513
231214 Ship's Officer	- 0.030	- 0.370	- 0.149	- 0.006	0.237	0.066	- 0.252	- 0.206	8.000	28.570
712918 Train Controller	- 0.029	0.111	0.009	0.085	0.069	- 0.034	0.210	0.256	7.000	28.234
232112 Landscape Architect	- 0.023	0.009	- 0.012	- 0.019	0.120	0.095	0.169	0.215	7.000	27.946
131112 Sales and Marketing Manager	0.311	0.734	0.484	0.035	0.150	0.004	1.718	1.763	5.000	27.703
252311 Dental Specialist	- 0.033	0.074	0.004	0.116	- 0.058	- 0.033	0.069	0.115	7.000	27.247
232113 Quantity Surveyor	- 0.017	- 0.214	- 0.092	- 0.008	0.210	- 0.030	- 0.150	- 0.105	7.000	25.709
132311 Human Resource Manager	0.146	0.739	0.155	0.042	0.208	0.005	1.295	1.341	5.000	25.592
231114 Helicopter Pilot	- 0.030	0.080	0.005	0.033	0.237	0.066	0.390	0.436	6.000	25.280
254311 Nurse Manager	0.009	0.156	0.079	0.125	- 0.001	- 0.024	0.345	0.390	6.000	25.006
133312 Wholesaler	0.040	0.514	0.093	0.123	0.285	0.108	1.164	1.209	5.000	24.934
231111 Aeroplane Pilot	0.011	0.067	- 0.027	- 0.041	0.237	0.066	0.313	0.358	6.000	24.814
232115 Transport Engineer	- 0.024	0.067	0.029	0.046	0.210	- 0.030	0.298	0.344	6.000	24.726
135112 ICT Project Manager	0.058	0.656	0.134	0.028	0.189	0.054	1.119	1.164	5.000	24.708
111211 Corporate General Manager	0.170	0.084	0.048	0.093	0.516	0.158	1.067	1.113	5.000	24.452
254211 Nurse Educator	- 0.018	0.172	0.035	0.084	- 0.001	- 0.024	0.247	0.293	6.000	24.422
134211 Medical Administrator	- 0.026	0.102	0.014	0.057	0.115	- 0.038	0.223	0.269	6.000	24.276
451211 Driving Instructor	- 0.011	0.222	0.027	0.158	- 0.155	- 0.030	0.212	0.258	6.000	24.209
111311 Local Government Legislator	- 0.034	0.084	0.005	0.240	0.516	0.158	0.969	1.015	5.000	23.962
111399 Legislators, nec	- 0.036	0.075	0.003	0.235	0.516	0.158	0.951	0.996	5.000	23.868
254411 Nurse Practitioner	- 0.031	0.102	- 0.001	0.092	- 0.001	- 0.024	0.137	0.183	6.000	23.760
111312 Member of Parliament	- 0.032	0.071	0.007	0.174	0.516	0.158	0.894	0.940	5.000	23.584
223311 Training and Development Professional	0.095	0.559	0.119	0.053	- 0.003	0.009	0.833	0.878	5.000	23.279
312111 Architectural Draftsperson	0.028	- 0.502	- 0.189	- 0.031	0.141	0.028	- 0.524	- 0.479	7.000	23.090
134311 School Principal	0.070	0.273	0.190	0.156	0.115	- 0.038	0.766	0.811	5.000	22.944
133512 Production Manager (Manufacturing)	0.108	0.074	0.110	0.076	0.285	0.108	0.761	0.807	5.000	22.919
253918 Radiation Oncologist	- 0.037	0.077	0.002	0.061	0.628	0.010	0.741	0.786	5.000	22.818
111212 Defence Force Senior Officer	- 0.036	0.056	0.003	0.036	0.516	0.158	0.733	0.779	5.000	22.782
251312 Occupational Health and Safety Adviser	0.089	0.644	- 0.119	0.030	0.057	0.005	0.705	0.751	5.000	22.641
323211 Fitter (General)	0.592	0.441	- 0.359	- 0.044	0.042	- 0.017	0.655	0.700	5.000	22.388
139999 Specialist Managers, nec	0.083	0.069	0.070	0.078	0.254	0.090	0.644	0.690	5.000	22.335
253917 Diagnostic and Interventional Radiologist	- 0.028	- 0.024	- 0.030	0.082	0.628	0.010	0.637	0.683	5.000	22.302
139914 Quality Assurance Manager	0.013	0.109	0.087	0.051	0.254	0.090	0.605	0.650	5.000	22.138
231212 Ship's Engineer	- 0.020	- 0.354	- 0.146	0.076	0.237	0.066	- 0.141	- 0.096	6.000	22.090
232214 Other Spatial Scientist	- 0.017	0.372	0.035	- 0.015	0.120	0.095	0.590	0.636	5.000	22.066
139113 Commissioned Police Officer	- 0.034	0.082	0.010	0.185	0.254	0.090	0.588	0.633	5.000	22.054
133411 Manufacturer	0.065	- 0.057	0.069	0.114	0.285	0.108	0.584	0.630	5.000	22.035
233612 Petroleum Engineer	0.044	0.287	0.078	- 0.019	0.210	- 0.030	0.571	0.616	5.000	21.969
134299 Health and Welfare Services Managers, nec	0.001	0.284	0.064	0.141	0.115	- 0.038	0.564	0.610	5.000	21.937
341111 Electrician (General)	0.591	1.075	0.125	- 0.073	- 0.053	- 0.013	1.653	1.698	4.000	21.903

**State Priority Occupational List
Survey Questions for Training Councils
2014**

1. Are there instances of unmet demand in relation to this occupation that are not reflected in the available statistics?

These are sometimes called 'skill shortages'. If 'Yes' can you please provide details?

2. Are there any other, non-market-related, factors influencing future training?
For example, impending legislation/licensing regulations or technological change.
3. Do you consider the issues, if any, associated with the occupation to be:
 - Short term (1-2 years),
 - Medium term (3-5 years), or
 - Long term (5+ years) in nature?
 - No issues.

If you have nominated a time period, can you provide further details?

4. If insufficient local workers are available for this occupation, would overseas workers be suitable?

If 'No' please provide details ie. Are there any specific registration, licensing or skills assessment requirements including any IELTS requirements for licensing/registration purposes that make it difficult for migrant workers to join the workforce?

5. Are there any specific regional shortages for this occupation that may benefit from an increase in migrant workers?

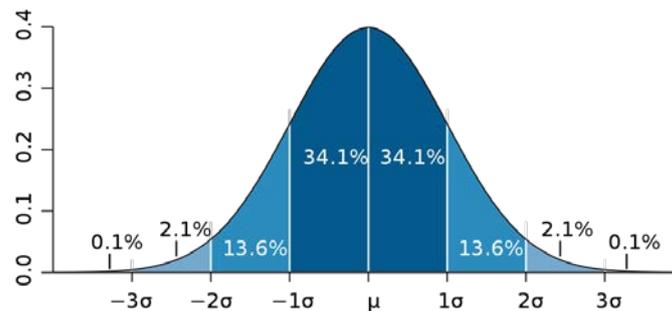
If you have identified any regions, please provide details.

A Note on Standard Deviations

Standard deviation is the most commonly-used measure of the spread of values in a distribution and refers to the extent by which scores in a distribution differ from the mean, or overall average of those scores.

For a normal distribution of data as shown in the graph below, approximately 68% of scores (or data points) lie within 1 standard deviation of the mean, 95% lie within 2 standard deviations, and 99% lie within 3 standard deviations.

Figure 1: Example of a normal distribution curve



As an example, the occupation *Civil Engineer* had an employment level of 2523 in 2011, which is a value greater than the mean employment level for all occupations (806). Using traditional standard deviation calculations, this value represents 0.8 standard deviations above the mean. This places the employment level of civil engineers in WA firmly within the dark blue area of the bell curve above (indicated), along with 68% of all other occupations.

The advantage of using standard deviations is that it allows a valid comparison across all six indicators, each of which represent different datasets and would not otherwise be comparable.

The standard deviation for each indicator can be weighted and summed to determine an overall standard deviation factor for each occupation.

**SUPPLY DATA AND THE REVISION OF THE 2014 OPI
(PLDOS and FLDOS)**

BACKGROUND

Introduced last year for SPOL2013, OPI calculations now include data at an occupational level regarding the supply of skilled workers into the Western Australian labour market.

The supply of skilled workers is determined by the numbers of completions of training courses and higher education degrees in a specific field, and also persons who have migrated to the state through a skilled migration pathway.

This newly incorporated data allows the OPI calculations to include an allowance for whether the number of newly qualified and migrant workers for a specific occupation is meeting, not meeting or exceeding historical changes in demand.

The labour market supply data used is official historical counts from a number of government departments at both the State and Commonwealth level, who hold central responsibility for collecting and organising the material.

In particular, the use of counts greatly improves accuracy over relying on estimates or forecasts of completions across a range of education institutions and through migration.

As a result, this new data set is provided with a significant weighting in the calculations, with PLDOS (ie 'Past Labour Demand or Supply') contributing 40%, and FLDOS (ie 'Future Labour Demand or Supply') contributing 20%.

To calculate these new two new indicators, the following data is collected and sorted by ANZSCO (Australian and New Zealand Standard Classification of Occupations), utilising the following sources:

For demand:

- ABS Census 2006 levels of employment (ANZSCO 6-Digit);
- ABS Census 2011 levels of employment (ANZSCO 6-Digit);
- ABS Labour Force Survey, Australia, Detailed, Quarterly, 6291.0.55.003 (ANZSCO 3-Digit via data cubes)
- Monash University Centre for the Economics of Education and Training historical estimate of Net Replacement Rate by Occupation (ANZSCO 3-Digit) (PLDOS only);
- Monash University Forecast of Occupation Employment Growth (ANZSCO 3-Digit) (FLDOS only); and
- Monash University Centre for the Economics of Education and Training forecast estimate of Net Replacement Rates by Occupation (ANZSCO 3 Digit) (FLDOS only).

For supply:

- Higher Education domestic student completions for Post Graduate and Undergraduate Courses for the six year period 2007-2012 (by Course, sorted by Australian Standard Classification of Education (ASCED) – Field of Education – which is cross coded to ANZSCO by DTWD);
- Vocational Education and Training completions by course and Australian Qualification Framework (AQF) level between 2007- 2012; and
- Migration arrivals to Western Australia through visas that fall under Skilled Pathways between 2007 - 2012 (primary applicants only).

Supply side data from 2013 was not fully available at the time of calculations.

DEMAND CONSIDERATIONS

An indicative demand indicator at the 6-Digit ANZSCO level is determined by calculating the employment difference between the two points in time dependent on the availability of supply side data. This figure at an occupation level is also adjusted upwards on the basis of the Net Replacement Rate provided by the Centre for the Economics of Education and Training. This is to account for the level of staff turnover that has occurred within the time period. The Net Replace Rate provides an estimate on general staff turnover, retirements and occupation wastage an occupation group has experienced.

Unlike the process undertaken for SPOL2013, data availability has moved beyond the period defined 2006 and 2011 Census dates. Labour force survey data was used in its place to assist in generating an indicative demand number between 2007 and 2012 for PLDOS and as a 2013 base figure for FLDOS. Labour Force data at the ANZSCO 3 Digit was used and proportioned out to the 6 Digit Detailed Occupation level along the proportions from the closest Census date. Census information therefore still has a significant impact on the PLDOS and FLDOS results.

This combined indicative demand figure provides an indication of the overall change in employment within a six year block, including the number of new workers required to replace existing staff leaving each occupation.

A positive number indicates demand for labour has grown, while a negative number indicates an overall decline or the occupation shrinking in size.

SUPPLY CONSIDERATIONS

Please note that DTWD is unable to publish or provide counts of higher education completions and migration outcomes to the public. Users wishing to access such data should contact the relevant Commonwealth agency in these instances.

Supply data in the form of counts from the official government collection sources is collated and then added together to provide an accurate count of new skilled labour entering the market at an occupational level.

As with demand side data, this information spans the same six year period (from 2007 to 2012, inclusive).

Though the data used are official counts, some limitations on the data exist. It is acknowledged:

- that not all people completing a certain qualification will move into the assigned occupation immediately, for example an undergraduate upon completing their bachelor may move into postgraduate study;
- many fields of study at the higher education level, do not lead to employment in one specific occupation. In areas of study where this is a common occurrence (such as in Business and ICT), completions are proportioned out to nearby occupations in the ANZSCO coding at the four, three or two digit ANZSCO level where appropriate (see below for further details);
- the available level data regarding long term and permanent departures from Western Australia at an occupation level were deemed not fit for purpose by ELMA at this time; and
- that it is not possible to accurately estimate Interstate Migration between Western Australia and the rest of Australia at an occupational level at this time.

Higher education specific data

Higher Education results are provided by the Commonwealth *Department of Education* (a role formerly falling under the jurisdiction of the Commonwealth *Department of Industry*) – the appointed agency responsible for collecting national higher education data. Data is not coded to ANZSCO by this agency.

The ASCED system in place reflects that in many cases, a completion of a University level course does not necessarily lead to a specific occupation, but to a general area of expertise. Completion numbers are therefore usually proportioned out against Census information to either a four, three or two digit ANZSCO level (as determined by DTWD).

However, in those cases where ASCED results can be successfully coded to the more detailed 6 Digit ANZSCO level, this is the preferred option undertaken for OPI purposes.

All Higher Education data only includes completions by domestic students from the five Western Australia based Universities, as these graduates have the highest chance of remaining within Western Australia for employment purposes.

Overseas students who study in Western Australia are in part picked up through skilled migration visa counts if they decide to remain in Western Australia for employment purposes. Incorporating overseas graduates into higher education

figures was determined to lead to cases of possible double counting, and so was not undertaken.

Vocational Education and Training specific data

VET data includes all completions from both Employment and Institution based training courses, and is collected by DTWD as the WA State Training Authority. Individual courses are matched to an ANZSCO by DTWD. Courses rated by the Industry Training Councils as being either Entry Level or Post Entry (ie re-skilling / up skilling) are included in the completion counts.

However, courses that are identified as pre-entry (ie Pre-Apprenticeships) are not included, as further training is required following completion before entering the labour market. Adult and Community Education courses are also not counted in these figures as they do not relate to a specific occupation.

Such treatments ensure the SPOL remains consistent with the 'clear pathways' criteria (as per the SPOL's 'Criteria for consideration' – see Section 2 of the main paper above).

A cautionary note on VET data and time series

In 2014, with introduction of *Future Skills WA* (FSWA), there has been a 'step-change' in the policy framework surrounding the delivery of VET. The full impact of this change upon the time series for VET completions will only become apparent as more data becomes available over coming years. This can be taken into consideration during the formulation of future PIQLs.

Migration-specific data

Migration data is provided by the Commonwealth *Department of Immigration and Border Protection* (DIBP).

As part of their data services, DIBP codes visa and migration outcomes by 6 Digit ANZSCO, and no alterations were required by DTWD. Data incorporated all Long Term and Permanent Skilled Arrivals in addition to the temporary 457 visa sub-class.

It is worth noting that the data does not include secondary visa holders (which represent partners and children of the primary visa holder). Though secondary visa holders can have their own work rights, they are not aligned to a specific occupation, and therefore cannot be matched to actively working in a specific occupation as defined by ANZSCO.

The data used in the calculations also does not include migrants arriving in Western Australia through Family, Humanitarian or Special Eligibility streams.

The migration data used was sourced from the Commonwealth Department of Immigration and Border Protection on a calendar year basis to align with other data sets employed.

CURRENT IMPACT OF PLDOS AND FLDOS ON OPI AND SPOL

Updated annually and having the majority of the OPI weighting assigned to them, the PLDOS and FLDOS results have a significant (though not exclusive) influence over whether an occupation appears on the SPOL and at what level.

More recently the growth in the supply of skilled workers has been increasing at a faster rate than demand. Though this state wide result should not be interpreted as a common occurrence across all occupations, this overall result highlights the weaker labour market Western Australia is currently experiencing compared to previous years, while the VET and higher education effort has continued increase.

This appraisal matches key labour market indicators and research undertaken by other Government Agencies and private interest/market research organisations. The availability of skilled workers has increased while the creation of new positions has declined leading to increased levels of competition among applicants to fill vacancies.

Those occupations that have experienced downward pressure on their final SPOL rating are those that have the most well-established labour supply chains in terms of higher education, VET and migration, and/or have been notably hit with a reduction in the numbers of people employed. Not only does this provide for a more accurate view of the 'marketplace' for skills, but it also recognises the current effort made by government at meeting skill and labour requirements in relation to the changing economic situation.

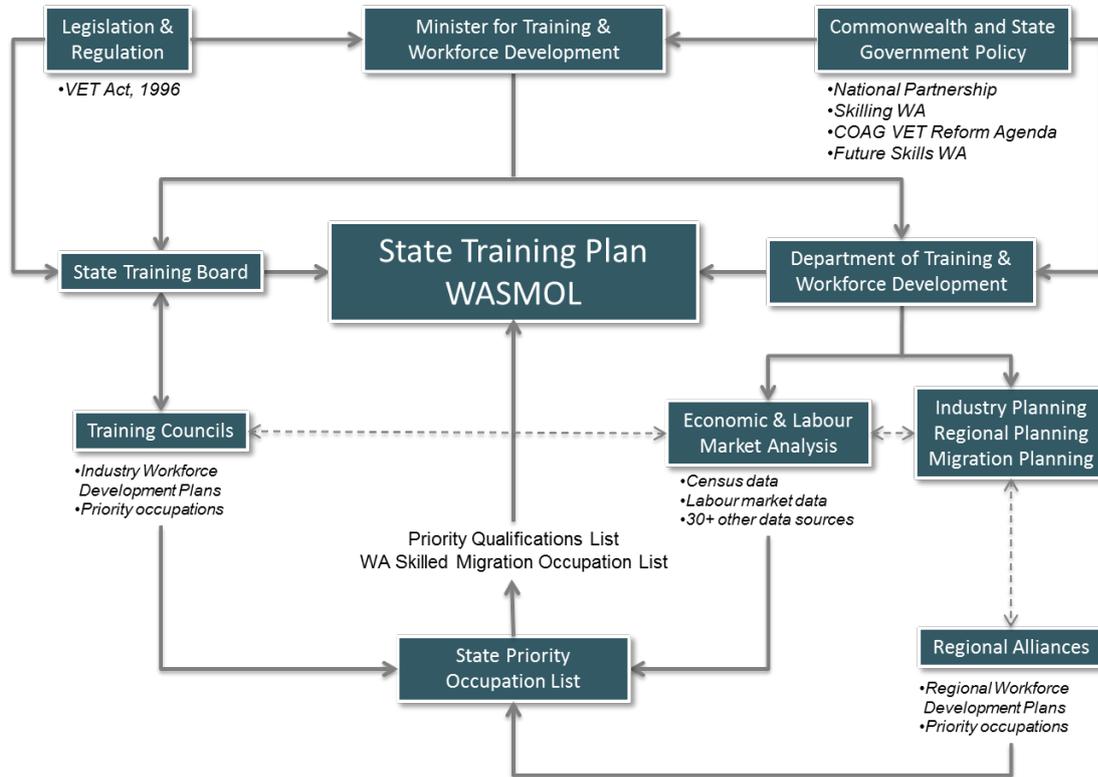
Major (and supporting) sources of data and related evidence used in the construction of the 2014 SPOL

- Australian Bureau of Statistics:
 - Census 2006 and 2011 data
 - Monthly and Quarterly labour force data
 - State Final Demand / Gross State Product data
 - Average Weekly Earnings data
 - Various other economic and labour market data sets used as supporting evidence
- Department of Training and Workforce Development (DTWD):
 - AVETMISS enrolment and delivery data
 - Training Record System data
 - EVAC submission information
 - Training Package implementation and advice (as provided by Industry Training Councils)
 - Regional Workforce Development Plan information
- Industry Training Councils:
 - SPOL Survey returns, and related input
- Commonwealth Department of Education:
 - Higher Education data (formerly this data came under the jurisdiction of the Commonwealth Department of Industry)
- Commonwealth Department of Immigration & Border Protection (DIPB):
 - Permanent Skilled Migration Stream data
 - 457 Visa data
 - Consolidated Skilled Occupation List (CSOL)
 - Quarterly and Annual Migration reports
- Commonwealth Department of Employment:
 - Survey of Employers who have Recently Advertised (SERA)
 - Survey of Employers' Recruitment Experiences (SERE)
 - Internet Vacancy Index (IVI)
 - Employment Forecast data
- Commonwealth Department of Industry
 - Australian Apprenticeships - National Skills Needs List
- Victoria University:
 - Centre of Policy Studies' (CoPS) CGE employment forecast data
- Monash University:
 - Centre for the Economics of Education and Training (CEET) net replacement rate data
- Australian Workforce and Productivity Agency (AWPA)

- Specialised Occupation List
- State and Federal Treasury economic / labour market forecasts
- WA Treasury Economic Notes
- Deloitte Access Economics:
 - Scenario Planning data
 - Business Outlook forecast data
 - Investment Monitor data
- WA Chamber of Commerce and Industry (WA CCI):
 - Curtin Business School - CCI Survey of Consumer Confidence
 - Westpac – CCI Survey of Business Expectations
 - Westpac – CCI Leading Index of WA Economic Activity
 - Quarterly Outlook
- Chamber of Minerals and Energy (CME)
 - State Growth Outlook
- Housing Industry Forecasting Group (HIFG)
 - Report on Forecast Dwelling Commencements in WA
- National Institute of Labour Studies (NILS)
 - A System for Monitoring Shortages and Surpluses in the Market for Skills

[NB: Please note the above list is not necessarily comprehensive, and may change over time. Numerous other one-off occupational and/or sector specific publications, studies, articles and reports are also used for validation purposes as is required]

2014 SPOL Framework and Impacts



2.9.3. Appendix C: Western Australian Shares Model Methodology

The purpose of the WA Shares Model is to provide an indication of how future student curriculum hours should ideally be distributed in order to meet the expected future demand for new workers with VET qualifications in Western Australia.

It should be noted that the 2014 WA Shares Model has utilised data based on 2013 VET statistics that does not fully reflect the changes resulting from the introduction of Future Skills in 2014.

The model works by comparing the student curriculum hours currently allocated to each ANZSCO group against the future of allocation of student curriculum hours for each ANZSCO group. The estimation of the required future allocation of student curriculum hours is based on three main criteria:

1. Future skill needs;
2. Return on investment;
3. Government policy.

The first criterion, *Future skills needs*, is estimated using Monash forecasts of future demand for new entrants over a four year period. In addition, *Future skills needs* is also based on ageing in the workforce, i.e. the percentage of older workers (55 to 74) in the workforce.

The second criterion, *Return on investment*, is based on the assumption in economic theory that scarce resources should be allocated to the section of the economy where they are most valued. In the model, the *Return on investment* is estimated based on the social return from the investment in VET, i.e. the social return to society from the government investing in vocational education and training. In addition, the return on investment is moderated based on occupational churn, which tends to lower the social return from the government's investment in VET.

The final criterion is *Government policy*, due to government policy also impacting on the allocation of public training resources. In the current model, government training policy is estimated based on a list of priority occupations identified in the State priority occupation list (SPOL).

A strong advantage of this methodology is that it makes an attempt to differentiate between training effort and supply. Supply of appropriately skilled labour to an occupation or industry can be affected many factors, including: interstate and international migration; wages offered by the industry; and the availability of career paths.

The underlying rationale is a move away from calculating exact numbers of graduates directly linked to an occupation, and more towards a methodology that aims to ensure that the right amount of training effort is being expended. This takes into account that students may complete modules, but not graduate with a Certificate. Studies show that particularly with existing workers, module completion

can be a valuable form of training within an industry. It also acknowledges the fact that many qualifications have multiple possible employment outcomes and so simply increasing training does not always lead to an increase in supply to a given occupation.

The model estimates the future distribution of student curriculum hours by adjusting the current distribution of student curriculum hours based on a number of different factors. Each factor in the model is assigned a weighting⁸⁰ that indicates its significance in the adjustment process. In other words, the value of the weighting assigned to each factor affects the influence that each factor has on the future distribution of student curriculum hours. The future distribution of student curriculum hours is calculated by adding the weighted distribution of each factor to the current distribution of student curriculum hours.

The Current WA Shares Model

The following section provides a description of each of the factors in the current WA Shares model, as well as the weighting assigned to each of these factors. The factors in the current model are:

1. The forecasted demand for new workforce entrants with VET qualifications;
2. Relative training time;
3. Module completion rates;
4. The return from Government investment in VET;
5. Occupational churn;
6. Ageing workforce profile; and
7. State Priority Occupation List (SPOL).

1. The forecasted demand for new entrants with VET qualifications

The forecasted demand for new entrants with VET qualifications acts as the basis of the model, which is then moderated through the weighting system. The forecasted demand for new entrants for each occupation (which is then aggregated into ANZSCO groups) includes the number of new jobs forecast to be created through employment growth as well as the forecast demand for new entrants due to turnover in each occupation. The total demand for new entrants is then moderated based on the proportion of VET qualified in the workforce. As demand for new entrants is considered a primary identifier of training needs, it has been given the heaviest weighting within the model. In the current model, the forecasted demand for new entrants with VET qualifications was given a **weighting of 50%**.

2. Relative training time

The difference in training effort amongst the various VET courses is another factor in the model that is used to adjust the current distribution of student curriculum hours. The distribution of relative training effort is based on the relative effort it will take to train the projected number of new VET qualified workers. In the model, it is assumed that the distribution of relative training effort should reflect the distribution of the demand for new entrants with VET qualifications. In the current model, the relative training effort was given a **weighting of 10%**.

⁸⁰ The sum of all the weightings equals one.

3. Module completion rates

A factor that also affects relative training effort amongst the various VET courses is the non-completion of modules. In the model, it is assumed that ANZSCO groups with low module load completion rates should have their student curriculum hours reduced, while groups with high module load completion rates should have their student curriculum hours increased. In the current model, the module load completion rate was given a **weighting of 10%**.

4. The return from Government investment in VET

The social return from the investment in VET estimates the social return to society from the government investing in vocational education and training. The model assumes that the greater the social return for an ANZSCO group, the more student curriculum hours should be allocated to that group. The social return from the investment in VET replaces the distribution of average weekly earnings that was used in the Shares Model that was developed in 2007 for the State Training Profile 2008-2010. The distribution of average weekly earnings does not provide a good measure of the return to investment because it does not take into account factors such as the costs associated with providing training.

The social return from the investment in VET is based on Human Capital theory, and is estimated using similar techniques to those used to evaluate different financial investment options. The estimation of the social return from the investment in VET is based on the pecuniary costs and benefits to society from investing in VET. The social benefits to society include increased productivity (output), lower probability of unemployment, and increased tax revenue. The social costs to society include government expenditure on vocational education and training as well as foregone output during the period of training. In the current model, the social return from the investment in VET was given a **weighting of 10%**.

5. Occupational churn

Occupational churn occurs in occupations where there is a high level of turnover of trained workers from an occupation. A consequence of this is that it lowers the social return from the government's investment in VET. Based on this, the model assumes that the higher the occupational churn in a group, the less student curriculum hours should be assigned to that group. The occupational churn factor is based on the percentage of workers aged between 15 and 24. The occupational churn measure is based on younger workers because they are generally the most mobile group in the labour market. In the current model, occupational churn was given a **weighting of 5%**.

6. Ageing workforce

The obvious consequence of an ageing workforce is the existence of a large number of workers who are coming up to retirement, and thus need to be replaced by new VET qualified workers. Hence, in the model, it is assumed that the higher percentage of workers coming up to retirement age in an ANZSCO group, the more student curriculum hours that should be assigned to that group. The ageing workforce factor is estimated based on the percentage of workers aged between 55 and 74 in each

ANZSCO group. In the current model, ageing workforce was given a **weighting of 5%**.

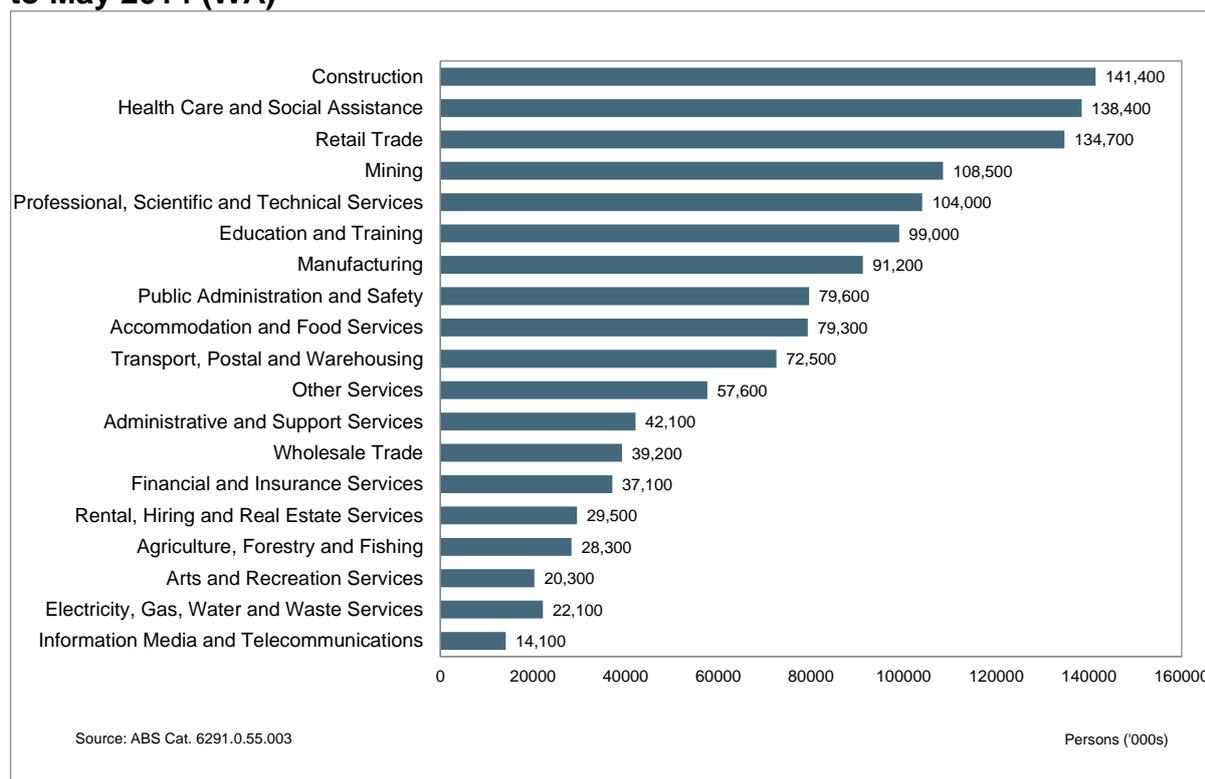
7. Priority occupations

The priority occupations used in the model were based on those identified in the official State priority occupation list (SPOL). The list shows occupations that are in high demand or are considered industry-critical in Western Australia. In the model, distribution is based on the projected demand for new entrants for those occupations identified as priority occupations. In the current model, priority occupations were given a **weighting of 10%**.

2.9.4. Appendix D : Key Labour Market Characteristics and Skilled Migration

According to the Australian Bureau of Statistics (ABS), almost 1.34 million people were employed in Western Australia in May 2014⁸¹. Currently, nearly a third of people employed are working in the three biggest industry sectors: construction (141 400 persons employed, or 10.6%), healthcare and social assistance (138 400, or 10.3%) and retail trade (134 700, or 10.1%).

Figure 1: Number of persons employed by industry sectors, average over year to May 2014 (WA)



Source: ABS, Labour Force Survey, May 2014 (Four Quarter Moving Average)

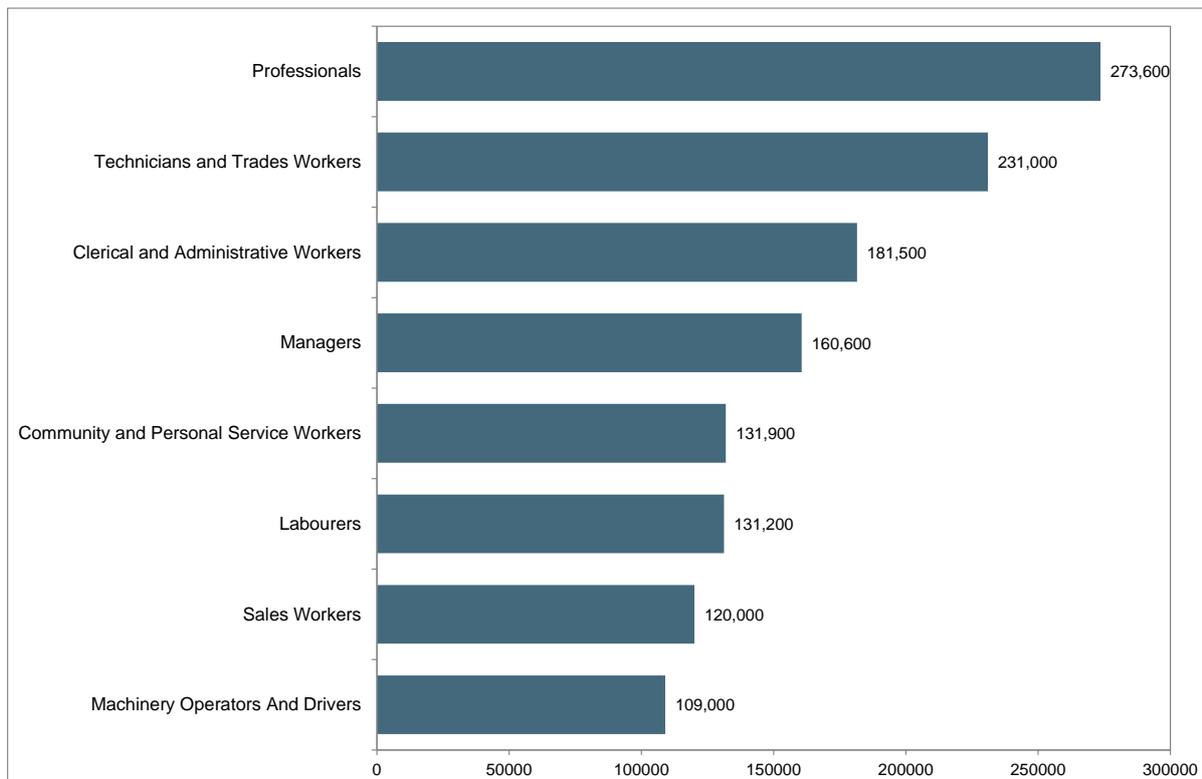
While the Mining industry currently ranks in the State's top four employing industries, the industry also has important flow-on effects to other industries, creating a large number of additional jobs throughout the economy⁸².

On an occupational basis, in the year to May 2014, 37.1% of the State's workforce were employed in the two higher skilled occupational groupings of professionals (231 600 persons) and technicians and trades workers (231 000). This is slightly higher than the 36.7% recorded in the same period, nationally.

Figure 2: Number of persons employed by occupations, year to May 2014

⁸¹ Source: ABS Cat. 6291.0

⁸² Such jobs can occur in ancillary industries such as construction (especially in respect to the construction phases of major resource projects) and manufacturing (through the downstream processing of mineral and energy resources, with key examples being the conversion of natural gas to Liquefied Natural Gas (LNG); and bauxite to alumina). Flow-on employment also occurs by way of indirect links through to many other areas of the State's economy (such as professional, scientific and technical services; property and business services; transport and storage; and many others).



Source: ABS, 6202.0, Labour Force Survey, May 2014 (Four Quarter Moving Average)

The demographics of Western Australia's labour market are also slightly different to that for Australia, reflecting overall differences in the population structure of the two⁸³.

ABS Census 2011 data showed that relative to Australia, Western Australia has:

- a higher proportion of persons born overseas (30.7% versus 24.6% nationally);
- a higher proportion of Aboriginal persons (3.1% compared to 2.5%);
- a younger population age profile relative to other states (its median age of 36.3 years in 2011 was the lowest of all States, and a full year lower than the national median of 37.3 years);
- a higher proportion of all persons in Western Australia in the key working age cohort of 15 to 64 years with 68.1% (compared to 66.7% nationally).

Reflecting the large number of major resource projects in remote parts of the State, the State also has a large 'FIFO' (Fly In / Fly Out) workforce. Estimates from the Western Australian Chamber of Minerals and Energy are that about half of the State's current resource sector workforce are FIFO (or DIDO – Drive In / Drive Out), with this expected to grow to an estimated 57% by 2015⁸⁴.

⁸³Based on ABS 2011 Population Census, cat. 2001.0

⁸⁴Source: Chamber of Minerals and Energy of Western Australia: *Submission to the Standing Committee on Regional Australia's Inquiry into the Use 'Fly-In, Fly-Out' (FIFO) and 'Drive-In, Drive-Out' (DIDO) Workforce Practices in Regional Australia*, October 2011

Skilled migration into Western Australia

While the State Government's first and primary workforce development priority remains the training and preparation of Western Australians for the State's workforce, current trends still suggest that it is unlikely Western Australia will be able to generate enough workers in specific occupations over the next few years, making targeted overseas migration essential. Skilled migration has been, and will continue to be, an invaluable source of skills, given its important role in filling those jobs unable to be filled by the local workforce.

A Productivity Commission research report found that skilled migration helped lift overall economic growth⁸⁵, while a separate paper from the Commonwealth Department of Immigration and Border Protection (DIBP) found the composition of the migration matters in terms of achieving the greatest economic gains from migration programs (with employer sponsored migrants and skilled independent migrants tending to perform better than other non-employer sponsored visa streams and even business skills visa holders)⁸⁶.

This importance of migration to the State is also highlighted by the fact that from Western Australia's population growth of some 76 300 additional persons over the 12 months to September 2013, around 48 400 (or over 60%) came from the State's net international migration gain⁸⁷. Also illustrative of the importance of migrants to the State's workforce is that more than a third (37%) of those employed in Western Australia over 2012-13 were born outside Australia⁸⁸.

In respect to migration inflows, as temporary skilled migration (i.e. 457 visas) into Australia are not subject to overall quotas from the Commonwealth Government, but instead fluctuate according to levels of employer demand, it is helpful to understand key trends in such visas. Historical data on 457 visas are also a somewhat useful barometer of where employers have sought to fill gaps.

Data for the nine months to March 2014 (latest available data) suggests that overall there were 6 670 primary applicants granted 457 visas by the Commonwealth Government for positions in Western Australia⁸⁹. This compares to 11 420 primary applicants who were granted a 457 visa for the same nine months in 2012-13.

The data also showed those industries in the State that obtained an above average share of 457 visas (relative to their overall employment levels) for the period to March 2014 were 'other services' (3.3%); construction (2.5%); information media and

⁸⁵ Source: *Economic Impacts of Migration and Population Growth*, Productivity Commission Research Report, 2006

⁸⁶ Source: Department of Immigration and Border Protection, *Migrant Economic Outcomes and Contributions*, April 2011

⁸⁷ Source: ABS Cat. 3101.0.

⁸⁸ Australian Bureau of Statistics, Cat. No. 6291.0

⁸⁹ Data source is the Commonwealth's Department of Immigration and Border Protection publication: "*Subclass 457 State/Territory summary report 2012-13*" matched against ABS catalogue 6202.2. Latest published data for July 2012 to May 2013. Note though that not all 457 visa holders are counted as residents for the purposes of the Australian Bureau of Statistics' (ABS) labour force estimates – the ABS' estimates excludes those whose total duration of stay in Australia is less than 12 months over a 16 month period.

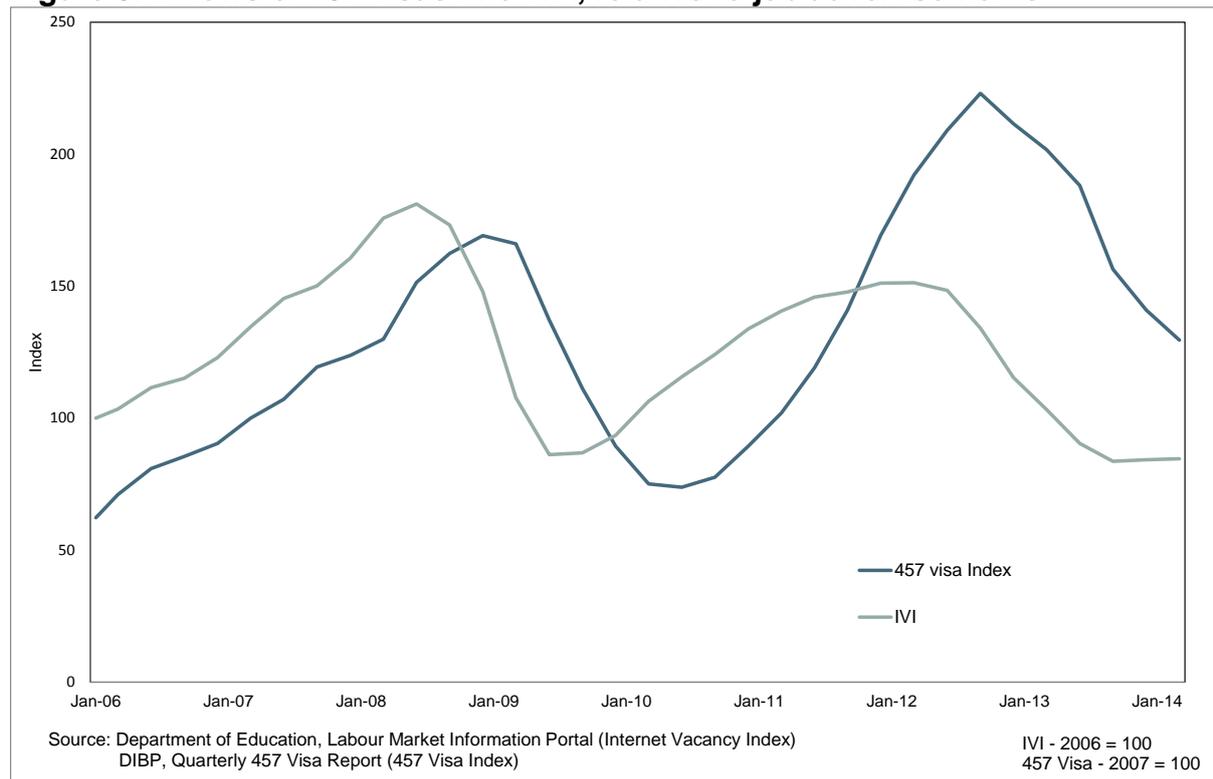
telecommunications (2.5%); mining (2.4%); electricity, gas, water and waste services (2.1%); accommodation and food services (1.2%); and manufacturing (1.2%).

The same data on 457 visas also shows that around 90% of the occupations associated with the 457 visas granted for Western Australia in the eleven months to March 2014 fell into the broad categories of ‘technicians and trades workers’, ‘professionals’ and ‘managers’.

Consistent with the ongoing expansion of Western Australia’s resource and residential based construction sector, the top nominated occupations were mechanical engineering technicians accounting for 400 of the 6 670 visas granted in the State, followed by cook (280), and cafe or restaurant manager (200).

As demonstrated by the following chart (which uses the Department of Employment’s *Internet Vacancy Index* as a proxy for job openings), the flow of 457 visas into the State tends to be broadly responsive to overall labour market conditions (albeit with typically a half year or so lag).

Figure 3: Inflows of 457 visas into WA, relative to job advertisements



The chart also suggests that the continued moderation in labour demand in the State will likely also be met with moderating 457 visa numbers into Western Australia over the next year or so.

However, it is cautioned that it is hard to be too categorical on likely future use of 457 visas by employers in the State – in particular, any material changes made by the Commonwealth Government to migration policies may affect such future trends.

Temporary migration is increasingly becoming a pathway towards permanent residency in Australia for many people. For example, in 2010–11, almost nine in ten people granted a permanent Employer Sponsored visa in Australia were people who had originally entered the country on a 457 visa⁹⁰.

Currently there are seven visa streams which offer permanent residency for overseas skilled workers: Employer Sponsored; Skilled Sponsored (Regional); Skilled Independent; Business Innovation and Investment Program; State/territory Nominated; Distinguished Talent; and Skilled Family Sponsored.

As shown by the table below, the number of permanent visas granted to primary applicants in Western Australia increased by 463 people between 2011–12 and 2012–13.

Table 1: Permanent visas granted to the primary applicants by visa streams for Western Australia, 2011–12 to 2012–13

Visa stream	2011–12	2012–13
Employer sponsored	4,594	4,998
Skilled sponsored (Regional)	547	323
Skilled independent	723	947
Business innovation and investment program	262	222
State/territory nominated	3,488	3,629
Distinguished talent	7	0
Skilled family sponsored	35	N/A
Total	9,656	10,119

Source: Department of Immigration and Border Protection, Migration Programme Outcome, unpublished data

As also shown by the table, Employer Sponsored visas made up 49.4% of the total visas granted in 2012–13, while State Sponsored visas accounted for a further 35.9% and other skilled visas made up the remaining 12.6% of total permanent visas granted.

The total number of temporary and permanent visas granted to Western Australia in 2012–13 was 24 779 people⁹¹, with temporary visas representing 59% of these people and permanent visas for the remaining 41%. Together, this reflects the additional labour capacity available to the State resulting from skilled migration.

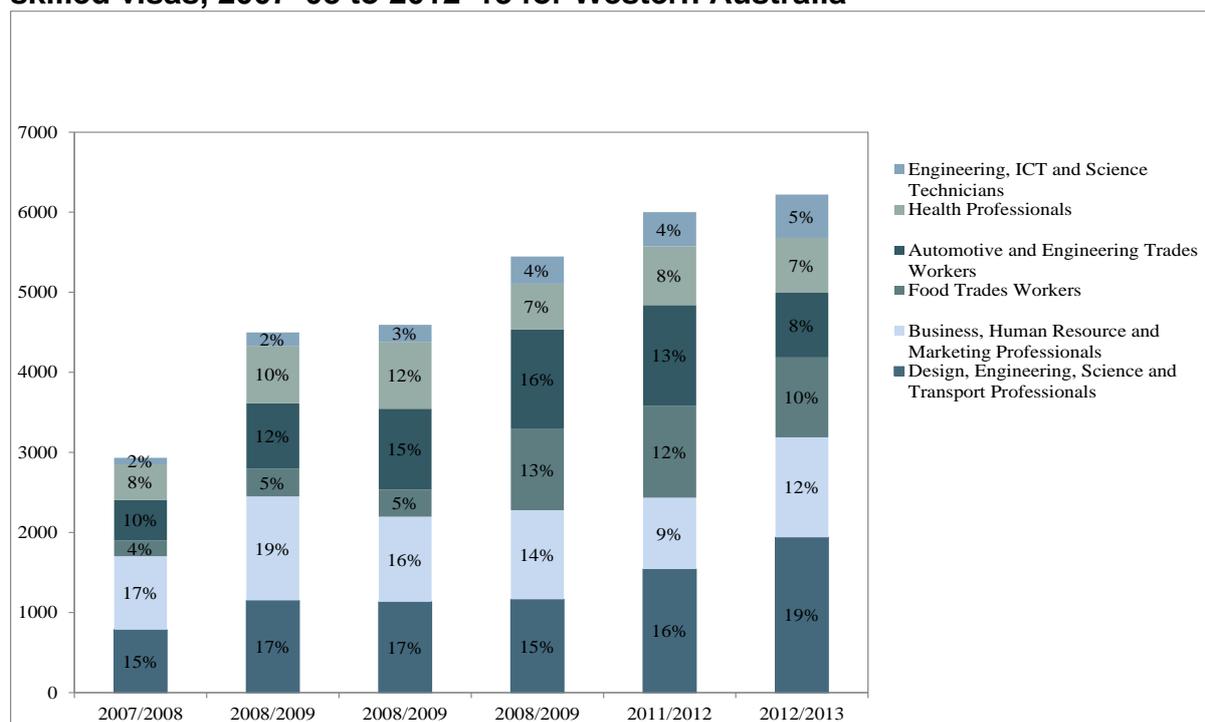
The growth in visas for resource related workers is again consistent with the large number of resource infrastructure projects undertaken in Western Australia over the past five years.

⁹⁰ DIBP, *Population flows: immigration aspects 2010–11*, DIBP, Canberra, 2012, chapter 3, p. 66, <http://www.immi.gov.au/media/publications/statistics/popflows2010-11/pop-flows-chapter3.pdf>.

⁹¹ The total number of visas granted to the primary applicants for 2011-12 comprised of 14 660 visas under the 457 program and 10 119 visas granted under the permanent program.

The next chart shows that in 2012–13 the top four nominated occupation groups for primary grants of permanent skilled visas were for Design, Engineer, Science and Transport Professionals (19%); Business, Human Resource and Marketing Professionals (12%); Food Trades Workers (10%); and Automotive and Engineering Trades Workers (8%).

Figure 4: Top six ANZSCO sub-major groups for primary grants of permanent skilled visas, 2007–08 to 2012–13 for Western Australia



Source: Department of Immigration and Border Protection, Migration Programme Outcome, unpublished data

Overall, skilled migrants have good labour market outcomes relative to the general population. For example, at the Australia level for 2009 to 2011, there was a higher percentage of skilled migrants working in skilled jobs and in full time employment compared to the general population.

A further comparison reveals that 96% of skilled migrants entered the labour market within six months after arriving in Australia for the period 2009 to 2011. The data also suggests that upon entering the labour market, skilled migrants have more success at finding employment compared to the Australian born. For example, the unemployment rate of skilled migrants six months after arrival was 5.0% and after 12 months in Australia this declined to 2.0%. In contrast the average unemployment rate for the Australian born was 5.1% over the same period⁹².

It should be noted however, that migration into the State does not diminish the need for training of Western Australians. As mentioned above, the State's policy position on skilled migration is that it should only be used to supplement the local workforce

⁹² Department of Immigration and Border Protection, *Population flows: immigration aspects 2010–11*.

with the skills and expertise which are in high demand by filling occupations that cannot be filled by the local workforce.

2.9.5. Appendix E - Workforce Scenarios and Projections to 2030 – Western Australia

Background

The State Training Board has adopted a scenarios-based approach to develop potential strategies and policies to address potential and plausible long term workforce futures for Western Australia. In 2012, the Department of Training and Workforce Development commissioned Deloitte Access Economics (on behalf of the State Training Board) to develop and model four distinct scenarios, where each represented a plausible and internally consistent 'alternative future' path for the State's workforce for the period 2012–2030.

The *Workforce Scenarios and Projections – Western Australia* (the scenarios report) is based on similar work completed by the former Australian Workforce Productivity Agency (AWPA) which included four alternative visions of the potential future.

The four scenarios adopted for the State Training Board's project were similar in nature to the AWPA scenarios, and were:

- **Long Boom:** is largely based on the steady growth view of the Australian economy. It is generally characterised by a steady rate of economic and employment growth being achieved over the forecast horizon to 2030. Population growth in Western Australia is above the national average as is overall economic growth. There are strong job opportunities in the mining and associated industries.
- **Smart Recovery:** the current difficulties facing the Australian and global economies live on for several more years. Australia follows a low growth path to 2016, but after that date the global economy improves and Australia's economic fortunes begin to make a turnaround and the Australian economy moves back towards its potential growth path. Indeed, the period of economic stagnation forms a trigger for greater take-up of technology and improvement in productivity. Western Australia is hit harder than most in the years up to 2016 with commodity prices falling away and the pipeline of resource projects reducing significantly.
- **Terms of trade shock:** the global economy continues to grow at a healthy rate over time. However, compared with the long boom, the benefits to Western Australia of this growth are reduced because there is a more substantial reduction in commodity prices. The State's mining sector still enjoys a significant expansion in this scenario, but the returns on that expansion are far less than if the terms of trade had remained high.
- **Ring of Fire:** combines a lower global growth path over time with significant volatility. Some years after the official end of the GFC, the world economy remains in a state of flux, with low growth and high debt in developed countries a major concern. In this scenario the world economy is unnervingly volatile. Overall, new job opportunities are limited with employment growth staying at low levels over the long term.

It is important to note that the scenarios are not meant to be actual forecasts of the future, nor are they solely based on past trends. Rather, they help deal with the

uncertainties and risks of the future, as well as those broad developments that have some reasonable degree of certainty around them.

While various forecasts are typically used for short term planning, these are usually only ever done as a single set over a short term horizon (e.g. usually no more than four years out).

The modelling of scenarios therefore not only provides a longer time frame to assist strategic planning, but also allows for a much richer appreciation of the possible impacts of many other key variables (such as population growth, workforce participation, economic growth and others).

The additional usefulness of scenarios comes from the fact that no single set of forecasts is likely to be completely correct.

Accordingly, as scenarios are alternative visions of the potential future, they provide a means to make decisions that take account of differing degrees of uncertainty. This is particularly important given the dynamic and rapidly changing environment facing Western Australia both now and into the future.

Each of the four modelled scenarios are centred on a number of key assumptions, based on specified drivers and factors, such that each scenario presented is both plausible and internally consistent.

While the four scenarios were broadly based on the four national AWPA scenarios⁹³, the overall context and initial parameters for the four scenarios for Western Australia's project were further refined to better reflect the structure and dynamics of the State's economy and labour market.

This was mostly done through the assistance of a high level Working Group established to guide the project. Members of this group include representatives from the Department of Treasury, the Department of the Premier and Cabinet, DTWD, the Chamber of Commerce and Industry Western Australia, the International Skills and Training Institute in Health, Deloitte Access Economics, and the STB.

The modelling by Deloitte Access Economics of the supply and demand for skills and qualifications was then developed on the basis of each of the scenarios.

The modelling of the scenarios is now complete, and the results outline the demand and supply dimensions of future skills needs in the State under each of the alternate scenarios.

The generic theme for all four scenarios is that the State's workforce into the future is going to be more highly skilled.

⁹³ Not only were the four AWPA scenarios seen as suitable for Western Australia's context, the similarities between this scenarios project and AWPA's project means both projects have a common base, and so will be able to complement each other.

Please refer to DAE's report titled 'Workforce Scenarios and Projections – Western Australia' on the STB website at: <http://www.stb.wa.gov.au/Pages/Home.aspx>.

Summary of modelling results

The scenarios each have different paths for both the level and type of economic activity in Western Australia over time. The key macroeconomic variables for the four scenarios are included in the table below.

Table 1: Summary assumptions by scenario

Variable (average 2012-2030 unless stated)	History (2001-12)	Long Boom	Smart Recovery	ToT shock	Ring of fire
National					
Terms of trade (level in 2030 for forecasts)	74.9	81.4	80.0	67.5	75.4
Net migration (2030)	177,000	230,000	195,000	183,000	117,000
Population growth (%)	1.43%	1.56%	1.36%	1.28%	0.99%
Western Australia					
Net migration	28,720	42,180	35,920	27,680	15,630
- international	26,140	37,800	33,000	26,250	15,400
- interstate	2,580	4,380	2,920	1,430	230
Population growth (%)	2.20%	2.44%	2.01%	1.81%	1.36%
Labour force participation rate (level in 2030 for forecasts)	67.5%	68.0%	66.6%	66.0%	64.9%
Unemployment rate	4.6%	3.2%	4.4%	4.0%	6.3%
Employment growth	2.89%	2.37%	1.84%	1.65%	1.04%
Productivity growth	1.77%	2.30%	1.80%	1.73%	0.55%
Output growth	4.72%	4.73%	3.67%	3.41%	1.60%
Output per capita growth	2.52%	2.20%	1.59%	1.54%	0.18%

Source: ABS, Deloitte Access Economics

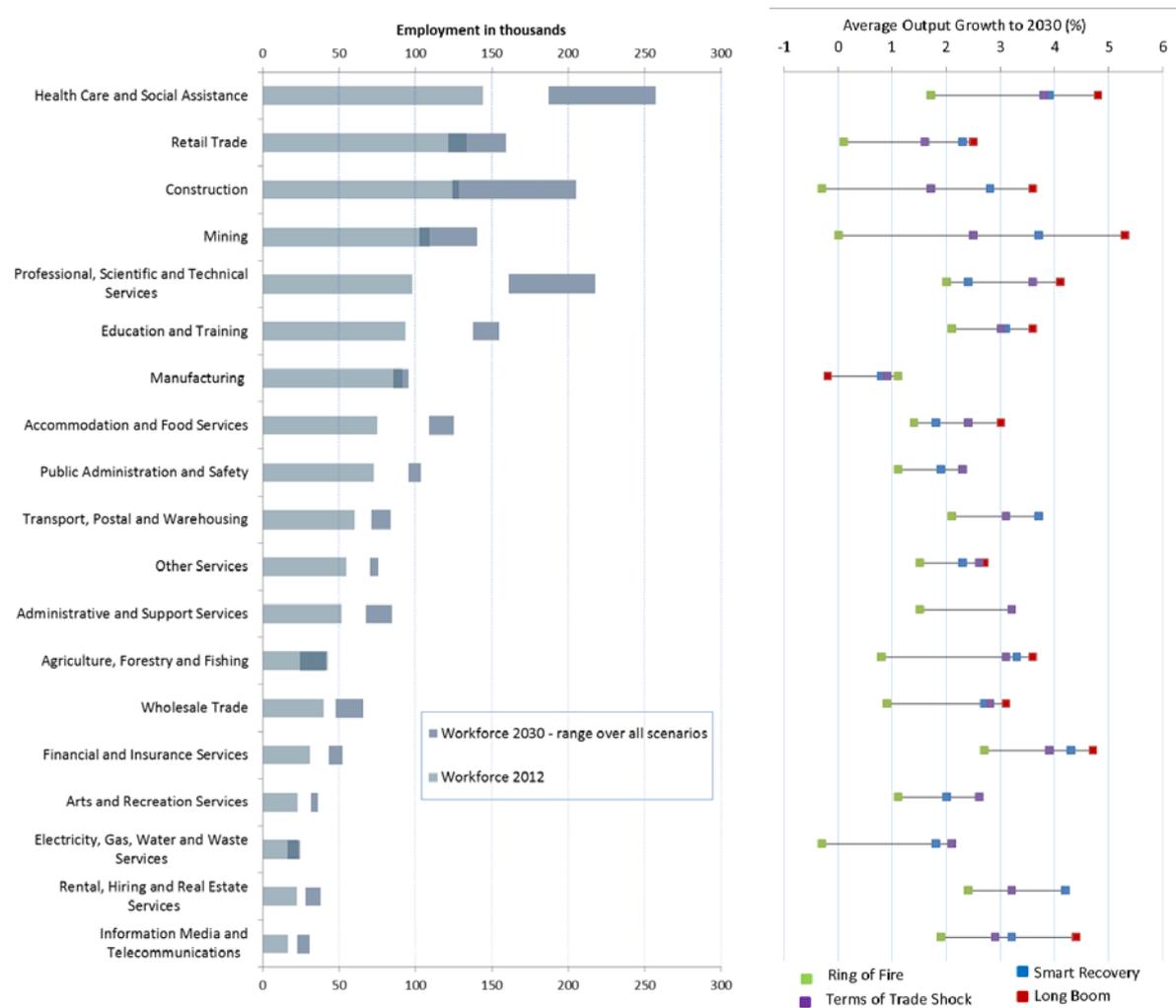
Common to all scenarios, the industries of health care, education, professional services, finance services, and public administration are projected over the period 2012 to 2030 to have faster than average employment growth, while slower than average growth rates are projected for agriculture, mining, manufacturing, utilities and retail trade.

Comparing each of the scenarios shows a considerable range of employment and output (economic) growth rates projected out to 2030 by industry, with the long boom showing the strongest growth rate for each industry and the ring of fire recording bottom of the range growth rates (see Figure 1 overleaf).

The light blue bars on the left hand side of Figure 1 show the current size of the workforce by industry as at 2012, with the dark blue bars showing the projected size of the workforce in 2030 (with the ring of fire being the bottom of the range and the long boom being the top of the range). Professional services, mining, construction, retail and the health care industry highlight the large variance in the projected workforce sizes between the ring of fire and the long boom scenarios for these industries.

The multi-coloured lines on the far right hand side of Figure 1 show the average economic output growth rates over the period 2012 to 2030 by industry. The lower end of the line represents the ring of fire scenario, while the top of the line represents the long boom, with the middle bar showing the divergence between the terms of trade shock and the smart recovery scenarios.

Figure 1 - Workforce size and output - variation by Industry



Source: Deloitte Access Economics, Workforce Scenarios and Projections – Western Australia, 2013

Considering average output growth alongside the size of the workforce provides an appreciation of the labour intensity of any industry’s projected economic growth.

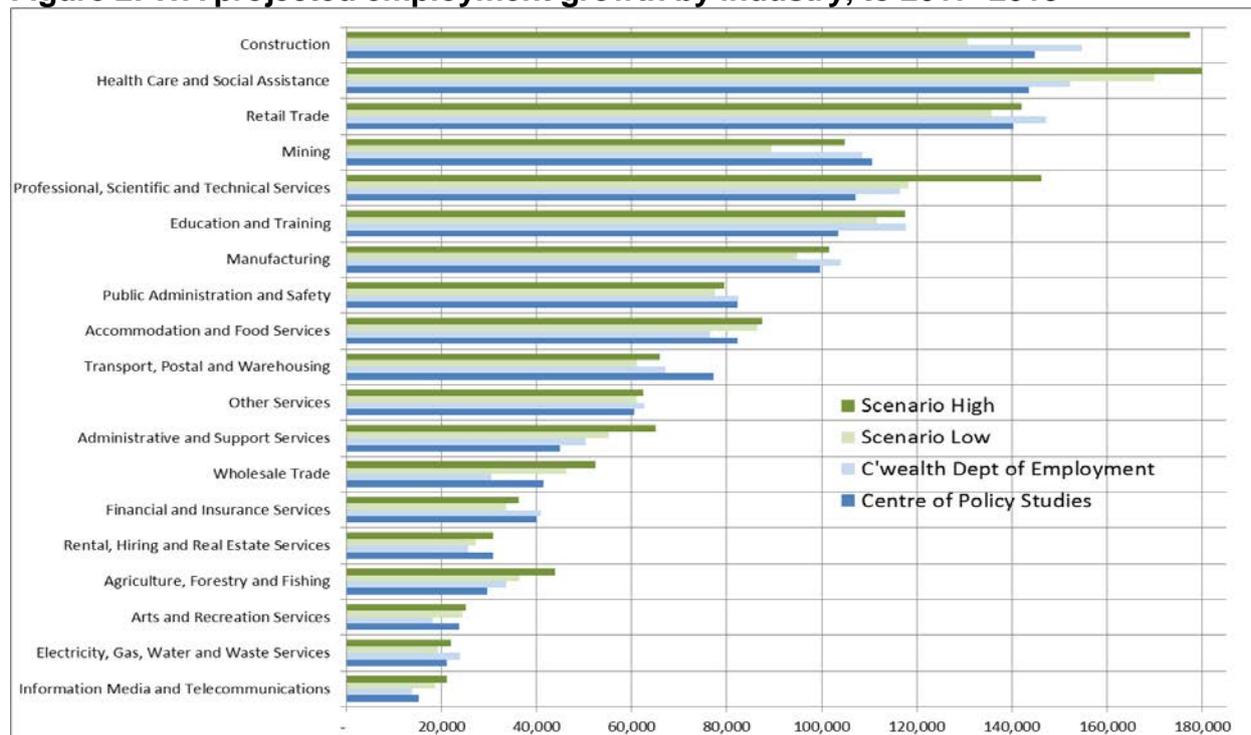
For example, agriculture is projected to have a smaller workforce in 2030 than what it currently has, yet is projected to have positive average output growth out to 2030, indicating that innovation/technology efficiency gains are expected to play an important role in the future of the industry.

These projections are influenced by the relative strength of components of demand such as exports, business investment, housing investment and consumer spending. They are also influenced by underlying trends in spending and activity (such as those linked to an ageing population over time, and a faster rate of spending on

consumer services rather than goods), and expected rates of productivity growth across the economy and by industry.

The scenario specific projections of employment by industry over the short term (the next four years to 2017-18) can also be compared with the forecasts of employment by industry produced by both the Centre for Policy Studies and the Commonwealth Government’s Department of Employment (see previous commentary and analysis of these forecasts from page 17).

Figure 2: WA projected employment growth by industry, to 2017–2018



Sources: Deloitte Access Economics, Workforce Scenarios and Projections – Western Australia, 2013; Centre of Policy Studies, Victoria University, (Sept 2013); Commonwealth Dept of Employment, Regional Employment Projections to November 2017

As shown by the chart above (and commented on earlier on this Plan – see from page 17), there is some sizable differences in the forecasts of both the Commonwealth Department of Employment and also the Centre for Policy Studies (the light blue and dark blue bars above, respectively).

However, the differences in the total employment levels for the State’s industries by 2017-18 suggested by the scenario growth ranges (the lowest scenario growth rate is shown by the light green bars, the highest by the darker green bars) tends to be more variable for some of the key industries (notably Construction, Mining, Professional, Scientific and Technical Services, and Health Care and Social Assistance).

The wide range for the first three of these industries is mostly in part is due to the top end of the growth range characteristic of the ‘Long Boom’ scenario – that is, the much stronger mining-related growth associated with that particular scenario (with construction benefitting from continued volumes of major project construction work, and similarly Professional, Scientific and Technical Services).

Interestingly though, in the case of the State's Health Care and Social Assistance industry, even the lowest growth rate of the scenarios (represented by the 'Smart Recovery' scenario) shows an employment level by 2017-18 that is considerably higher than the sets of forecasts from the Commonwealth Department of Employment and the Centre for Policy Studies.

However, the warning from earlier in this section should be kept in mind – that the scenarios are not meant to be actual forecasts of the future, but rather, they each represent plausible and internally consistent 'alternative future' paths for the State's workforce.

Looking at the scenarios projections for regional employment out to 2030, growth is strongest for Perth and Peel across all scenarios. These regions are the strongest in terms of labour supply growth, but also have slightly younger age profiles.

The scenarios' employment projections for broad occupational groups over the period 2012 to 2030 shows that common to all four scenarios, the occupational groupings of managers, and community and personal services workers are projected to have the strongest employment growth.

The employment growth of managers is driven by increasing economic sophistication over time, while growth in community and personal services workers reflects a steadily ageing population (and also of the somewhat limited potential in this sector for labour augmenting technical change). Following these two occupational groups, the occupational category of professionals has the next strongest employment growth, reflecting a combination of a longer term moderation trend in mining, as well as growing demand in the State's service sectors.

However, the scenario projections show the category of Clerical and Administrative Workers is expected to be impacted adversely by increasing technological change, with only moderate growth / declines out to 2030 under the four scenarios.

The modelling also includes comparisons of the flow of supply and demand projections for qualifications out to 2030. The table below shows the expected flow of qualifications demand and supplied going forward, and the resulting balance.

Table 2 - Projected qualification supply less demand by scenario for WA

<i>Long Boom</i>	2012	2015	2020	2025	2030
Total supply of qualifications	99,114	105,911	111,525	117,729	126,078
Total demand for qualifications	154,044	116,780	124,331	129,340	144,807
Balance (supply less demand)	-54,930	-10,868	-12,806	-11,611	-18,729

<i>Smart Recovery</i>	2012	2015	2020	2025	2030
Total supply of qualifications	99,114	88,988	98,010	105,355	113,797
Total demand for qualifications	154,044	90,735	105,802	111,422	123,457
Balance (supply less demand)	-54,930	-1,747	-7,792	-6,068	-9,660

<i>Terms of Trade Shock</i>	2012	2015	2020	2025	2030
Total supply of qualifications	99,114	92,517	92,289	97,587	104,183
Total demand for qualifications	154,044	93,684	97,850	102,316	112,480

Balance (supply less demand)	-54,930	-1,167	-5,561	-4,729	-8,297
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Ring of Fire	2012	2015	2020	2025	2030
Total supply of qualifications	99,114	88,006	77,684	76,910	77,215
Total demand for qualifications	154,044	66,704	64,310	68,152	75,780
Balance (supply less demand)	-54,930	21,302	13,374	8,758	1,434

Source: Deloitte, Access Economics, Scenarios and Projections - Western Australia

The overall supply-demand comparison picture changes notably in the short term (from 2012 to 2015), with a more modest amount of excess demand seen in the *long boom*, near balance being seen for *the smart recovery* and *terms of trade shock* scenarios, and a notable excess supply of qualifications being generated under the *ring of fire* scenario.

Much of this shift takes place in 2013, which has seen a marked drop in qualifications demanded in line with a notable moderation in employment growth.

Over the longer term, the overall supply-demand comparison for Western Australia based on the modelled scenarios shows that:

- Excess demand for qualifications is expected to be a consistent feature of the *long boom*.
- Demand outweighs supply by an increasing amount beyond 2015 in *smart recovery*, as improved productivity growth generates a greater need for qualifications.
- Demand also outweighs supply in the *terms of trade shock*, though both are at lower levels with more subdued economic activity balanced out by a lower contribution to qualifications supply from migration.

Both the demand for and supply of qualifications are considerably lower in the *ring of fire*, with more qualifications being produced than are required.

More granular modelling results based on these supply/demand balances shows that excess demand for higher level qualifications (Diploma and above) and the over-supply of lower level qualifications over time will be a common challenge in all scenarios. This indicates that under all scenarios there will be a need to enable the workforce to attain higher level qualifications.

However, the demand for undergraduate and postgraduate qualifications varies significantly between scenarios. For example, in 2030 there will be excess demand of around 15,000 postgraduate qualifications in the *long boom* but excess demand of less than 3,000 postgraduate qualifications in the *ring of fire*.

Such supply-demand qualification comparisons are helpful, as they can provide a broad indication as to whether the additional skills required in Western Australia's economy over time are projected to be met via 'traditional means' (i.e. a continuation of modelled trends in qualification completions, migration into the State, and similar).

However, Deloitte Access Economics cautions there are a number of key provisos around such supply-demand comparisons⁹⁴, noting that:

Any shortfall to required skills may provide incentives for events to occur which then bring these closer to balance. These actions could include a change in relative wages, different demographics and pathways for post-school education, changes to international and interstate migration levels or to FIFO levels, demand side changes which may seek better technology, and changes in the depth of skill required for particular occupations.

In this context, it is important to note that the scenarios modelling undertaken by Deloitte Access Economics did not make any explicit assumptions about any possible government policy deviations that might affect the future mix and quality of qualifications (including any policy changes that might be considered by government that are expressly designed to mitigate against a build-up of some of the 'imbalances').

For example, such changes might include direct changes to migration policy (for e.g. if national skilled migration settings were to have an even greater focus on higher skill levels). Alternatively, future policy changes may be more nuanced – for example, the State's VET effort being increasing geared towards higher level qualifications over time, such as Advanced Diploma / Diploma qualifications.

In addition, as has been the State's experience in past decades, the overall standard of VET qualifications within each qualification level may well improve over future years, in response to the expected increase in demand for higher skill levels.

It is also quite possible that VET qualifications at the higher end (Certificate IV's, and Diplomas / Advanced Diplomas) remain important for some students who seek to use them as a pathway into the university sector. This is highlighted by an increase of 75% over the past decade in the national number of domestic students with a VET award being admitted into Australian universities⁹⁵.

In the case of Certificate I's and II's, it is important to remember that such qualifications not only often represent pathways for students who may go on to study higher level qualifications, but also represent a key mechanism in their own right for improving the foundation skills for some groups of students.

⁹⁴ This relates to Deloitte Access Economics modelling of demand elements separately from supply elements, for each scenario (albeit this was done within a common modelling framework). This means the modelled outputs showing supply-demand gaps are not expected to result in 'real' gaps, in the sense that trends in demand and supply in labour markets typically tend towards equilibrium. Just as a few key examples, when demand exceeds supply, qualifications demanded may simply go unfilled, and employers may restructure operations as a result. Similarly, changes in targeted skilled migration may help 'plug' some of the skills gaps. Perhaps most likely though, if demand outstrips supply for some high level occupations, strengthening wages growth in those occupations may help to reduce the size of any gap (what is referred to in respect to 'a change in relative wages' in the text above), where such wages growth attracts a much higher rate of domestic qualifications than that assumed in the modelling. For more information, see Deloitte Access Economics, Workforce Scenarios and Projections Report for Western Australia, 2013.

⁹⁵ In 2001, 12 916 students were admitted to undergraduate programs on the basis of a VET award, rising to 22 676 in 2010. The number of students admitted on the basis of a VET award has also increased at a higher rate than groups admitted on any other basis. Source: L. Watson, P. Hagel & J Chesters *A half-open door: pathways for VET award holders into Australian universities* The Education Institute, University of Canberra. 2013, NCVER.

The stronger demand for higher level qualifications shown by the scenario modelling is in part due to the type of future employment growth expected across the State's economy, as well as the projection for an increasing rate of skills deepening over time. This occurs at varying rates, but is seen across all scenarios.

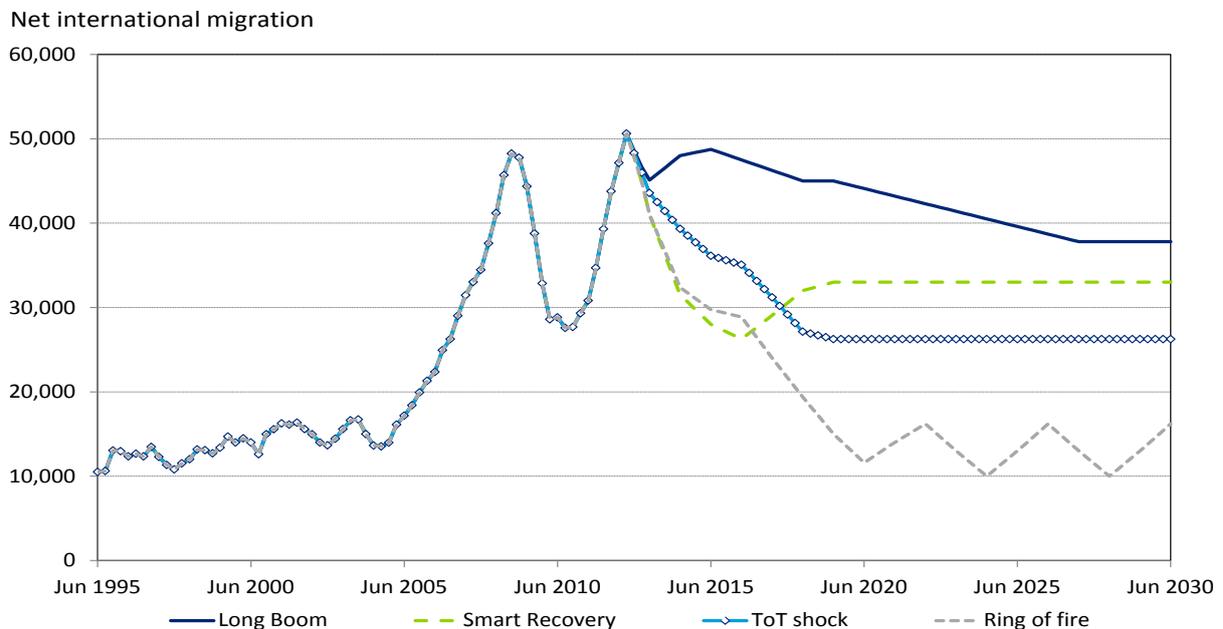
Increasing labour market size is the major contributor to additional demand for qualifications in the long boom, with significant shares also coming from retirements and skills deepening.

For the other three scenarios, the replacement of those retiring becomes the largest individual component of demand as the employment growth rate slows.

Demographic changes impact strongly on the supply of qualifications. In particular, the State's youth cohort (aged 15–24) is projected to grow slowly up to 2020 and limit the supply of domestic graduates. A faster rate of growth for the youth age cohort is projected after 2020 (see also Appendix W – Western Australia's Young People for more information on these trends).

It should also be noted that migration varies strongly between the scenarios in attracting skilled employees to Western Australia. The projected supply of qualifications is impacted by migration acting as a swing variable to match the differing economic circumstances of each of the scenarios, ranging from high levels of migration in the long boom, to relatively low levels in the ring of fire scenario.

Figure 3: Net international migration levels, Western Australia ('000)



Source: ABS 3101.0, Deloitte Access Economics

A more detailed explanation and analysis on an individual scenario basis is provided below.

Long Boom

Population growth for Western Australia is well above the national average for this scenario, as is overall economic growth. This includes strong job opportunities in the mining sector and associated service and technology sectors that provide support services to the mining sector.

However, business services also see strong growth over time with employment growth in Western Australia's white collar workforce outpacing growth in blue collar jobs despite strong employment in the mining sector. In general, unemployment is low, jobs for lower skilled workers are available and older Western Australians can choose to work if they want to.

Labour force participation rates for all age groups are high relative to history as high wages and more flexible work practices encourage workers to remain in the labour market. Labour force participation growth is greatest in the older age cohorts and for women – these groups take the greatest benefit from more flexible work arrangements and a burgeoning part-time workforce.

However, an ageing population remains a challenge to labour force participation in Western Australia. While it is true that more flexible arrangements encourage older workers to work longer, the demographic trend producing an older population on average in Western Australia continues in the long boom (as it does in all scenarios).

However, despite increased participation and productivity from the domestic population many sectors still experience labour shortages. Net international migration is a key source of skills for the Western Australian labour market and an extended boom in the resources sector ensures that the State receives a greater per capita share of skilled migrants compared to other States.

High demand for Australia's resources from overseas keeps the Australian dollar high and the 'two speed' split in the national economy remains prevalent for a number of years. Western Australia's manufacturers that are not selling to the mining sector suffer, as do import competing retailers and the State's tourism sector. Education exports are hit hard by a high dollar and over time are also challenged by technology that allows more flexible delivery methods.

Regions that benefit from the mining sector also experience some challenges. Large numbers of fly-in temporary workers into some remote locations cause local markets to distort. However access to labour is not equal across regions. In mining regions there remain difficulties in sourcing labour, both for mining activities, and for other sectors.

Table 3 shows the balance between the supply and demand for post-school qualifications by qualification type. Higher education at the postgraduate and undergraduate levels shows the greatest levels of excess demand, with the projections showing a shortage of these qualifications over time. On the other hand, VET level qualifications for Certificate I/II and III/IV are tending to show an excess of supply of these qualifications.

**Table 3 - Projected qualification supply less demand (based on employment*)
– Long Boom**

<i>Long Boom</i>	2015	2020	2025	2030
Postgraduate	-3,832	-6,851	-9,658	-14,692
Undergraduate	-4,749	-10,186	-13,143	-18,208
Adv. Diploma / Diploma	-418	-1,896	-3,102	-4,893
Certificate III / IV	-3,729	2,196	9,771	13,735
Certificate I / II	1,859	3,931	4,521	5,329
Total	-10,868	-12,806	-11,610	-18,729

(*Note that additional qualifications which may be generated over time for those unemployed or not in the labour force are not considered in this table). Source: Deloitte Access Economics.

Smart Recovery

Prior to 2016 the global economy remains at risk given the continuing sovereign debt problems in Europe and uncertainty from China. Global economic growth is lower than its long term average as potential downside risks from the Eurozone, US debt issues and more moderate growth rates in Chinese industrial production act as a brake. Demand for Australian resources recovers leading up to 2020 as demand from Asia ramps up once again. Both mining and agricultural commodity exports take a greater share of the WA economy by 2030. The long period of consolidation of public debts and reinforcement of global banks plays a major part in the improved economic conditions. There is also a notable lift in productivity growth. This includes policies and practices which support the supply of skills, and the adoption of new technologies and other innovations to create a revitalised knowledge economy.

Population growth moderates in Western Australia in the years leading up to 2016. Net overseas migration falls in the short term as major project cancellations and delays reduce the demand for additional labour. Net interstate migration is also weaker in the short term as jobs in the mines dry up. But over time, Western Australia's rate of population growth grows more strongly as economic growth returns and a renewed demand for skills restores net overseas migration levels.

These developments also go some way to encouraging an improved rate of employment growth. However, an ageing population remains a major challenge to the WA economy. A period of economic stagnation leading up to 2016 causes many elderly workers to leave the labour market for an early retirement as promotions and job opportunities were scarce.

There are some different impacts on the composition of Western Australia's economy over time. The initial period of economic stagnation and lower commodity prices helps to push the Australian dollar lower. International tourist arrivals, international students, and the State's manufacturers do relatively better under a weaker dollar. Business investment in these sectors picks up after many years of being overshadowed by an overheated resources sector. Western Australia's strong relationship with Asia is reflected in business services and tourism.

Table 4 shows the balance between the supply and demand for post-school qualifications by qualification type. Higher education at the postgraduate and undergraduate levels shows the greatest levels of excess demand, with the

projections showing a shortage of these qualifications over time. On the other hand, VET level qualifications for Certificate I/II and III/IV are tending to show an excess of supply of these qualifications.

Table 4 - Projected qualification supply less demand (based on employment*) – Smart Recovery

<i>Smart Recovery</i>	2015	2020	2025	2030
Postgraduate	-2,423	-5,080	-7,097	-10,416
Undergraduate	-5,077	-9,136	-10,790	-12,380
Adv. Diploma / Diploma	-456	-1,557	-2,433	-2,543
Certificate III / IV	2,561	3,452	9,920	10,961
Certificate I / II	3,649	4,529	4,333	4,717
Total	-1,747	-7,792	-6,068	-9,660

(*Note that additional qualifications which may be generated over time for those unemployed or not in the labour force are not considered in this table). Source: Deloitte Access Economics.

Terms of Trade Shock

Overall, Western Australia performs relatively poorly compared to the nation as a whole under this scenario. The Western Australian economy is considerably more exposed to the global economy than the rest of Australia and particularly to global resource commodity prices. For that reason the dramatic fall in the terms of trade under this scenario hurts Western Australia more than the rest of the nation.

Falling commodity prices gut the State's pipeline of major resource projects, and in this scenario those lower prices persist over the next two decades. Export volumes increase but lower prices mean that the return on past investment in new mine infrastructure in Western Australia is less than anticipated. Persistent low prices prevent any notable pick-up in mining investment down the track. That leaves a big pothole in the State's economy. A weaker \$A is good news for other sectors such as agriculture, tourism, international students, and manufacturing. However, the gains in these sectors do not offset the relative decline in the resources sector which has an impact on Western Australia's overall rate of economic growth.

The end of the resources boom reduces the need for overseas and interstate workers. Add to that the underlying ageing in the State's population and demographic challenges are an issue under this scenario. Population growth in Western Australia is therefore only moderate over the forecast period, well below the rate expected to be seen in the long boom scenario.

The lower path for commodity prices in this scenario has an impact on the number, nature and location of jobs in the State. While it has a significant impact on the State's mining sector, the lower \$A provides some impetus for improvement from the State's manufacturing sector.

Overall, Western Australia's unemployment rate remains relatively low as jobs lost in the resource sector are offset by new jobs in sectors that benefit from a lower \$A, as well as from the continued health of the global economy. Indeed, the latter set of sectors are generally more labour intensive than the resource sector. However, these jobs are generally lower skilled and generate less output per worker than the

jobs being lost in resources and associated sectors. Hence, labour productivity gains become more difficult for the State to achieve over time.

Table 5 shows the balance between the supply and demand for post-school qualifications by qualification type. Higher education at the postgraduate and undergraduate levels shows the greatest levels of excess demand, with the projections tending to show a shortage of these qualifications over time. On the other hand, VET level qualifications for Certificate I/II and III/IV show an excess of supply of these qualifications.

Table 5 - Projected qualification supply less demand (based on employment*) - Terms of Trade Shock

<i>Terms of Trade Shock</i>	2015	2020	2025	2030
Postgraduate	-2,465	-4,749	-6,722	-9,803
Undergraduate	-3,968	-9,266	-11,001	-12,336
Adv. Diploma / Diploma	-34	-1,607	-2,516	-2,692
Certificate III / IV	1,713	4,810	10,871	11,696
Certificate I / II	3,586	5,250	4,639	4,837
Total	-1,167	-5,561	-4,729	-8,297

(*Note that additional qualifications which may be generated over time for those unemployed or not in the labour force are not considered in this table). Source: Deloitte Access Economics.

Ring of Fire

Global economic growth is plagued by a series of small financial crises as high government debt, particularly in the Eurozone and the US, destabilise financial markets. Chinese economic growth shudders as falling demand from the Eurozone and the US (China's two largest export partners) cause export volumes to fall. In this scenario the world economy is unnervingly volatile. Contests over resources and territory mean the threat of conflict is ever present. In this world, countries become insular and protectionist trade policies restrict the level of world trade.

The terms of trade suffer a notable fall over time and are also more variable under the ring of fire scenario than for the other scenarios, with this scenario characterised by regular economic crises and setbacks.

While the mining sector in Western Australia is more subdued in this environment, a number of other sectors also suffer. The construction sector is affected as the State's major engineering construction projects proceed at a much slower pace. Business-linked sectors are affected by the slower rate of global economic growth and low business confidence, while consumer-linked sectors find it tougher with more moderate growth in population and household incomes.

However this lower level of activity, particularly from the resources sector does reduce some of the pressures in regions close to mine sites. Sectors that have been squeezed by the booming mining sector receive some reprieve from reduced pressure on wages and prices.

Overall, new job opportunities are limited with employment growth staying at low levels over the long term. The unemployment rate is higher over time, consistent with the far more subdued economic environment. This is despite the fact that labour force participation rates suffer significantly (as potential workers are discouraged from entering or remaining in the workforce).

In the ring of fire scenario, labour shortages are far less of an issue. Lower skills demand reduces the need for additional labour and as such net international migration to Western Australia falls significantly. Growth in the working age population growth is much slower. That means State and Federal government budgets are pushed to the limits as they attempt to support a growing welfare dependant population with a relatively smaller working population.

Table 6 shows the balance between the supply and demand for post-school qualifications by qualification type. Higher education at the postgraduate and undergraduate levels shows the greatest levels of excess demand, with the projections tending to show a shortage of these qualifications over time. On the other hand, VET level qualifications for Certificate I/II and III/IV show an excess of supply of these qualifications.

**Table 6 - Projected qualification supply less demand (based on employment*)
– Ring of Fire**

<i>Ring of Fire</i>	2015	2020	2025	2030
Postgraduate	813	-597	-1,457	-2,695
Undergraduate	1,166	-4,444	-5,615	-7,049
Adv. Diploma / Diploma	1,588	-200	-1,074	-1,176
Certificate III / IV	12,354	12,972	10,970	8,409
Certificate I / II	5,381	5,643	5,934	3,945
Total	21,302	13,374	8,758	1,434

(*Note that additional qualifications which may be generated over time for those unemployed or not in the labour force are not considered in this table). Source: Deloitte Access Economics.

2.9.6. Appendix F: Western Australia’s Young People – An overview

Western Australia’s young people (those aged 15 to 24 years of age) are a very important component of the State Training Plan, particularly in terms of ensuring that they acquire appropriate training and preparation for entry into the State’s workforce.

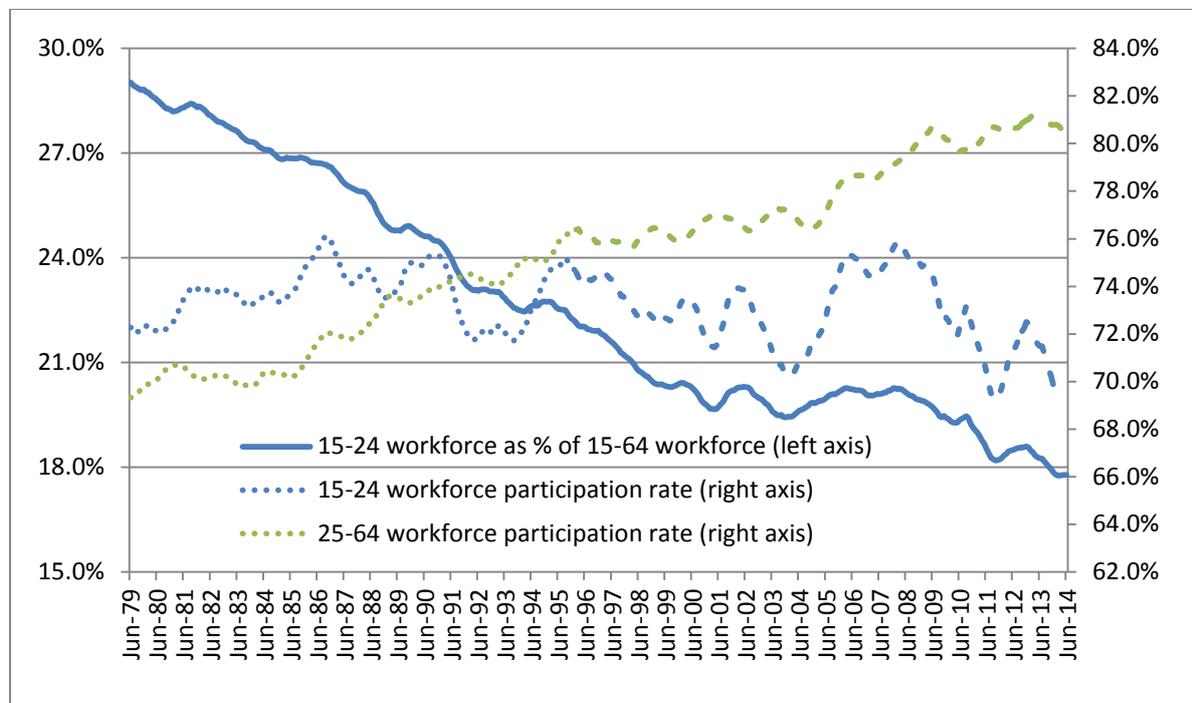
In particular, the vocational education and training sector remains a crucial element in connecting young people’s competencies with industry’s skill requirements. More broadly, the early career pathways and related skilling up of the State’s young people remains of significant importance, as this represents a critical stage in the beginning of any person’s career development and their future work engagement.

Furthermore, the youth cohort is one of the most vulnerable to any changes in conditions, and is a barometer of near term labour market changes.

The State’s youth will also have a progressively more vital role to play in respect to bolstering future labour supply in the State’s workforce, in particular as a replacement source for labour as the State’s working population ages, and the current cohort of ‘baby boomer’ workers retire in increasing numbers.

This is also in the context where the 15 to 24 year old youth cohort has already seen an appreciable drop over past decades in respect to the proportion of the State’s core 15 to 64 workforce they represent (see solid blue line in Figure 1 below).

Figure 1: WA’s 15 to 24 year old and 25 to 64 year old workforces



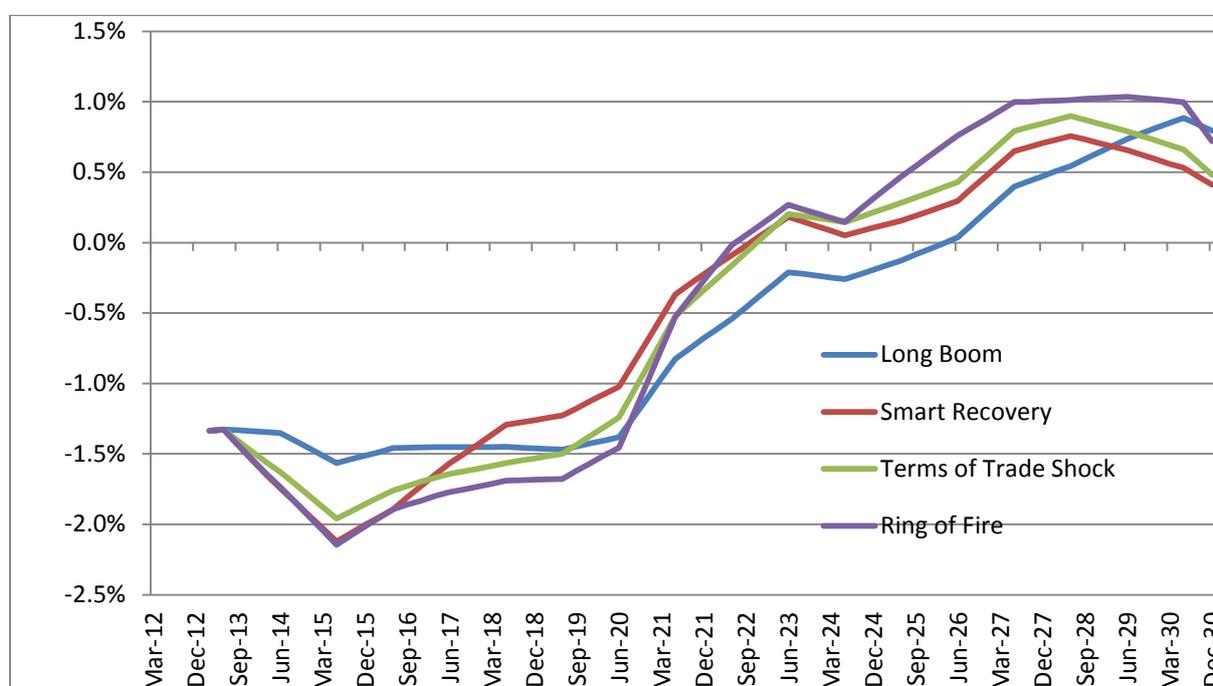
This declining proportion has been due both demographic factors (lower proportions of youth in the overall population) and economic factors – as can be seen from the dashed blue and green lines above, in contrast to increasing participation rates for

the 25 to 64 year old cohort, youth in the State have recorded a broad downward trend in workforce participation over the last two decades or so (in part due to youth increasingly choosing to remain in education for longer periods – see also below).

Modelling from Deloitte Access Economics for the workforce scenarios project shows that up to 2020, the State’s youth cohort (aged 15–24) is projected to experience population growth of a considerably slower rate than that expected for the State’s overall population.

This is shown by Figure 2 below, which shows that a consistent element across all scenarios is that the State’s 15 to 24 year olds are expected record population growth that is much lower than that for the State as a whole over the remainder of this decade.

Figure 2: WA population – percentage point growth differentials by scenario (for WA’s 15 to 24 year olds, relative to WA total population)



This slowdown in growth in the youth cohort will therefore act as a natural demographic curb on the potential supply of new domestic graduates that could reasonably be expected from youth.

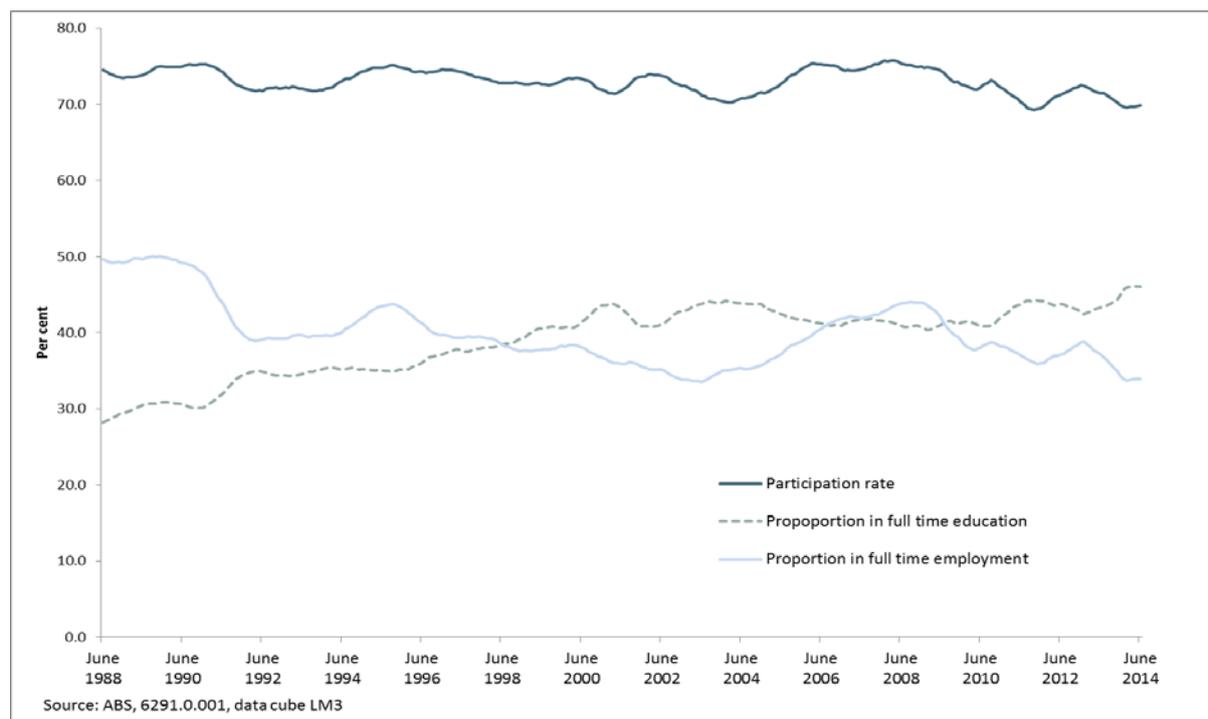
A more positive past development is that there has been a longer term trend of the 15 to 24 year old cohort increasing their participation in full time educational (as a precursor to entering the labour market), from around 25% in the mid-1980s, to over 40% currently.

However, as a corollary of this, there has been a decline in the proportion of young people in full time employment from around 50% in the mid-1980s, to around 34% currently.

The current moderation in the labour market over the past 18 months may also be contributing to a recent increase in the proportion of young people returning to, or continuing in full time study for longer.

This is reflected in the average participation rate for young people in 2013–14 declining to 69.9%, compared to 71.5% for the previous year.

Figure 3: Labour market participation and the proportion in full time education and full time employment of persons aged 15–24 in Western Australia



For the year to June 2014, the average total employment for the cohort (for full time and part time positions) decreased by 3 300 persons (down 1.5%) to 219 200.

While the part time employment recorded a rise of 5 900 persons, this was offset by a fall in full time employment of 9 100 persons.

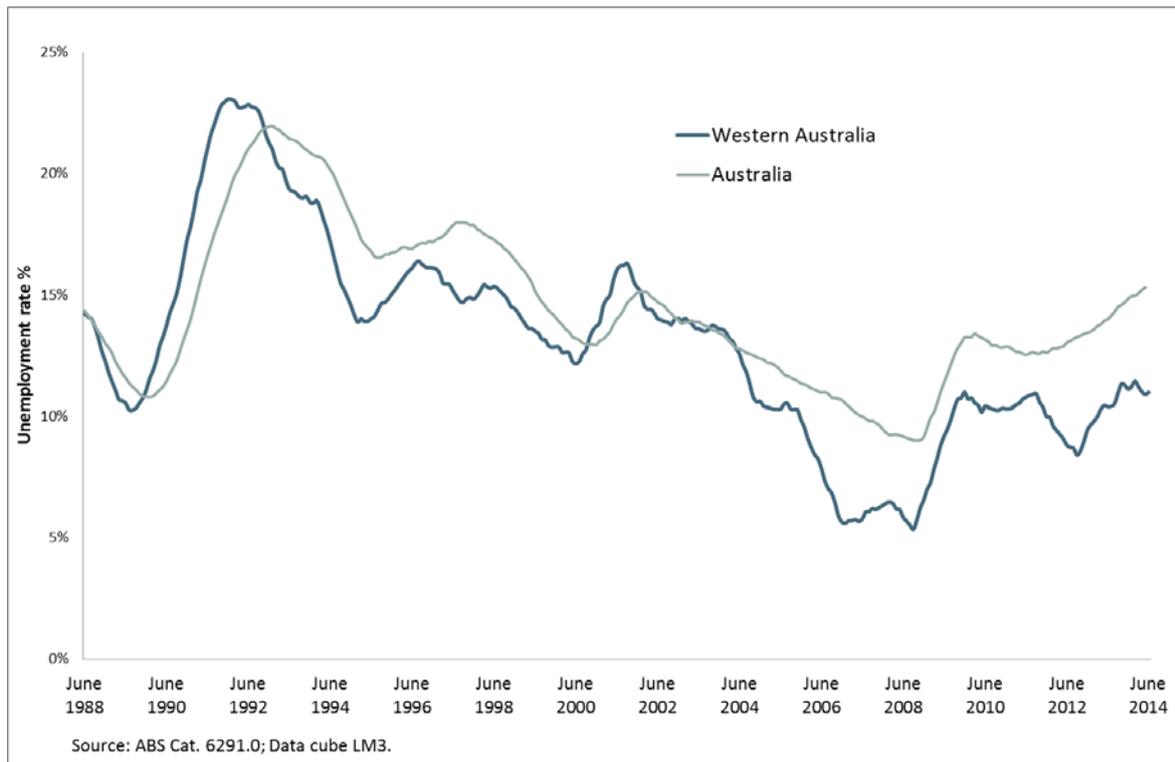
The number of young people unemployed in Western Australia (those seeking either full time or part time work) increased by 1 800 persons (or 8.2%) to 24 000, which represented over a third (35.3%) of total unemployed persons in Western Australia.

A factor to consider when comparing the respective unemployment rates for young people relative to the total population is that a much larger proportion of the younger age groups are involved in full time or part time education while undertaking or seeking employment.

For this reason it is useful to consider unemployment rates for young people according to their educational attendance. For example, around 80% of the 15–24 aged youth cohort who were seeking part time employment were also attending full time education in 2013–14, and as such, a useful way of examining youth unemployment is to focus on those seeking full time employment.

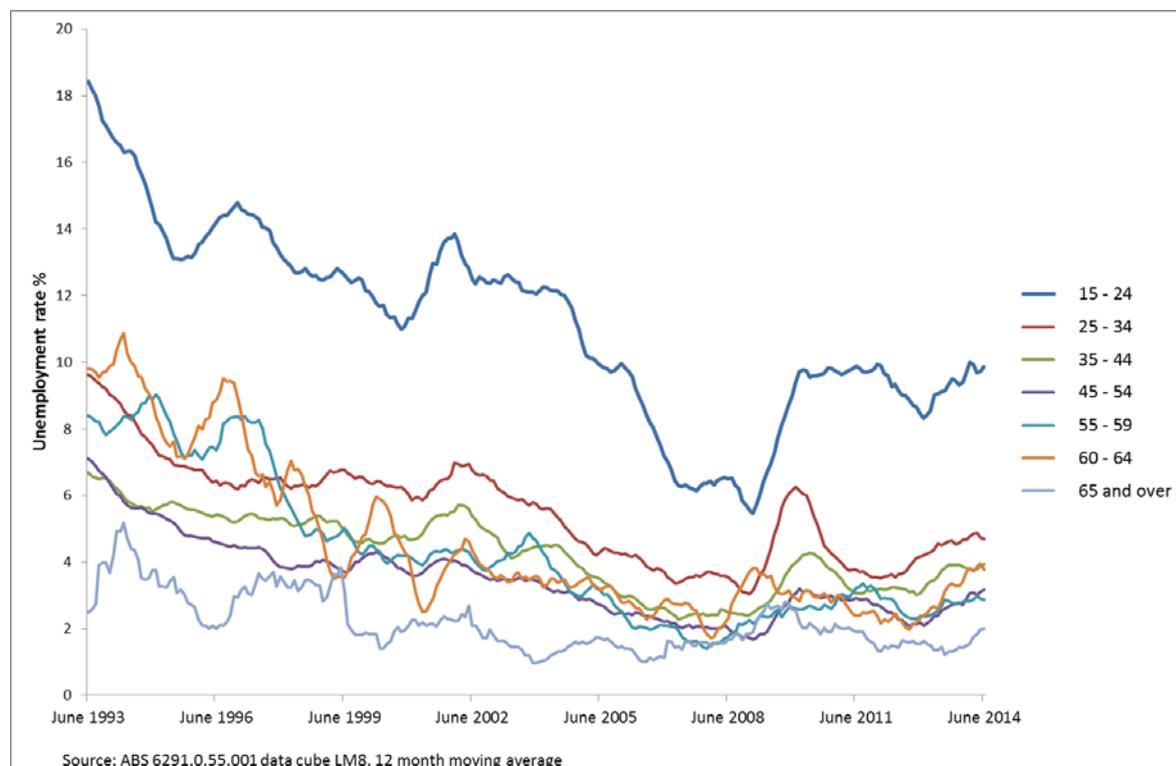
There was an average of around 15 400 young people seeking full time employment in 2013–14, with an average unemployment rate of 11.6% (compared to 9.8% the previous year). However, as shown by the next chart, the State’s current unemployment rate for those aged 15–24 searching for full time employment is relatively low on a longer-term historical basis, with this cohort also enjoying a significantly lower unemployment rate compared to the same age group nationally.

Figure 4: Unemployment rate for 15–24 year olds searching for full time employment



The following chart shows that the youth cohort aged 15–24 have higher unemployment rates than other age cohorts. It can also be seen that during economic downturns such as those experienced in 1991, 2001, and more recently the global financial crisis in 2009, that the youth cohort recorded sharper increases in unemployment in comparison to most other age cohorts.

Figure 5: Western Australian unemployment rates by age



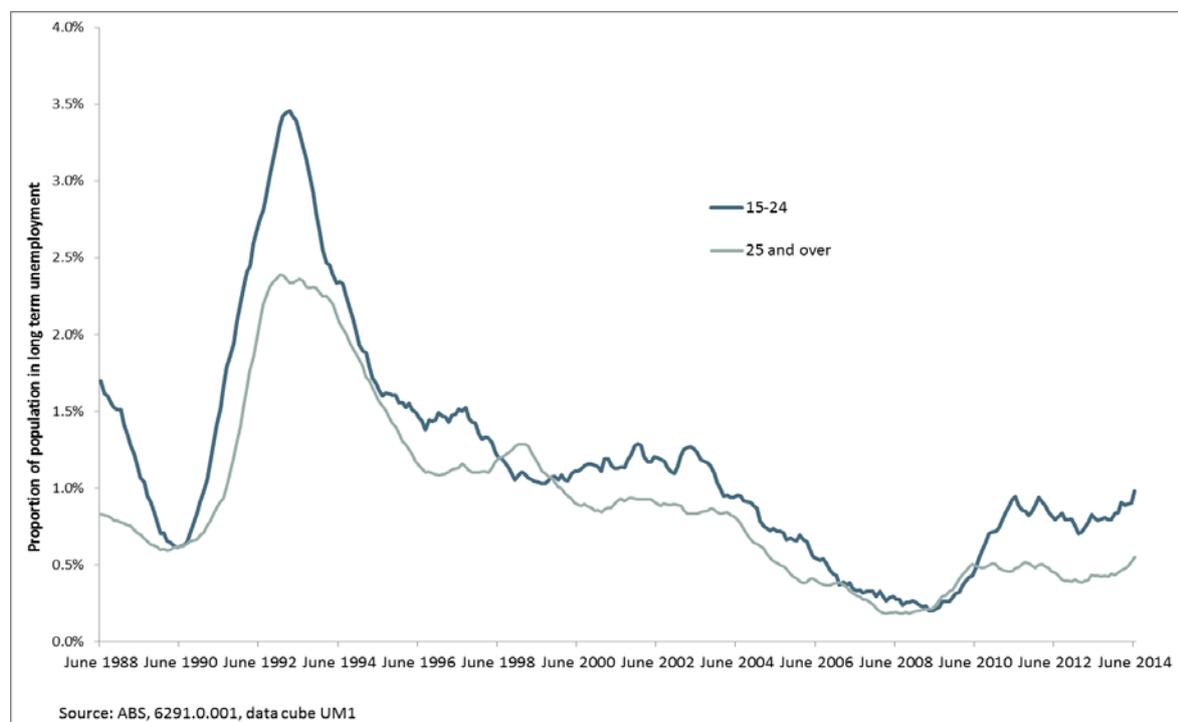
Economic downturns tend to have a disproportionately negative impact on labour market opportunities for young people, possibly due to employer preferences for retaining older workers with greater levels of skill / experience.

While Western Australia's economy is not currently in a downturn, the State's labour market has moderated over the past 18 months from the very strong growth experienced post the GFC. There is a concern that the current moderating conditions are showing an overall increase in unemployment rates for the 15–24 age cohort compared to the rest of the population.

Since 2009, there has also been much sharper upward trend for young people in long term unemployment (i.e. for a period greater than 12 months) compared to the rest of the population (see Figure 6). This differential may be due to newer entrants to the labour market finding it harder to gain employment⁹⁶.

⁹⁶ National Centre for Vocational Education Research, Briefing paper 23, Young people in an economic downturn, 2010.

Figure 6: Proportion of population in long-term unemployment by age, WA



The following diagram (overleaf) allows a broader appreciation of the conditions experienced by young persons in the State over the past year, as it provides a more detailed breakdown of the 15–24 age cohort in relation to their labour force and educational status.

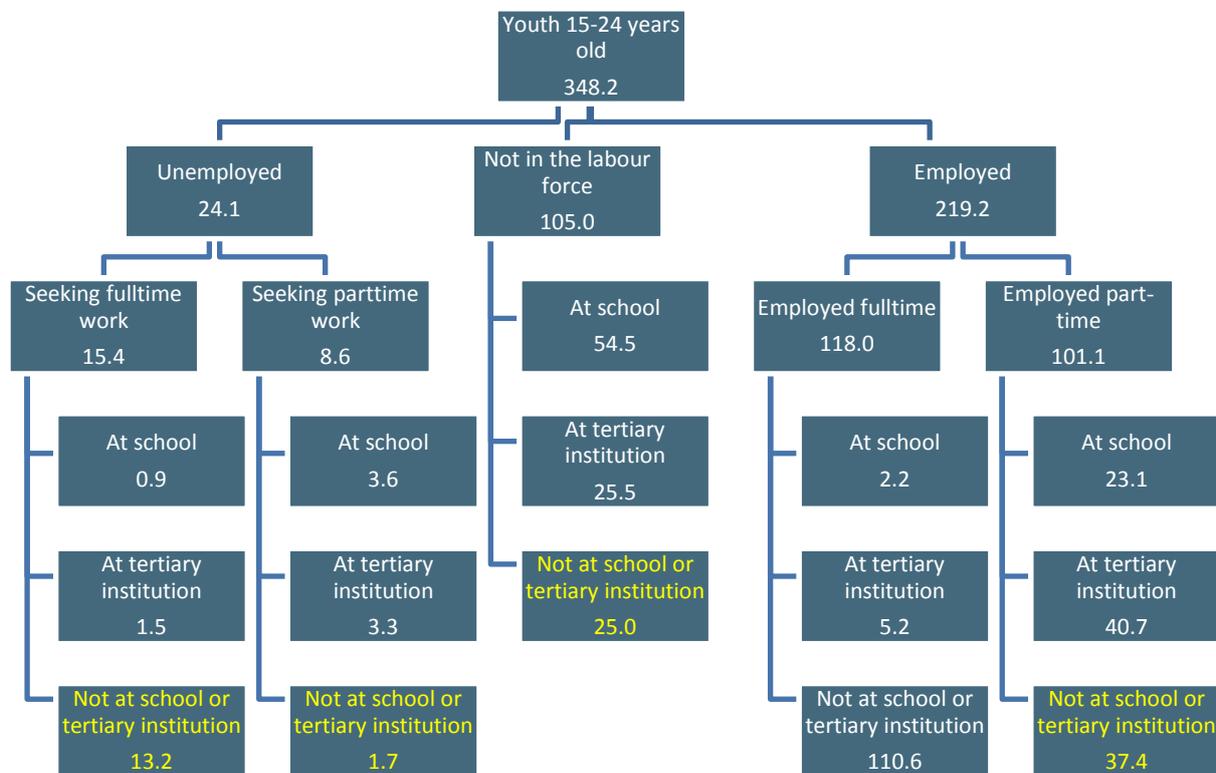
In particular, it shows that while 62.9% of 15 to 24 year olds were employed, 30.2% were not in the labour force, and 6.9% were unemployed.

An area of specific interest in the above diagram is the group of young people who are either:

- not in full time work or any form of full time education (39 900 persons – first three rectangles in yellow text from the bottom left); and
- those who are employed part time, but who are not in any full time education (37 400 persons – last rectangle rectangles in yellow text on the bottom right).

Combined, these groups consisted of 77 300 people, or 22.2% of the State's total youth population (highlighted in yellow above). The current magnitude of these 'at risk' groups of youth highlights the importance of the key focus on youth in this Plan.

Figure 7: Labour Force / Educational Status of persons aged 15 to 24 years in WA - 12 month average to June 2014 ('000s)



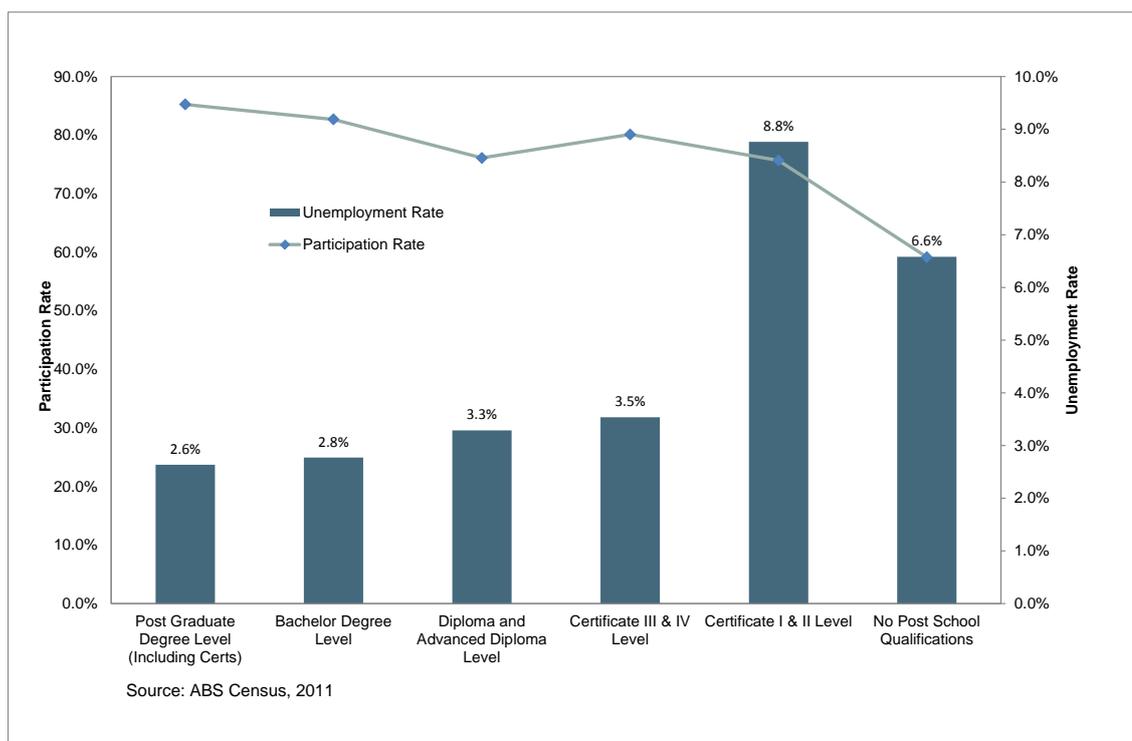
Source: ABS cat. No. 6291.0

Consistently, various research⁹⁷ and statistical sources (including Census) shows a marked improvement in an individual's participation in the labour market and likelihood of employment if they hold a post-school qualification at the Certificate III level or higher.

Underscoring the importance of training for youth (and the population more broadly), the following graph shows labour market outcomes noticeably improve with post school qualifications – indeed, the labour market participation rate of those with no post school qualifications is significantly below those with post school qualifications, while those with post school qualifications (at Certificate III or higher) also have significantly lower unemployment rates.

⁹⁷ For example, Michelle Circelli and Damian Oliver, National Centre for Vocational Education Research: *Youth transitions: what the research tells us* 2012; David D. Curtis, LSAY Research Report 52: VET Pathways Taken by School Leavers 2008; Damian Oliver, *Lower-Level Qualifications as a Stepping Stone for Young People* 2012.

Figure 8: Educational attainment and labour market outcomes, WA



While the information in the chart above is for the whole of Western Australia’s population, it emphasises the importance of young people obtaining post-school qualifications (including at the Certificate I and II level, which are regarded as learning pathways or foundation skills to higher level qualifications).

It should also be noted that the somewhat higher unemployment rate for those with a qualification at the Certificate I or II level, relative to those without any post school qualifications, more relates to the much higher (around 20 percentage points) difference in labour market participation between the two groups. That is, there would be a lot of ‘hidden’ unemployment for those with no post school qualifications, given a fair proportion of the category is not likely to be actively seeking work at any given time, as evidenced by the group’s much lower participation rate.

The link between education attainment and better labour market outcomes is also reinforced in the modelling projections from the workforce scenarios project (see Appendix E), which shows that the Western Australian economy is likely to be a higher skilled economy over time (out to 2030). It is projected that a notable share of future skill needs comes from the trend towards skills deepening and skills broadening and this is common to all four scenarios. Associated with this, qualification requirements within particular occupations tend to rise over time⁹⁸.

The above information all strongly underpins the key reasoning for why young people continue to be a critical focus for the State Training Plan. This is why the

⁹⁸ Deloitte Access Economics, Workforce Scenarios and Projections — Western Australia, 2013.

State Training Board commissioned its youth unemployment research paper “Youth Matters” – see Section 2.5 for a summary of this.