



Western
Australia

State Training Plan

2013-2016



Government of **Western Australia**
Department of **Training**
and **Workforce Development**

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FOREWORD

Notwithstanding the concerns associated with the global economy and the recent fall in iron ore prices, the outlook on demand for Western Australia's natural resources continues to be strong and the projections for the State's economy remains positive.

The high level of investment in resources and infrastructure projects already committed or under construction will mean a steady increase in the State's workforce and demand for skilled labour will continue. The fall in iron ore prices, and if coupled with a depreciation in the Australian dollar, will likely see an increase in demand for other industry sectors such as manufacturing, tourism and education.

Whilst the projected growth in employment is strong, skills shortages nonetheless remain a challenge for Western Australia. As experienced during the last period of sustained economic expansion, skill shortages severely impacted on the State's economic capacity. Given this, it is imperative that Western Australia continues to invest in the training and skills development of all Western Australians.

This year's State Training Plan builds on the achievements of previous Plans and continues to provide the strategic direction for the development of a responsive and flexible training system which will effectively meet the needs of the community, industry and the economy.

The State Training Plan identifies the training priorities that will support the growth of critical occupations over the next four years. This growth is not only limited to resources-related areas but also includes growth in a diverse range of occupations. These include, but are not limited to areas such as health, transport, hospitality, and construction trades.

As in the past, the Plan continues to emphasise the need to provide all West Australians with an opportunity to be well trained, job-ready and to share the benefits of the State's economic prosperity. This will include providing more training opportunities and support for Aboriginal people, matured aged workers and people with disabilities who are currently under-represented in the workforce.

Increased training efforts in higher level qualifications are also recommended as is the need for continued efforts in growing the delivery of apprenticeships and traineeships.

On behalf of the State Training Board, I acknowledge the contribution of the Department of Training and Workforce Development, Training Councils and industry in the development of the State Training Plan 2013-2016.

The State Training Board looks forward to working together with training providers, key industry stakeholders and the community in implementing the priorities of this Plan to build the skills of Western Australians and continue supporting the economic development of the State.

KEITH SPENCE
CHAIR
STATE TRAINING BOARD



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1. Executive Summary and Recommendations

The Western Australian vocational education and training (VET) system, through training and skills development, plays a key role in enhancing the State's workforce capacity. Through this role, the VET system provides an important contribution to the economic and social development of the State.

For 2013-2016, the State Training Plan identifies priorities for the delivery of training in Western Australia. These priorities will support the State during changing economic conditions and will ensure that Western Australians have access to relevant training products and assist them to participate effectively in the workplace.

Implementing these training purchasing priorities will also ensure that industry will have access to a highly skilled workforce necessary to sustain business competitiveness and economic growth.

Western Australia's economy and labour market

Western Australia continues to benefit from a strong resources sector and the overall outlook for the Western Australian economy is very positive.

Western Australia has experienced solid labour market growth in the last 12 months and according to data from the Australian Bureau of Statistics (ABS) the labour market remains robust, and is outperforming all other states. The State's economy continues to create new jobs, with employment, as at June 2012, up by 47,500 persons (3.8% growth) over the past year. The unemployment level also fell at this time resulting in Western Australia experiencing lower unemployment rates compared with the rest of Australia.¹

The continued demand for the State's resource commodities means that employment growth in Western Australia remains strong. This growth is being driven by the construction phases of a number of major resource projects, particularly in the LNG and iron ore sectors. However, growth has not just been a result of the resources sector and making sizable contributions to employment growth over the past year were the industries of Health Care and Social Assistance, Professional, Scientific and Technical Services; and Rental, Hiring and Real Estate Services.

The Western Australian Department of Treasury expects the Gross State Product to increase by 4.75% in both 2012-2013 and 2013-2014.² Growth is expected to continue to be driven by work carried out on the significant pipeline of resource sector projects, as well as the export volumes these projects (and past ones) generate. In addition, a strong recovery in dwelling investment is forecast for 2012-13 as underlying demand improves, supported by above-average population growth.

Notwithstanding the State's positive economic outlook, there are also a number of additional risks which will impact on Western Australia's future growth profile. These challenges include global economic conditions (in particular, those associated with the European sovereign debt crisis and the fiscal position of the United States); the high

¹ Source: ABS, Labour Force Survey, June 2012

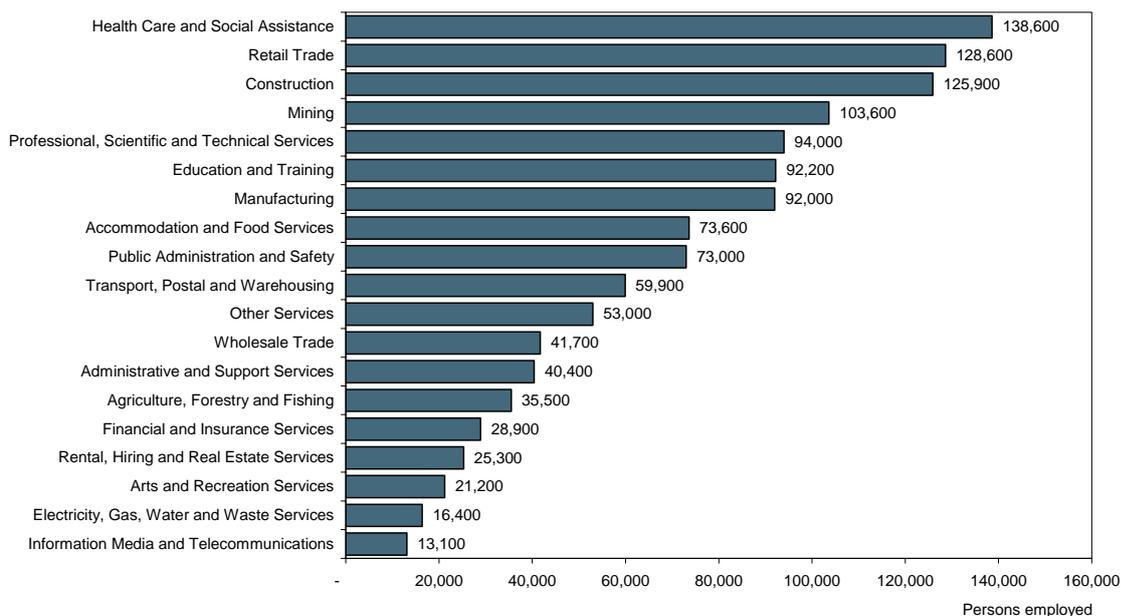
² Western Australian Department of Treasury 2012-2013 Budget Economic and Fiscal Outlook - Overview

Australian dollar; short-term weakness in non-resource related construction; and cautious consumer spending.

Labour demand is also correlated with population growth, particularly in respect to international skilled migration into the State. Reflecting the State's strong economic conditions, Western Australia's resident population grew by 2.9% (or 67,400 persons) in the 12 months to December 2011, which was more than double the national increase of 1.4%. Overseas migration was the main driver of population growth in the State, contributing 58.4% or 39,300 persons over the year to the rise.

According to the Australian Bureau of Statistics (ABS), almost 1.29 million people were employed in Western Australia in May 2012³. As illustrated in the graph below, nearly a third of people employed are working in the three biggest industry sectors, namely, healthcare and social assistance, retail and construction. The State's mining industry ranks as the fourth largest employer with some 103,600 people employed in the sector.

Figure 1: Number of persons employed by industry sectors 2011-2012

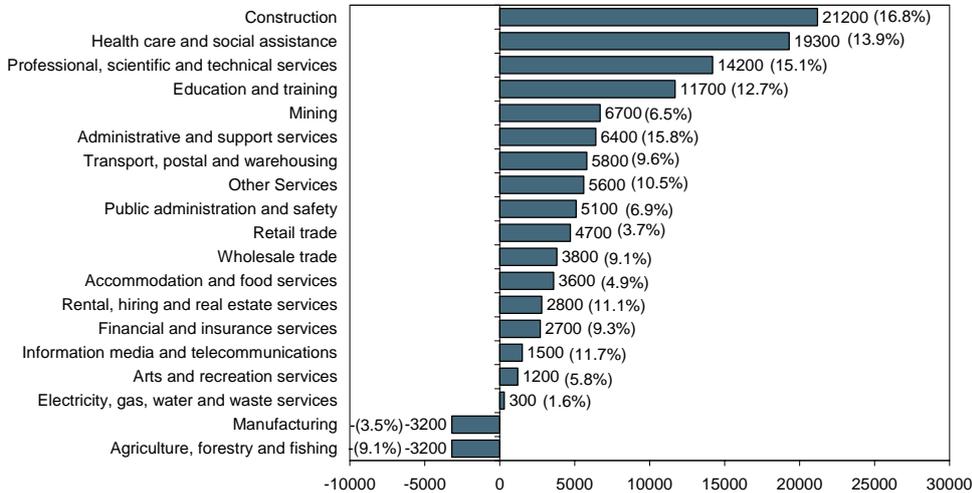


While employment growth over the next four years is expected to be driven by the resources sector (related to both construction and operational phases), this does not necessarily mean that mining-related jobs will dominate employment growth. Indeed, as shown by the chart below, around 40% of jobs growth over the next four years is expected to come from the industries of Health Care and Social Care; Professional, Scientific and Technical Services; and Education and Training.

³ Source: ABS Cat. 6202.0



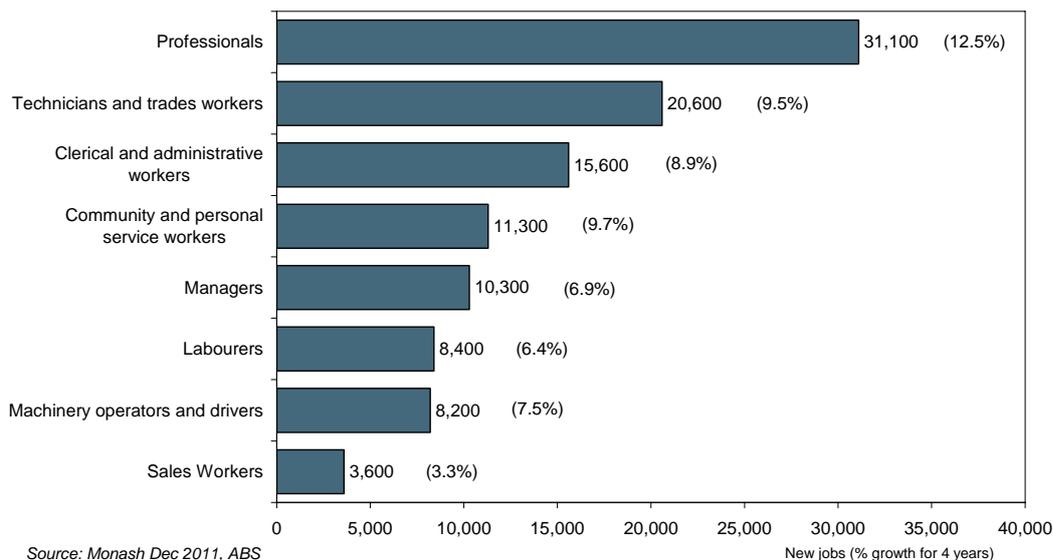
Figure 2: Projected employment growth by industry 2012-2016



Source: Monash Dec 2011, ABS

Similarly, an occupational break down of these employment forecasts⁴ shows that growth for the four years to 2015-16 will be in all categories of occupations, as is illustrated in Figure 3 below.

Figure 3: Projected employment growth by occupation 2012-2016



Source: Monash Dec 2011, ABS

⁴ The occupational and industry forecasts presented in this section are sourced from Monash University's Centre of Policy Studies (December 2011). Given the greater level of uncertainty for smaller segments of the State's labour market, the Monash forecasts are provided for a full four year period, given that these are likely to be more reliable than for any individual year. Occupational classifications are based on Australian and New Zealand Standard Classification of Occupations (ANZSCO), while industry classifications are based on Australian and New Zealand Standard Industry Classification (ANZSIC).

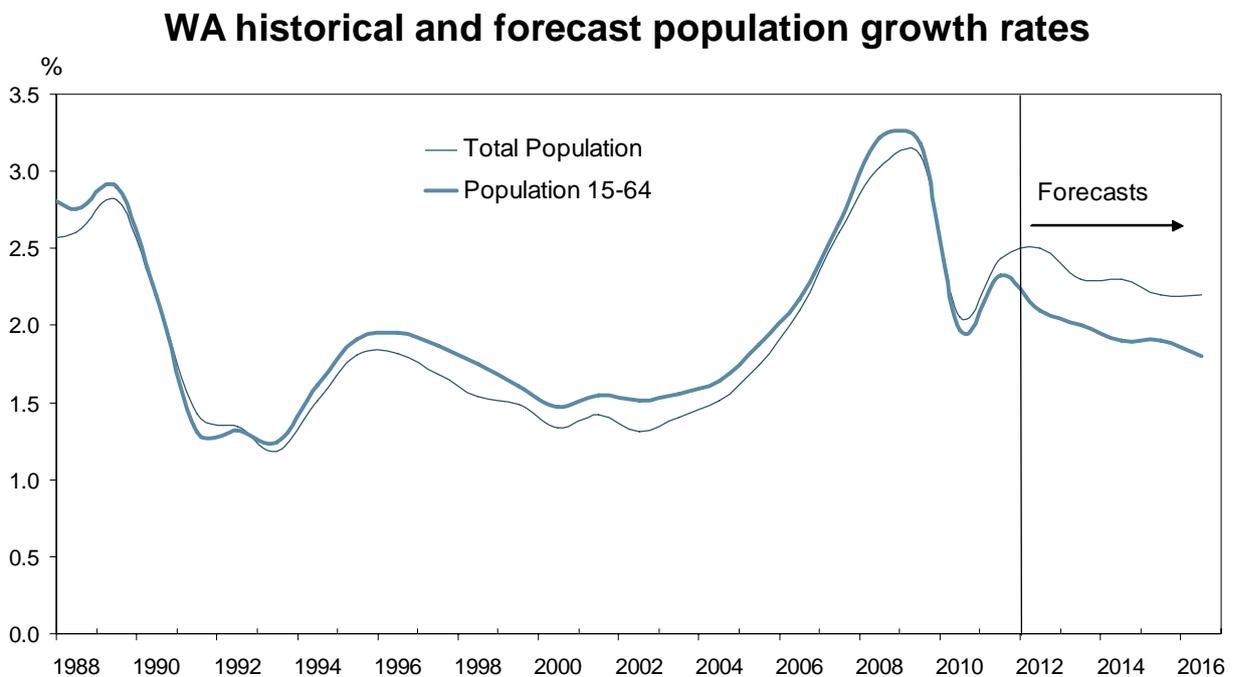
As illustrated in the chart above, the biggest growth is predicted in professionals, however it should be noted that the projected growth in technicians and trades workers remains strong.

Notwithstanding the above projected growth for the State’s workforce, it is evident that the labour market is tightening. This is demonstrated by the State’s unemployment rate dipping to a post GFC-downturn low of only 3.5% (June 2012), Western Australians participating in the labour market at historically high rates, and the ratio of job vacancies to the number of unemployed persons in the State rising to a rate that is more than double that nationally at the end of 2011-12.

Over the next four years, a mismatch is expected between strong labour demand (particularly for skilled labour) against more moderate growth in labour supply. The Western Australian Department of Treasury is forecasting that the State’s population growth will slow to an annual average rate of 2.2% by 2015-16, down quite sharply from the peak rate of 3.3% that was recorded in 2008-09.

Even more starkly, Treasury is forecasting that growth in the State’s core working age population (those aged 15-64) will fall even further – with growth in this key cohort down from the same peak rate reached by the full population (ie 3.3% in 2008-09) to only 1.8% by 2015-16 (see next chart).

Figure 4: Projected growth – population and working population



Source: ABS, cat. 3101.0 for historical; WA Treasury for projections

While the State Government’s first workforce development priority remains the training and preparation of Western Australians for the State’s workforce, current trends suggest that it is unlikely Western Australia will be able to generate enough workers over the next few years, making targeted overseas migration essential.



Temporary and permanent skilled migration has been a valuable source of skills, given its important role in filling those jobs unable to be filled by the local workforce. This is highlighted by the fact that from Western Australia's population growth of some 67,300 additional persons over 2011 (latest data), around 39,300 (or nearly 60%) of these came as a result of the State's gain from net international migration. Also illustrative of the importance of migrants to the State's workforce is that about 37% of those employed in the State over 2011-12 were born outside Australia.

The likelihood of a tight labour market in coming years also raises the potential for the "crowding out" effect to impact on the Western Australian workforce. This is caused when workers are attracted to higher paying industries (such as mining) away from lower paying industries. Western Australia experienced this "crowding out" effect during the last sustained economic expansion.

Given these challenges, it is crucial that the State continues to be responsive to the changing circumstances. To this end the State Training Plan 2013-2016 will continue to meet the needs of all industries in Western Australia but target training delivery in areas of identified occupational priority to the State's economy.

Important work that has informed the development of key priority areas is the State priority occupation list and the Western Australian Shares Model.

The State priority occupation list (SPOL) is an annually produced list of jobs that are high in demand or considered industry-critical in Western Australia. An outline of the SPOL and its methodology is provided in Section 5.1 and Appendix A. The Shares Model is an econometric tool that assesses future training need against current training effort and provides an indication of how future training resources should be distributed in order to meet the future demand for new workers with VET qualifications in Western Australia. (see Section 5.2 and Appendix B for further details).

Current Policy Settings

There are a number of policy settings at the State and national level which guides the training system in Western Australia. These play a key role in informing the development of the State Training Plan and include:

- Western Australian Government
 - *Skilling WA – A workforce development plan for Western Australia*;
 - *Training WA: Planning for the future 2009-2018*; and
 - *Training together - working together*. Aboriginal workforce development strategy.

- Commonwealth Government
 - National Agreement on Skills and Workforce Development; and
 - The new National Partnership on Skills Reform (effective from July 2012).

Skilling WA is the umbrella framework for workforce development in Western Australia and has as one of its strategic goals to 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 the State's prosperity.



The initiatives relating to this goal aim to increase participation in education and training; increase skills development and utilisation in the workplace; and enhance the flexibility, responsiveness, capability and capacity of the education and training system.

Training WA – Planning for the future 2009-2018 supports Skilling WA and sets out the targets and strategies with particular focus on increasing high level qualifications, apprenticeships and traineeships, individual participation in training and support for regional communities. Additionally, it aims to build a vibrant and diverse training market and training system capability and capacity.

The *Training together - working together* strategy aims to connect employers and Aboriginal job seekers to meet Western Australia's growing work opportunities and support Aboriginal people to transition and participate in the workforce.

(Further information on the State's priorities are outlined in Section 3.2, State Vocational Education and Training Priorities)

The National Agreement on Skills and Workforce Development (NASWD) defines the Council of Australian Governments (COAG) long term targets to 2020 aimed at ensuring that more Australians achieve qualifications and that there is an increase in the number of higher level qualification completions.

The need for high level skills development in Australia is reinforced in the discussion paper recently released by the Australian Workforce and Productivity Agency, titled *Future Focus: Australia's skills and workforce development needs*.

The scenario based modelling which informs the paper found that changes in technology and industry structure, coupled with the different skills set required for the growing Asian market continues to highlight the need for higher level skills in Australia.

Under all scenarios the higher skilled occupations such as professional and managers were among those occupational categories which show the highest forecast employment growth. The paper also indicates that the modelling reinforces the need for post-school and higher level qualifications, and that continued investment in higher level skills is crucial for Australia to sustain its economic growth and address its workforce needs of the future.

The new National Partnership on Skills Reform (NPSR) will during the next five years focus on quality, transparency, efficiency, and access and equity reforms within the training sector nationally. This will include the requirement for the introduction of a training entitlement model and focus on training completions (for further detail on the NASWD and NPSR see Section 3.1 National Vocational Education and Training Priorities).

Building on the achievements of previous State Training Plans

Having withstood the impact of the 2008/2009 global economic crisis, recent State Training Plans have focused on identifying priorities that would ensure Western Australia has the skills base necessary to support predicted economic growth for the future.

These Plans have included purchasing priorities aimed at increasing the participation of all Western Australians in training and growing the number of apprenticeships and

traineeships. Additionally, the Plans have targeted growth in the delivery of higher level training to boost the skills of the State's workforce and in areas of identified skills shortages.

The following table provides a snapshot of the achievements that have been made as a result of the priorities of preceding State Training Plans.

Training System Achievements 2008-2011

Deliverables	2008	2011
• More Western Australians are in training	104,193	116,959
• Increased participation of Aboriginal people in employment based training	7,156	9,030
• More Western Australians are in training priority areas such as apprenticeships/traineeships	37,281	39,493
• Continued growth has occurred in the delivery of higher level training	31,376	45,058

The previous Plans have also shaped the profile of training to address the identified priority occupational groups - Figure 15 on page 52 shows that the focus on increasing delivery in the priority areas of Building and Construction, Health, Metal and Mining, Electrical Trades, and Management has been successful.

Based on the labour market outlook, current policy settings and the analysis on priority occupational groups, the focus in previous Plans and the Board's strategy to 'shape' the training priorities over time in line with the State's needs, there will be a continued need to grow training delivery in those industry areas where demand for skilled labour is considered critical. There will also be a need to provide opportunities for those Western Australians not currently represented in the workforce. This means little change will be required in the overall purchasing priorities in the coming period.

Western Australian Training Priorities

Drawing on the trends from the economic and labour market data and forecasts, and aligning with current State and national VET priorities, the State Training Plan 2013-2016 has identified targeted training priorities to assist Western Australia in addressing its workforce requirements in the current economic environment.

These training priorities need to account for the larger projected growth in employment in industry sectors such as health care and social assistance, retail, construction, mining and professional, scientific and technical services and in the occupational categories of professionals and technical and trades workers.

More importantly, the Plan needs to focus on ensuring training is targeted at those skilled occupations which are critical to industry and that are predicted to be in short supply.



As outlined above, the State priority occupation list, resulting from a comprehensive analysis of labour market data and industry advice, provides the basis for determining which occupations, and therefore which qualifications, should be a priority. The occupations on the 2012 List is shown at Appendix A – Attachment 1. The composition of occupations on this list is similar to the 2011 list, with 70% from the higher skilled categories of managers, professionals and technicians and trade workers. The list ranks occupations in three categories, being as State Priority 1, State Priority 2 and other Industry Training Council Priority.

The priority qualifications are reflected in a Priority Qualification List (PQL) which is directly mapped from the State priority occupation list.

In order to validate these occupational priorities and take into account the supply side, that is, the amount of training that is undertaken within occupational categories, the outputs from the WA Shares Model is overlaid on the State priority occupation list and the PQL.

The 2012 Shares Model provides a calculation of the assessed need for training for the 2013-2016 period by occupational group as a share of the total need. This is compared to the total current delivery (2011) for each occupational group, again as a share of the total amount of delivery.

The model therefore shows the relative gaps between the need and effort for those occupational groups and provides a view of which occupational groups needs an increase in the training share. Additionally, it shows which groups could have a decrease in training delivery (based on the assumption that there is a finite amount of funding). The outcome of the 2012 Shares Model is shown in Figure 14 on page 45.

In past State Training Plans, the purchasing priorities have been primarily determined using the State priority occupation list and the WA Shares Model, within the context of State and national VET policies.

When comparing the 2011 and 2012 Shares Models, the gap between need and delivery has reduced, (that is, improved) in all but one of the top priority occupational groups that were identified as purchasing priorities in the previous Plan.

These include automotive and engineering design; engineering, science and transport professionals; educational professionals; specialist managers; machine and stationary plant operators; and electro technology and telecommunication trade workers.

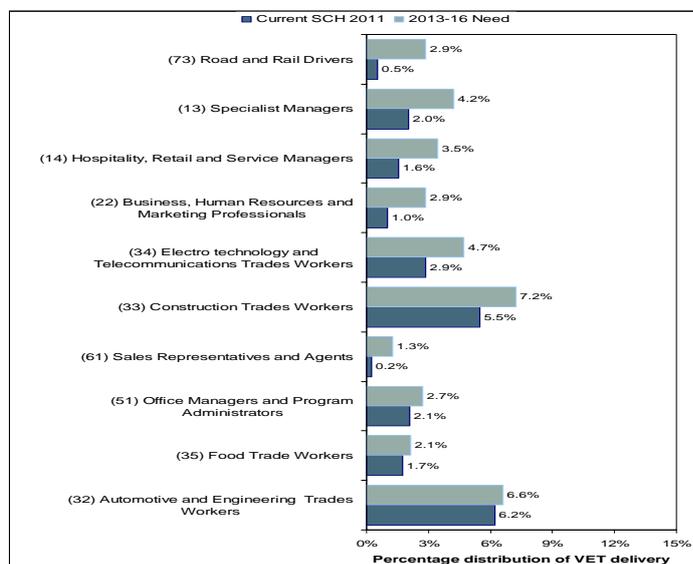
The one occupation where the gap between need and training effort has increased is construction trade workers, notwithstanding the growth in training delivery in this area during 2011. A possible explanation for this is the continued expansion of the pipeline of major resource and infrastructure projects.

The evident closing of the gap on the above priority occupational groups is supported generally by the increase in the amount of training taken up in many of these areas as shown in Figure 14 on page 45.

For the coming period of 2013-2016, those occupational groups requiring the largest increase in training effort is shown below in Figure 5.



Figure 5: WA Shares Model – Occupational groups requiring largest increase in training effort



The occupational mix of groups above is similar to the 2011 Shares model. These include specialist managers; hospitality, retail service managers; business, human resource and marketing professionals; electrotechnology and telecommunications trade workers; road and rail drivers; automotive and engineering trades workers; and protective service workers; and sales representatives and agents.

Those occupations of scale that are now included in the above graph in 2012 are construction trade workers; office managers and program administrators; and food trade workers.

In terms of overall share, those occupations that have the largest need are:

- Construction trades workers;
- Automotive and engineering trades workers;
- Electrotechnology and telecommunications trade workers; and
- Specialist managers.

The purchasing priorities recommended in the State Training Plan 2013-2016 have been based on a detailed analysis of each occupational group in the Shares Model. This has included taking into account their ranking in the Shares Model, which is matched against where each occupation sits on the State priority occupation list (i.e. State Priority 1 or 2, or if they are not on the list) and what qualifications are being delivered.

Further to this, evidence from the Training Council’s Industry Workforce Development Plans and the Department’s work relating to Aboriginal workforce development and training (*Training Together – working together*), Skilling WA and regional workforce development plans all indicate the need for continued, if not increased emphasis in training programs which promote greater participation in training and the workforce by under-presented groups including:

- people with disabilities;

- people from culturally and linguistically diverse (CALD) backgrounds (particularly those from new and emerging communities);
- Aboriginal Western Australians;
- residents in regional and remote areas;
- women with dependents;
- disengaged youth; and
- mature aged workers.

This also includes improved language, literacy and numeracy levels for individuals.

Recommended Purchasing Priorities

The following recommended purchasing priorities have been based on:

- economic and labour market analysis;
- the policy parameters set by the State and Commonwealth Governments;
- the advice provided by industry, particularly through the Training Council's Industry Workforce Development Plans;
- the work of the Department on Aboriginal workforce development and training and regional workforce development planning.

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

This does not mean that occupations that are not listed below in the Purchasing Priorities will not have their training needs met. Indeed, as can be demonstrated by delivery patterns in the past, the provision of training is largely demand driven, with the Board 'shaping' priorities in State Training Plans to ensure that those needs which are critical to the State and its industries are addressed.

The objective of this Plan is to continue to apply the '80/20 rule' whereby a large part of the training needs are addressed by meeting the demand of the consumer (that is, students and employers), with a focus on addressing critical areas of need through establishing purchasing priorities using the above methodology.

The Purchasing Priorities set out below are similar the 2012-2015 Plan approved in 2011 - this should not be surprising as the current economic and labour outlook, government policy settings and the occupational priorities as detailed in the 2012 SPOL and Shares Model are not markedly different to last year.

State Training Plan 2013-2016 Purchasing Priorities

Industry targeted training:

- Increased growth in employment based training – apprenticeships and traineeships;
- Priority institutional training delivery; and
- Building high level skills.

Greater training and workforce opportunities for all Western Australians:

- Increased training participation and improved language, literacy and numeracy levels.



Industry targeted training

Growth in employment based training – apprenticeships and traineeships

Whilst considerable achievements have been made in growing apprenticeships and traineeships through preceding State Training Plans, further growth is required in this area.

A strong focus in the delivery of apprenticeships and traineeships will continue and will be targeted according to two levels:

State Training Plan Priority 1

The following occupational areas are considered critical and require the highest priority in the delivery of training:

- Electro technology and telecommunications trades workers;
- Construction and trade workers; and
- Road and rail drivers (traineeships).

State Training Plan Priority 2

- Food trade workers; and
- Automotive and engineering trade workers.

Priority be given to all other occupations with an apprenticeship and traineeship pathway.

Priority institutional training delivery

To address the need for skilled labour in high demand occupations, priority is established at two levels:

State Training Plan Priority 1

Based on the outcomes of the Shares Model and the State priority occupation list, the highest priority of growth is recommended as listed below:

- Specialist managers;
- Hospitality, retail and service managers;
- Business, human resources and marketing professionals;
- Electro technology and telecommunications trades workers; and
- Construction trades workers.

State Training Plan Priority 2

Training in these occupational areas should either be maintained or increased and include:

- Sales representatives and agents;
- Office managers and program administrators;
- Food trade workers;
- Automotive and engineering trade workers; and
- Educational professionals.



Building high level skills

Increased training effort in the delivery of higher vocational levels is also needed to meet the needs of industry.

In order to meet the long term targets of State and national commitments, it is recommended that additional weighting continues to be given to those occupations that have higher level skill requirements.

Greater training and workforce opportunities for all Western Australians

Increasing training participation and improved language, literacy and numeracy levels

While Western Australia is experiencing high workforce participation rates currently, engaging those people who are unemployed or not fully participating in the workforce remains a priority for the State.

It is therefore recommended that training and workforce opportunities are maximised for all Western Australians, in particular those from the following diverse backgrounds:

- people with disabilities;
- people from culturally and linguistically diverse (CALD) backgrounds (particularly those from new and emerging communities);
- Aboriginal Western Australians;
- residents in regional and remote areas;
- women with dependents;
- disengaged youth; and
- mature aged workers.

This includes training which prepares, bridges and pathways people directly into vocational training, or addresses fundamental language, literacy and numeracy skills, which are critical for all industry sectors and for those people experiencing disadvantage.

In addition to the above, dual-enrolment courses⁵ such as the Course in Applied Vocational Study Skills (CAVSS) and the Course in Underpinning Skills for Industry Qualifications (USIQ) are important to improve retention and completion across all qualification levels.

Purchasing

It is recommended that the above purchasing priorities are reflected in the Delivery and Performance Agreements for State Training Providers and in tender documents for training programs accessed by private training providers and State Training Providers.

⁵ co-delivered with a vocational qualification



2. Planning Process

2.1. Purpose of the State Training Plan

Vocational education and training in Western Australia is delivered through a network of private and public training providers and is guided by the *Vocational Education and Training Act (the VET Act) 1996*.

One of the major objectives of the *VET Act* is to establish a State training system to meet the current and future needs of industry and the community. In 2009, the *VET Act* was amended to provide greater flexibility, a more contemporary training system and align the legislation with the requirements of today's workforce.

Section 21 (1) (a) of the *VET Act* requires the State Training Board to provide a State Training Plan for the Minister's approval.

The State Training Plan guides the purchasing of training in Western Australia for the coming calendar year within the context of the State's training needs 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 to also to smooth out the yearly fluctuations that can occur in the economy and labour market. It also allows training providers time to plan for changes in delivery patterns over time.

The key purchasing priorities identified in the Plan are reflected in the Delivery and Performance Agreements for State Training Providers (formally known as TAFE Colleges) and in tender documents for training programs accessed by private training providers and State Training Providers.

2.2. Process to develop the State Training Plan

The State Training Plan 2013-2016 continues to focus on identifying priorities for the delivery of training which will support Western Australia's growing economy.

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 industry critical occupations;
- regional advice, predominantly through the Department's Regional Workforce Development Plans; and
- other relevant research and reports.

As in previous years, central to informing the State Training Plan 2013-2016 is the State priority occupation list and the WA Shares Model.



The State priority occupation list is a document that lists the occupations that are in high demand or considered industry-critical in Western Australia.

The State priority occupation list is based on economic and labour market analysis and reports from Training Councils on skill shortages in the industries they cover and a list of occupations which they consider critical.

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 outlined in Section 5.1 and 5.2.

The diagram (Figure 6) on the following page provides an overview of the planning framework for the State Training Plan 2013-2016. The various elements are described in further detail in Sections 3 to 5 of this document.



Figure 6: State Training Plan planning process framework



3. National and State Priorities

3.1. National Vocational Education and Training (VET) Priorities

As in previous years, national VET priorities and reforms continue to influence the development of the State Training Plan 2013-2016 and include:

Vocational Education and Training Reform

The Western Australian Government is supportive of the Council of Australian Governments (COAG) reform agenda and has incorporated the key reforms in setting the future directions of the State's training system. The key reforms include:

- placing clients (individuals and businesses) at the centre of the system, reforming training products, services, information systems and regulations to meet a more demand and client driven system;
- driving further competition in current training arrangements and strengthening capacity of providers and businesses to build the foundation for deeper and broader skills required by the 21st century labour market;
- opening doors of training and skills development to those without minimum qualifications through a training entitlement design;
- facilitating improved student access to the Commonwealth VET FEE-HELP income contingent loans for diploma and advanced diploma courses;
- increasing investment into priority trade skills and closing the gap in literacy, numeracy and language skills;
- improving quality of training delivery through development of state based criteria for registered training organisations accessing public subsidy funding and independent validation of assessment practices;
- creating an investment environment and settings that optimise investment from all sources (governments, individuals, businesses and industry) including funding for delivery, tax policy, programs and employment incentives;
- renewal of the governance framework to reinforce the role of industry and maximise effectiveness and efficiency in intergovernmental relations; and
- ensuring that skills are fully utilised and wastage of human capital is reduced.

National Agreement for Skills and Workforce Development

The National Agreement for Skills and Workforce Development (NASWD) between the State and Australian Governments sets out COAG's long term targets for the VET sector nationally.

Achievement of the targets of NASWD is a key consideration in developing the State Training Plan.

NASWD was reviewed as part of the COAG process and the revised NASWD was signed by First Ministers in April 2012. The revised NASWD sets out key reform directions to be implemented in the VET sector to achieve its outcomes and long term targets.

The NASWD targets are to:

1. halve the proportion of Australians nationally aged 20-64 without qualifications at Certificate III and above between 2009 and 2020; and

- 
2. double the number of higher level qualification completions (diploma and advanced diploma) nationally between 2009 and 2020.

Commonwealth government payments for skills and workforce development are made to Western Australia for the achievement of the outcomes set out in NASWD and its related national partnership agreement. The Western Australian Government makes a significant investment to training delivery, usually making up 70 per cent of the total investment in skills development. In 2011, the State Government's investment resulted in the provision of over 144,000 subsidised course enrolments in Western Australia, benefiting over 116,000 clients.

- **National Partnership Agreement on Productivity Places Program**

The National Partnership Agreement on the Productivity Places Program (NP PPP) provided funding for training growth above the baseline activity levels of the NASWD. The NP PPP ceased on 30 June 2012 and is replaced by the new National Partnership on Skills Reform.

By the end of 2011, Western Australia had delivered an additional 76,000 places surpassing the cumulative target set by the NP PPP. This exemplary performance has provided an advantage to the State in achievement of the total NP PPP target six months prior to the end of the Agreement.

- **National Partnership on Skills Reform**

A new National Partnership Agreement on Skills Reform (Skills Reform NP) was signed by First Ministers in April 2012.

The Skills Reform NP will provide \$1.75 billion nationally between July 2012 and June 2017. Western Australia is expected to receive \$180 million over the next five years subject to the achievement of agreed milestones and targets.

Major reforms under the Skills Reform NP will include:

- Quality reform direction which aims to create an improved national training system that focuses on quality teaching and learning outcomes.
- Transparency reform direction aimed at a national training system where individuals, businesses and jurisdictions are provided with access to transparent products and services information in order to make informed training choices.
- Efficiency reform direction aims to create an efficient national training system that responds appropriately to future job and skills requirements and the needs of industry.
- Access and equity reform direction aims to create an equitable national training system that is accessible to all working age Australians and provide them with opportunities to develop skills and qualifications to participate effectively in the labour market.

While the transparency reform initiatives are designed in a nationally consistent manner, others give States and Territories the flexibility to design and implement reform strategies so they are tailored to the needs of their local businesses and to suit their own local training systems.

In addition to the structural reforms, the Skills Reform NP also requires States and Territories to improve training delivery outcomes across five targets. These include



increased aggregate qualification completions, higher level qualification completions, Indigenous Australians qualification completions and two additional jurisdictionally identified targets.

Whilst Western Australia successfully manages the State's training system, it will work collaboratively with the Commonwealth to ensure participation in the national skills reform platform. To this effect, Western Australia, in collaboration with major stakeholders, is currently developing a Skills Reform Implementation Plan to outline the State's focus on its priority reform initiatives.

- **National Partnership Agreement on Training Places for Single and Teenage Parents**

Western Australia signed the National Partnership Agreement on Training Places for Single and Teenage Parents in March 2012. Western Australia will receive \$7.7 million over four years under this NP.

A key feature of the NP is that it requires States to provide guaranteed access to a training place for:

- single parents losing their grandfathered status due to changes to income support arrangements as announced in the Federal Budget 2011-12; and
- teenage parents in the ten specified locations of disadvantage nationally (Kwinana being the only identified location in Western Australia).

Western Australia's implementation plan under this NP is currently being finalised and the roll out of the program will commence on formal endorsement by the State and the Commonwealth.

- **National Partnership Agreement on Youth Attainment and Transitions**

The National Partnership on Youth Attainment and Transitions (NP YAT) forms part of COAG's efforts to achieve a national Year 12 or equivalent attainment rate of 90 per cent by 2015 and will be measured as:

- the proportion of 20-24 year olds who have achieved a Year 12 or Certificate II or above by 2015; and
- the proportion of 20-24 year olds who have achieved a Year 12 or Certificate II or above by 2020.

The Partnership supports the successful transition from school, especially for at risk young people through the provision of efficient and effective career and transition services.

Western Australia, in collaboration with key stakeholders, is implementing the NP YAT Implementation Plan initiatives. These initiatives include career development and training opportunities to build the capacity of all three school sectors to deliver quality vocational education and training in lower level qualifications and priority industry areas; strategies aimed at increasing the number of Aboriginal young people participating in education and training and vocational training delivery for young people in Corrective Services custodial centres to support productive post prison employment outcomes and the development of a Youth Mentoring Policy Framework.



The Western Australian Government will receive up to \$21.6 million in total under the NP YAT. This includes reward payments of \$10 million for participation and attainment targets. Western Australia achieved 88.3 per cent of its 2010 participation target and received the corresponding reward payment in 2012.

- **National Partnership Agreement on TAFE Fee Waivers for Child Care Qualifications**

The National Partnership Agreement on TAFE Fee Waivers for Child Care Qualifications aims to increase the qualification of child care workers by covering the regulated course fee for students enrolled in child care diploma and advanced diploma qualifications through a TAFE institute or other government training provider. The NP will support more than 1 000 Western Australians annually, including existing child care workers, to gain a vocational education and training qualification in early childhood. In 2011, there were 998 enrolments in childcare courses that were eligible for the fee waiver.

Proposed reforms and Western Australia's responses

Western Australia is in the process of negotiating an implementation plan for the Skills Reform NP. This implementation plan will set out the proposed strategies to achieve the structural reform and training delivery outcomes.

The following are some key State priorities in the training and workforce development sector that will lead to the achievement of the Skills Reform NP's intended outcomes.

Apprenticeships reforms

The reform of the apprenticeship system supports outcomes of the Skills Reform NP by creating a nationally consistent apprenticeship system. State and Territory systems will be aligned which will encourage apprentice mobility and increase apprentices' training opportunities. Individuals will also be able to access and transfer through training and employment opportunities through a coordinated and streamlined support service.

Australian Apprenticeships are undergoing reform at a national level to create a simplified, streamlined apprenticeship system. Key reports, including the Expert Panel report *A Shared Responsibility: Apprenticeships for the 21st Century*, made a number of recommendations to enhance the quality and effectiveness of the Apprenticeship system, including a recommendation to consolidate the number of stakeholders in the system.

The Australian Apprenticeships Support Services (AASS) Working Group was established to develop national administrative principles and clarify roles and responsibility for jurisdictions to better integrate AASS with other support services.

The AASS Working Group has developed:

- The Harmonisation Principles, including the Harmonisation Implementation Plan; and
- Australian Apprenticeships Support Services (AASS) Business Case.

- **The Harmonisation Principles**

The Commonwealth and States and Territories have agreed to national harmonisation principles for the Australian Apprenticeships system. These principles are contained in Schedule 1 of the Skills Reform NP. The purpose of the harmonisation agenda is to reduce barriers to apprentice labour mobility, increase consistency of pathways into apprenticeships across states and territories and reduce costs for business. States and



Territories and the Commonwealth have both been allocated responsibility for progressing specific principles under the Harmonisation Implementation plan. The plan involves a three stage process leading to harmonisation outcomes to be completed by 1 July 2014.

- **Australian Apprenticeships Support Services (AASS) Business Case**

The AASS reform objective is to create an Australian Apprenticeship system that delivers better results for apprentices and employers, by minimising administrative costs and removing duplication. It should provide a co-ordinated, supportive approach to training and employment including a seamless transition into and through the system.

The national network of Australian Apprenticeships Centres (AACs) is currently contracted by the Commonwealth to provide Australian Apprenticeship Support Services (AASS). This includes information and assistance to employers, Australian Apprentices and other interested people, promoting Australian Apprenticeships and administering the \$1.1 billion Australian Apprenticeships Incentives Program.

The AASS Business Case identifies the issues associated with the transfer of agreed AASS functions from the Commonwealth to state governments, following a two year transitional period to ensure the effective implementation of substantially revised AASS arrangements. The proposal involves all jurisdictions moving to this direct delivery arrangement by 1 July 2014.

- **Training entitlement design**

The Skills Reform NP requires the introduction of a training entitlement to a government subsidised training place available to all working age Australians to a minimum of the first Certificate III qualification. The training entitlement will be accessible through any registered training organisation, public or private, which meets state-based strict quality standards.

Western Australia's implementation of the entitlement will include measures to ensure wide participation in training and the development of a skilled workforce to meet the State's needs.

The model introduced in Western Australia will be student-centred and there will be a strong emphasis on providing stakeholders with easy access to comprehensive information about courses and providers. The entitlement will be demand driven and managed so that it addresses and supports the State's training priorities.

As per the timelines agreed under the Skills Reform National Partnership, Western Australia is aiming to have the training entitlement in place in 2014.

Australian Workforce Futures: A National Workforce Development Strategy

In 2010, *Australian Workforce Futures* was released by Skills Australia (now the Australian Workforce and Productivity Agency). The strategy established the requirements necessary for Australia to approach and support the workforce development at a national, industry and enterprise level.

The vision for this strategy is that Australia will have the workforce capability it requires for a productive, sustainable and inclusive future, and that Australian enterprises will have the



capacity to develop and use the skills of their workforce to maximum advantage for the benefit of industry and the community⁶.

In July 2012, the Australian Workforce and Productivity Agency (the Agency) was launched. The agency replaces Skills Australia and will have a broader workforce planning role.

Working closely with industry, the Agency will identify strategies to close skills shortages and lift the level of skills within Australia's workforce.

At the time of its launch, the Agency released its first discussion paper *Future focus: Australia's skills and workforce development needs*. The paper has been released as part of the consultation process and it is expected that the second National Workforce Development Strategy will be released in late 2012.

The discussion paper takes a long-term view of the Australian economy and presents research on current issues relating to workforce productivity and participation, workplace innovation, changing skill requirements, regional disparities and the need for migration.

Using modelling based on new scenarios, the paper identifies broad issues which will impact on the planning for Australia's future skills and workforce development needs.

The modelling indicates that across all four scenarios, those industries which have the highest forecast employment growth include Health Care and Social Assistance, Professional, Scientific and Technical Services and Education and Training. For occupational groups, the highest growth is forecast in professionals, community and personal service workers and managers.

Additionally, higher skilled jobs are projected to grow and subsequently the demand for post-school and higher level qualifications will be required by industry.

These findings have good alignment with, and generally support, the forecasts and analysis within this Plan.

A copy of the paper can be found on the website of the Australian Workforce and Productivity Agency at www.awpa.gov.au.

⁶ Skills Australia, March 2010, Australian Workforce Futures – A National Workforce Development Strategy.

3.2. State Vocational Education and Training (VET) Priorities

In order for Western Australia to meet the demand for a highly skilled workforce and respond to new economic opportunities, the Department of Training and Workforce Development has initiated a number of training and workforce development strategies.

These strategies which have been featured in previous State Training Plans include *Skilling WA – A workforce development plan for Western Australia*; *Training WA – Planning for the future 2009-2018* and *Training together – working together: Aboriginal workforce development strategy*.

Skilling WA – A workforce development plan for Western Australia

Skilling WA is a whole of government plan that provides a framework and the strategies to build, attract and retain a skilled workforce in Western Australia to meet its economic and workforce development needs.

Skilling WA was developed with the input and cooperation of peak employer groups, industry bodies, a range of employers and government agencies and focuses on developing more training opportunities in Western Australia.

Skilling WA focuses on the key areas that impact on the demand and supply of skills and labour in Western Australia and includes the following five strategic goals:

- 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 (target groups);
- 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;
- 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;
- 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
- Plan and coordinate a strategic State government response to workforce development issues in Western Australia.

Under each of these five key goals, Skilling WA outlines the strategies and initiatives which will assist in ensuring that the State has available the labour and skills to meet its economic and workforce development needs. A copy of Skilling WA can be found at www.dtwd.wa.gov.au.



Skilling WA has been operational for 18 months and during this time 61 of the Plan's 68 priority actions have been completed or have commenced⁷.

The strategies and priority actions contained in Skilling WA continue to be implemented and a more formal examination of Skilling WA will be undertaken over the next six months.

The review of Skilling WA will consider possible additions or amendments to strategic goals, set priority actions and adapt the framework to reflect the current needs of the Western Australian economy.

Training WA: Planning for the future 2009-2018

Training WA: Planning for the future 2009-2018 is the blueprint to transform the training system in Western Australia.

Training WA outlines the State Government's long term plan to ensure the skill needs of industry are met and that Western Australians are provided with greater access to training and is the central strategy in achieving the education and training goal in Skilling WA.

Training WA has a number of key deliverables which include:

- 17,000 more Western Australian enrolments in high level training (Certificate IV and above) will be achieved by 2012;
- 9,600 more apprentices and trainees will be in training by 2012;
- 30,000 Aboriginal people will be enrolled in employment related training from 2009 to 2012;
- 450 courses at Certificate III and above will be available in regional Western Australia by 2012;
- The proportion of VET in Schools in key priority industry areas will increase from 23% of enrolments to 40% by 2012;
- Graduate achievement of their main reason for study will be maintained at more than 85% each year to 2012; and
- Employer satisfaction with training will increase from 72% to 85% by 2012.

In September 2011, a report titled *Successfully training Western Australians for the future, Training WA indicators of success 2009-2010* was published. This report documented the progress of the *Training WA* strategy against the set of deliverables established in 2009.

Whilst an analysis of the progress towards the series of *Training WA* targets is included in Section 6 of this Plan, the abovementioned paper highlights the following *Training WA* outcomes:

- more Western Australians are in training;
- more Western Australians are in training in priority areas – including skill shortages, higher skill levels and in apprenticeships/traineeships;
- there are more training opportunities for disadvantaged groups and for regional Western Australians;

⁷ A progress report covering the period January to June 2011 has been published and is available on the Department of Training and Workforce Development website at: www.dtwd.wa.gov.au.

- there is greater competition for training and more flexibility for Western Australian students; and
- employers and students are highly satisfied with the training system.

A copy of *Successfully training Western Australians for the future, Training WA indicators of success 2009-2010* can be found in the publications section of the State Training Board website at www.stb.wa.gov.au .

Training together – working together: Aboriginal workforce development strategy

Training together – working together: Aboriginal Workforce Development Strategy is a collective approach to address the problem of low levels of participation by Aboriginal people in the State's workforce.

Five main strategic themes are identified in the Strategy:

1. connecting employers and Aboriginal job seekers to meet Western Australia's growing work opportunities;
2. engaging local knowledge and capacity – recognising a one size fits all approach does not work;
3. improving the transitioning of Aboriginal people through quality mentoring and other support;
4. developing a strategic systematic response to individual and institutional barriers to Aboriginal participation in the workforce; and
5. raising awareness of Aboriginal employment opportunities and promoting new Aboriginal role models.

Key elements of the strategy are:

- the Perth Aboriginal Workforce Development Centre taking the lead role in working with employers, government and the Aboriginal community to address barriers to Aboriginal participation in the workforce and establishing partnerships between stakeholders to secure sustainable employment opportunities;
- the establishment of four regional Aboriginal Workforce Development Centres in Broome, Geraldton, Kalgoorlie and Bunbury to link Aboriginal people and local employers;
- the development of an Aboriginal workforce development website providing information and resources to employers and jobseekers;
- the implementation of a state-wide mentoring strategy; and
- the identification and promotion of Aboriginal role models who will provide inspiration to Aboriginal jobseekers and counteract negative stereotypes of Aboriginal employees.

A copy of *Training together – working together* can be found on the State Training Board's website at www.stb.wa.gov.au



4. Western Australia's Economy and Labour Market

In identifying priorities for the State Training Plan 2013-2016, current conditions in Western Australia's labour market and its outlook for the next few years have also been considered.

Western Australia continues to benefit from a strong resources sector, albeit with conditions in some of the other (non-resource related) parts of the State's economy not as strong.

Deloitte Access Economics' *Investment Monitor* shows the State had around \$270 billion worth of confirmed or potential major investment projects as at March 2012 – a very sizable increase of 21.6% over the past year, and equating to a 29.3% share of the national total value of projects.

Consistent with this, separate Australian Bureau of Statistics (ABS) data shows that for those projects already underway, there is over \$63 billion worth of engineering work yet to be done to complete such projects.

While the volume of construction work being done in respect to residential and non-residential sectors⁸ is around historical highs, both have comparatively lower 'pipelines' of work yet to be done (around half a year's worth of work) compared to engineering work. More acutely, the number of residential buildings approved over the year to May 2012 is the lowest it has been in over a decade, suggesting that residential building conditions will continue to be flat in the near term.

With house prices and share market returns remaining subdued, and international risks still prominent (see next section), households are still displaying increased fiscal conservatism, compared to their behaviour in the previous resources boom. Even so, the State's levels of real retail turnover per capita have picked up over the past year or so to return to just under the historical peak reached toward the end of 2007. Levels in Western Australia are also the highest of all States, and some 10% higher than the national average.

The most recently published ABS data on the State's overall economy shows that the Western Australian economy (as measured by Gross State Product) grew by 3.5% in real terms over 2010-11. While this was lower than the State's long run average growth rate of 4.2% over the last two decades, it was the highest of all States, with the ACT next highest at 2.8%.

Not too unsurprisingly, the same data showed that on an industry Gross Value Added basis, the main driver of real GSP growth for Western Australia in 2010-11 was from output in Mining, which contributed 1.6 percentage points to the State's overall GSP growth of 3.5%.

Economic Outlook

The overall outlook for the State's economy is very positive, given it is in the midst of a major investment cycle, led by construction on a broad ranging suite of major resource projects.

⁸ This includes work on non-residential buildings such as schools, offices, hospitals, shopping complexes and similar.



Even so, risks to the State's economic outlook (especially global) remain acute, and if realised, would prove challenging for the State (see next section below).

According to the Western Australian Department of Treasury, Gross State Product is forecast to increase by 4.75% in both 2012–13 and 2013–14. Economic growth in 2014–15 and 2015–16 is then expected to ease back slightly to rates of around 4.25%.⁹ Continuous demand for Western Australia's resource commodities has led to very strong increases in levels of business investment which is expected to continue and remain a key driver of growth in domestic economy over the next four years. As a result, Treasury expects exports to grow strongly, and population growth is forecast to remain above average, fuelled by continued strong employment and wage growth.

The Chamber of Minerals and Energy of Western Australia (CMEWA) expects the State's economy to grow by 5.9% in 2012-13, increasing slightly to 6.0% in 2013-14.¹⁰ These predictions are based on continuous strong demand for State's commodities from developing nations and continuing strong levels of business investment. Specifically, CMEWA believes that "growth in China will continue over the medium to long term, as the Chinese government continues to pursue an overarching development policy".

The Chamber of Commerce and Industry of Western Australia (CCIWA) expects that growth in the State economy will accelerate in the short term "on the back of a likely recovery in the global economy and improved consumer sentiment". The CCIWA's current economic growth forecasts are higher than either of the above two forecasters, with the State's economy expected to grow by 7.25% in 2012-13.¹¹

Deloitte Access Economics forecasts are closer to those of WA Treasury, with Western Australia's economy expected to grow by 4.6% in 2012–13, before slowing back a touch over the next few years to 4.4% in 2013–14, 4.1% in 2014–15, and then 4.0% in 2015–16.

Key risks to Western Australia's economic outlook

Notwithstanding the above, there are a number of key risks to the State's future economic growth profile that could represent challenges over the next few years (particularly regarding global economic conditions, given the importance of the external sector to the State's economy).

Economic growth in the State's main export destinations (of mainly developing nations) is expected to remain solid over the next two years, at an aggregate annual rate of around 5% to 6%¹².

However, there remain significant risks to the world economy from the ongoing issues associated with the European sovereign debt crisis and the fiscal position of the United States.

⁹ Western Australian Department of Treasury *2012-13 Budget Economic and Fiscal Outlook - Overview*

¹⁰ Chamber of Minerals and Energy of Western Australia, *WA Resources and Economics Report*, March 2012 (forecasts used come from KPMG Econtech; and are only published out to 2013-14).

¹¹ Chamber of Commerce and Industry of Western Australia, *Outlook: June Quarter 2012* (forecasts are only published out to 2013-14).

¹² Source: WA Department of Treasury (using IMF forecasts), 2012-13 Budget Economic and Fiscal Outlook. Includes the combined (and weighted) growth rates from those countries that comprise around 90% of the State's exports.



While there is a need for austerity measures and other similar initiatives to tackle fiscal and debt problems, if such fiscal tightening is too excessive, it will risk significantly constraining the growth potential of such nations. In particular, if economic conditions were to deteriorate further in areas such as the Euro zone and the United States, there is now only limited capacity for monetary and fiscal policy to suitably respond (due to already low interest rates and the constrained fiscal positions of governments). This makes these areas more susceptible to any internal or external shocks.

China's efforts to slow its economy to more sustainable growth rates have been successful, with annual growth slipping to 7.6% for the June quarter 2012, its lowest rate since the Global Financial Crisis. This has come after China downgraded its growth target for 2012 by half a percentage point to 7.5% in March 2012.

Internal challenges remain for China, including striking a suitable balance in respect to factors such as; dealing with speculative elements in property markets; controlling inflationary pressures; and rebalancing growth towards domestic demand. The demand for China's exports to the Euro zone and the United States would also suffer if economic growth in these areas was to deteriorate. While China's expected industrialisation path bodes well for Western Australia's economy over the longer run, the above factors increase the State's risk profile for external shocks over the short term (next few years).

Some of the main domestic risks to the State's expected economic growth path include the high Australian dollar (especially affecting the non-resource / externally-exposed parts of the State's economy); continued short-term weakness in non-resource related construction; consumers remaining cautious in their spending; and labour demand growth outpacing growth in the State's working population.

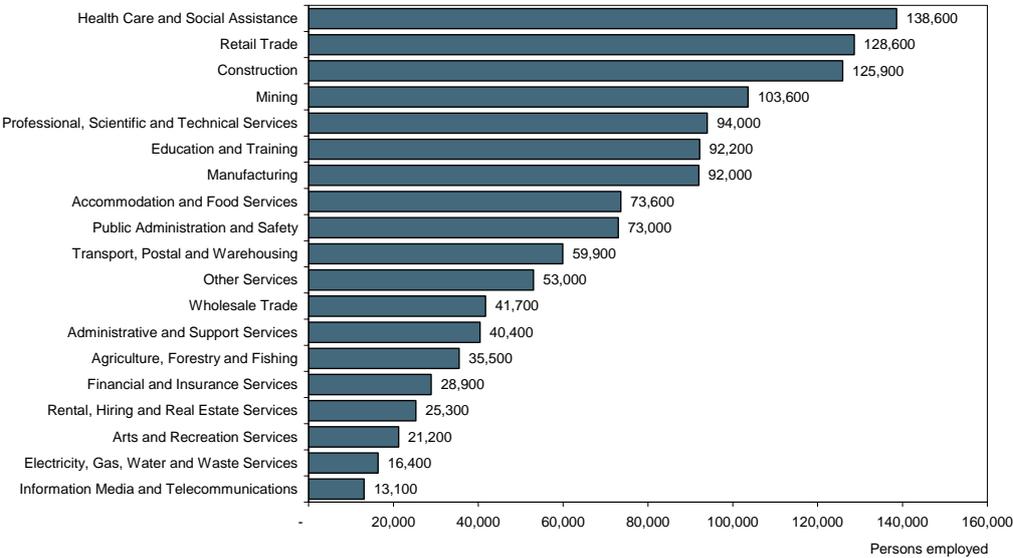
Key characteristics of Western Australia's labour market

According to the Australian Bureau of Statistics (ABS), almost 1.29 million people were employed in Western Australia in May 2012.¹³ Currently, nearly a third of people employed are working in the three biggest industry sectors: healthcare and social assistance (138 600 persons employed, or 11.0%), retail (128 600 persons, or 10.2%) and construction (125 900, 10.0%).

¹³ Source: ABS Cat. 6202.0



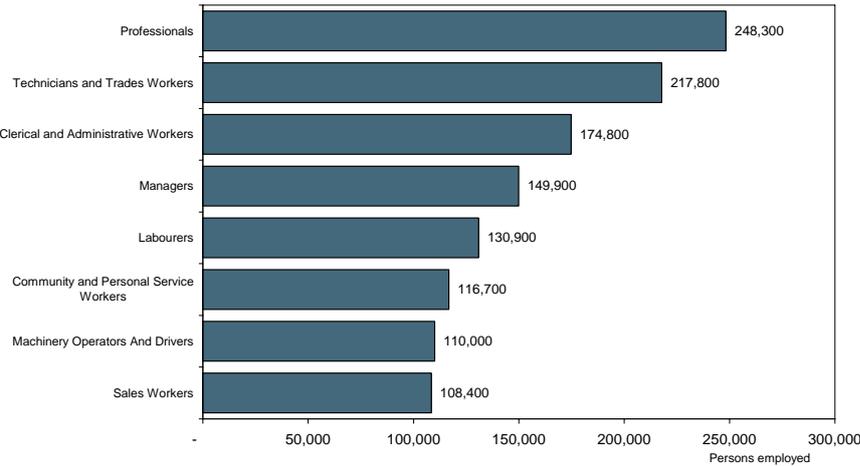
Figure 7: Number of persons employed by industry sectors 2011-2012



Source: ABS, Labour Force Survey, May 2012

Even so, demand for labour in the State is strongly associated with the resources sector. While the 103 600 people directly employed in the State's mining industry means it currently ranks as Western Australia's 4th largest employer, the industry also has important flow-on effects to other industries, creating a large number of additional jobs throughout the economy¹⁴.

Figure 8: Number of persons employed by occupations 2011-2012



Source: ABS, Labour Force Survey, May 2012

¹⁴ 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).



On an occupational basis, in 2011-12, just over 37% of the State's workforce were employed in the two higher skilled occupational groupings of professionals (248 300 persons) or technicians and trades workers (217 800). This is slightly higher than the 36% recorded in 2011-12 for these two groupings nationally.

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 two¹⁵.

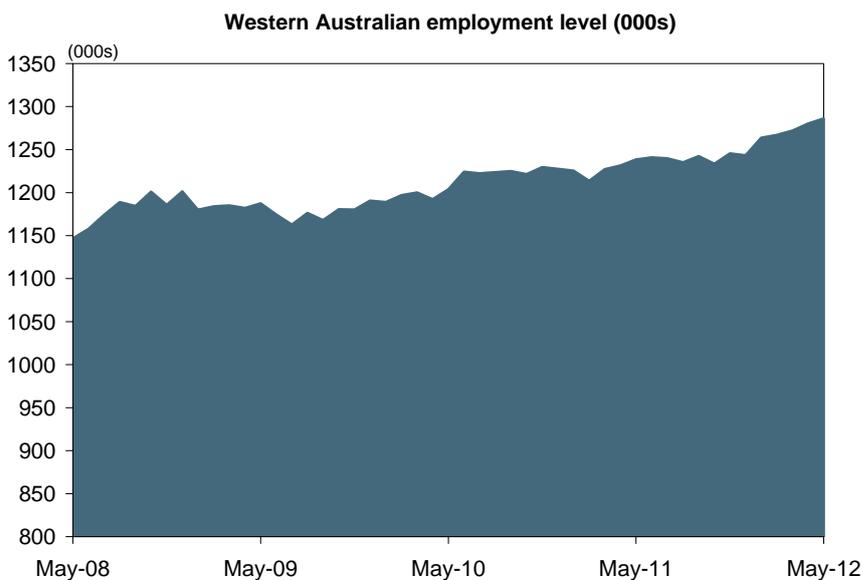
Relative to Australia, Western Australia has a higher proportion of persons born overseas (30.7% versus 24.6% nationally) and indigenous persons (3.1% compared to 2.5%). Western Australia also has younger population age profile relative to other states. Its median age of 36.3 years in 2011 was the lowest of all states, and a full year lower than the national median of 37.3 years. Also, 68.1% of all persons in Western Australia are in the key working age cohort of 15 to 64 years (as 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 2015¹⁶.

Western Australia's labour market – recent performance

Over the year to May 2012, employment in Western Australia grew by 3.9%, compared to 1.0% nationally. As shown in the Figure 9 below, after some patchiness experienced in 2011, employment growth has strengthened significantly in 2012.

Figure 9: Western Australia's employment level



Source: ABS Cat.6202.0 (seasonally adjusted data)

¹⁵Based on 2011 Population Census, cat. 2001.0

¹⁶Source: 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



Reflecting continued high investment in the State's resources sector and high demand for health and professional services, employment growth over the past year has been strongest in industries such as mining (20.0% growth, or 17 300 additional jobs); health care and social assistance (17.3% or 20 300 jobs); rental, hiring and real estate services (16.0% or 3 500); and professional, scientific and technical services (6.4% or 5 600).

However, reflecting some of the weakness evident in other parts of the State's economy, this growth has been partly offset by falls in employment in other industries such as agriculture, forestry and fishing (down 15.8%, or 6 600 less jobs); information media and telecommunication (down 12.3% or 1 800 less jobs); and construction (down 5.7% or 7 600 less jobs).

Within a national context during the last financial year, the Western Australian labour market performed significantly stronger, with higher employment growth and labour force participation rate and lower unemployment rate.

Western Australia recorded a labour force participation rate of 69.1% in May 2012, considerably higher than the rate of 65.5% recorded nationally. The State's unemployment rate of 3.8% in May 2012 was lower than the national unemployment rate of 5.1% for May, with Western Australia now having recorded the lowest unemployment rate of all states since March 2010.

Underpinned by strong economic growth, the Western Australian labour market improved over the last 12 months, with employment and labour force participation rate increasing strongly and unemployment declining.

In line with rising labour force participation (69.1% in May 2012 compared to 68.6% in May 2011), employment rose in the State by 47 800 jobs in the last 12 months, accounting for over 43% all jobs created on a national basis. This was accompanied by a decline in an unemployment rate from 4.3% in May 2011 to 3.8% currently.

With robust labour demand underpinned by continued high levels of resource-related investment, the Western Australian labour market has tightened further in recent months. The latest *Commonwealth Bank – CCI Survey of Business Expectations* showed 42% of local businesses reporting labour as scarce in the June quarter 2012. While 19% of respondents flagged they cut staff throughout the quarter, this was offset by the 22% who said they put on extra staff.

The Internet Vacancy Index¹⁷ produced by the Commonwealth Department of Education, Employment and Workplace Relations showed that Western Australia recorded an 8.4% increase in job vacancies over the year to May 2012. This was in stark contrast to falls in all of the other Australian states and territories, which pushed the national index lower by 11.1% over the year.

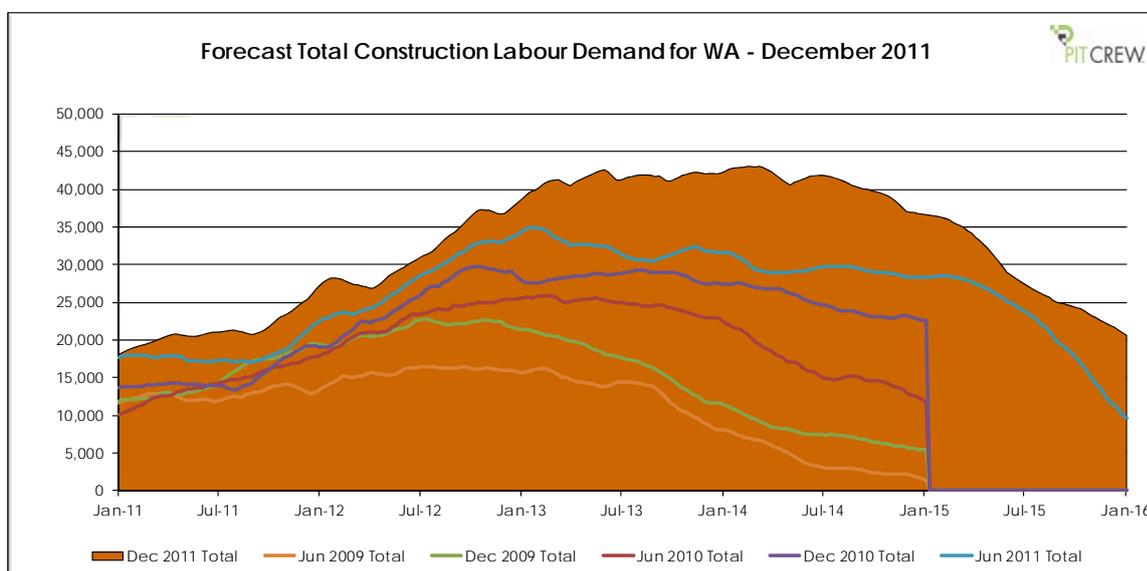
¹⁷ This index is based on a count of online vacancies newly lodged on SEEK, My Career, CareerOne and Australian JobSearch during the month. For more information, see: <http://www.deewr.gov.au/lmip/default.aspx?LMIP/VacancyReport>

Western Australia's labour market – short term outlook

As flagged above, a key ongoing feature of the State's labour market in coming years will be the activity that is associated with Western Australia's current resource sector pipeline. Such activity is expected to result in a sustained increase in the demand for labour, particular in respect to the construction phases of the major resource projects underway in the State.

Such demand is evident from Pit Crew Management and Consulting Services' (Pit Crew) latest report for December 2011¹⁸. The chart below shows Pit Crew's latest estimates of construction and engineering labour demand over coming years for major projects across Western Australia.

Figure 10: Pit Crew forecast total construction labour demand



Source: *The Pit Crew Labour Market Report – December 2011, p. 23*

The chart above compares Pit Crew's current demand forecasts with its previous forecasts. As shown by the chart, the December 2011 listing indicates a significant ramp-up in construction labour demand over the remainder of 2012 and into 2013 (the solid orange part of the chart).

The chart also shows construction labour demand increasing from anticipated levels of 28 000 in early 2012, to around 40 000 in early 2013, peaking at 43 000 in the first quarter of 2014, and then remaining above 40 000 throughout the first half of 2014.

Furthermore, the chart shows that while demand over the remainder of 2012 is expected to track reasonably close to the levels predicted in Pit Crew's previous report (shown by the light blue line), Pit Crew's current demand estimates then deviate to significantly higher levels from early 2013.

¹⁸ Pit Crew's scope includes those projects valued around \$200 million and above that are either already underway, committed to, or 'highly probable'.

However, while activity associated with the State's resource sector is expected to bolster overall labour demand, supply constraints are expected to remain a feature of the State's labour market in the short term.

Current headline forecasts for Western Australia's labour market are shown in the table below. As shown by the table, while there is some divergence in forecasts, all suggest that Western Australia will continue to enjoy a broadly healthy labour market over coming years.

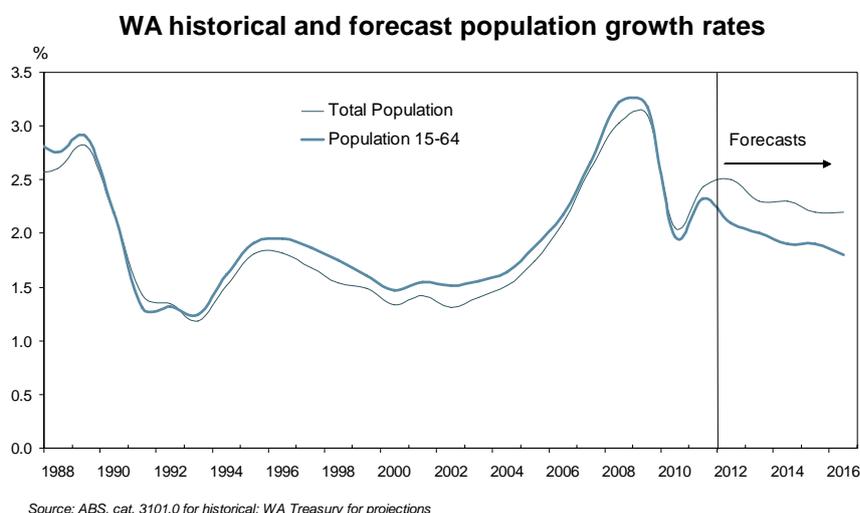
Table 1: Headline forecasts for the State's labour market

FORECASTER:	Employment growth (%)		Unemployment rate (%)	
	2012-13	2013-14	2012-13	2013-14
WA Treasury (May 2012)	2.75	2.5	4.25	4.25
Deloitte Access Economics (June 2012)	3.0	2.1	4.0	3.9
WA Chamber of Commerce and Industry (June Qtr 2012)	N/a	N/a	3.5	3.0
WA Chamber of Minerals and Energy (March Qtr 2012)	1.3	2.2	4.1	4.0
Monash Centre of Policy Studies (December 2011)	3.1	2.2	N/a	N/a

However, it is quite possible that the employment growth forecasts above would be higher, if not for some of the constraints in the availability of labour that are expected to build over coming years (largely due to the ageing of the State's population). For example, the Western Australian Department of Treasury is forecasting that the State's population growth will slow to an annual average rate of 2.2% by 2015-16, down quite sharply from the peak rate of 3.3% that was recorded in 2008-09.

Even more starkly, as illustrated in the figure below, Treasury is forecasting that growth in the State's core working age population (those aged 15-64) will fall even further – with growth in this key cohort down from the same peak rate reached by the full population (ie 3.3% in 2008-09) to only 1.8% by 2015-16.

Figure 11: Historical and forecast population growth rates





While the State Government's first workforce development priority remains the training and preparation of Western Australians for the State's workforce, current trends suggest that it is unlikely Western Australia will be able to generate enough workers 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. This is highlighted by the fact that from Western Australia's population growth of some 67,300 additional persons over 2011 (latest data), around 39,300 (or nearly 60%) came from the State's net international migration gain. Also illustrative of the importance of migrants to the State's workforce is that about 37% of those employed in Western Australia over 2011-12 were born outside Australia.

In particular, as temporary skilled migration (457 visas) is not subject to overall quotas but instead fluctuates according to levels of employer demand, it is a somewhat useful barometer of where employers have sought to fill gaps. Latest data for 2011-12 suggests that overall, the 16,290 primary applicants that were granted 457 visas by the Commonwealth Government for positions in Western Australia equated to 1.3% of the State's total workforce – this was about twice the rate for the nation as a whole¹⁹.

The data also showed those industries in the State that obtained an above average share of 457 visas (relative to their overall employment levels) were mining (3.5%); construction (3.3%); other services (3.1%); information media and telecommunications (3.0%); electricity, gas, water and waste services (2.1%); and manufacturing (1.6%).

The same data on 457 visas also shows that around 80% of the occupations associated with the 457 visas granted for Western Australia over 2011-12 fell into either the broad category of 'professionals' or 'technicians and trades workers'. Consistent with the ongoing expansion of Western Australia's resource sector, the top four nominated occupations were either mining or construction-related, with mechanical engineering technicians and civil engineers equal first, with each accounting for 570 of the 16,290 visas granted in the State, followed by geologists (490), and then first class welders (480).

Given the mismatch expected over the next four years between strong labour demand (particularly for skilled labour) against more moderate growth in labour supply, there is a need for the State to be responsive to changing circumstances. This is required if Western Australia is to avoid a re-emergence of the skill shortages experienced prior to the impact of the global economic downturn.

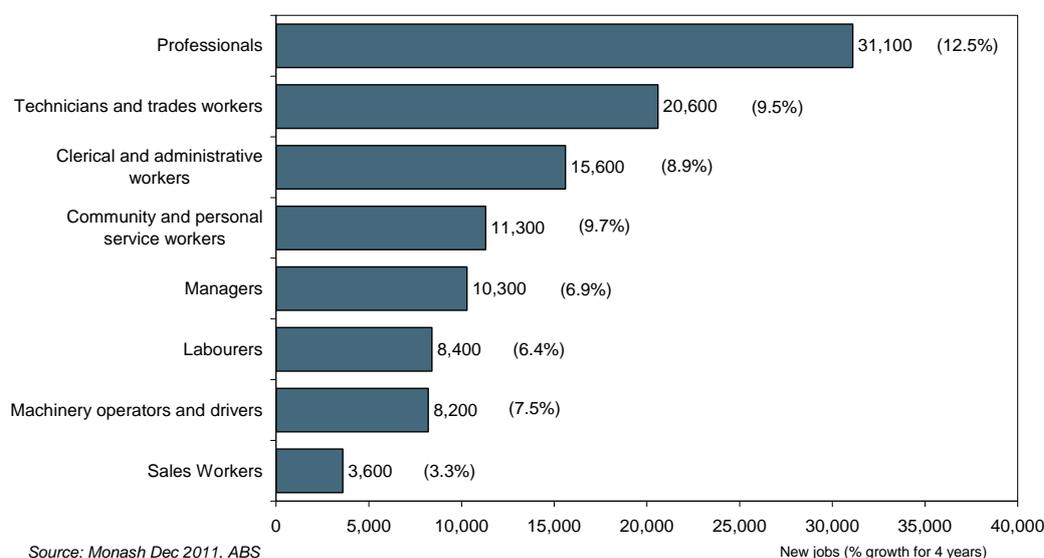
However, while a key factor in labour demand is expected to be resource-related activity, this does not necessarily mean that mining-related jobs will dominate employment growth. For example, an occupational and industry break-down of the employment forecasts from

¹⁹ Data source is the Commonwealth's Department of Immigration and Citizenship's publication: "Subclass 457 State/Territory summary report 2011-12" matched against ABS catalogue 6202.2. 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' sample framework underpinning the estimates typically excludes those whose total duration of stay in Australia is less than 12 months.

Monash University's Centre of Policy Studies²⁰ show that growth for the four years to 2015-16 will be quite broad based.

In particular, Figure 12 below shows that strong employment growth is expected to occur in the occupational groups of professionals (31 100 new jobs); technical and trades workers (20 600 jobs); and clerical and administrative workers (15 600 jobs). Together, these three occupational groupings are projected to account for over 61% of all new jobs over the period.

Figure 12: Projected employment growth by occupation 2011-12 to 2015-16



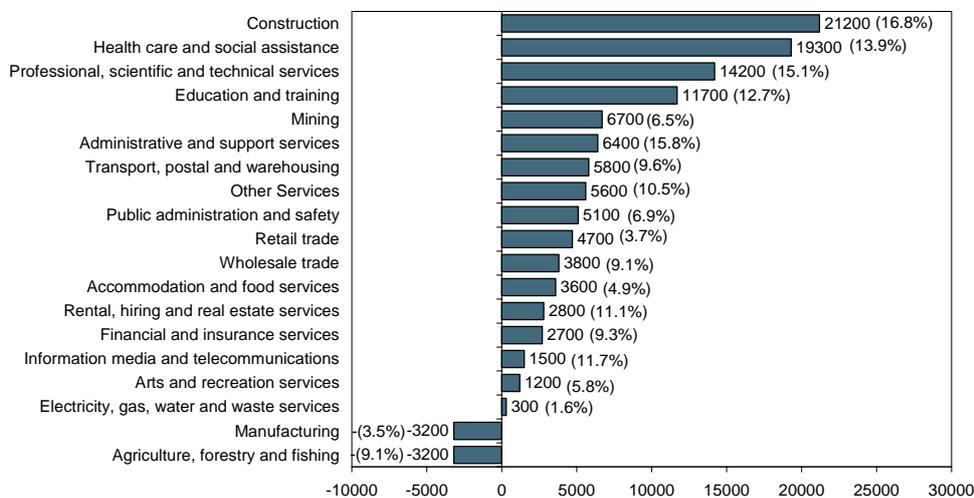
Breaking down Monash's projections on an industry basis shows that around two thirds of Western Australia's forecast employment growth over the four years to 2015-16 is expected to come from the industries of construction (21 200 new jobs); health care and social assistance (19 300); professional, scientific and technical services (14 200); education and training (11 700); and mining (6 700 jobs).

This industry breakdown also shows that resource-related jobs will not necessarily dominate employment growth, with around 40% of jobs growth over the next four years is expected to come from the industries of Health Care and Social Care; Professional, Scientific and Technical Services; and Education and Training.

²⁰ Given the greater level of uncertainty for smaller segments of the State's labour market, the Monash forecasts are provided for a full four year period, given that these are likely to be more reliable than for any individual year. Occupational classifications are based on Australian and New Zealand Standard Classification of Occupations (ANZSCO), while industry classifications are based on Australian and New Zealand Standard Industry Classification (ANZSIC).



Figure 13: Projected employment growth by industry 2012-2016



Source: Monash Dec 2011, ABS

Forecast caution

The Centre of Policy Studies at Melbourne’s Monash University (Monash) produces employment projections by industry, occupation, and qualification level. Monash’s projections are based on its dynamic computable general equilibrium (CGE) econometric model, which is well established and used by a number of government agencies and other institutions across Australia for detailed labour market forecasting. This model comprises a suite of inputs, including as various economic projections produced by Deloitte Access Economics, Commonwealth Treasury, ABARE and others²¹.

Monash’s employment projections for Western Australia are used by the Department of Training and Workforce Development as major inputs for informing workforce development planning, and in particular key Departmental products like:

- the State Priority Occupation List (SPOL);
- the Western Australian skilled migration occupational list (WASMOL);
- the Priority Qualifications List (PQL);
- the State Training Plan; and
- other sundry labour market analysis and publications.

It is cautioned that in the current very dynamic economic environment, it is difficult for forecasters like Monash and the others referred to above to predict in detail specific movements in employment growth, particularly in the medium or longer term, as there are many uncertainties to be considered. While the various forecasts referenced above have been compiled with due care and diligence, forecasts can differ due to differences in factors like data sources used; econometric models and modelling techniques used; underlying assumptions; and many others.

Care should therefore be exercised when interpreting forecast movements (particularly those at a detailed level). The forecasts should be treated as an indicative picture of what

21 For more information see: <http://www.monash.edu.au/policy/conf/17Meagher.pdf>



the State's future labour market *may* look like given expected growth trajectories (and in particular, on an assumption that key risks to the State's growth outlook do not eventuate – see section 'Key risks to Western Australia's economic outlook' above).

Skill shortages

During the last period of sustained economic expansion in Western Australia, which began in 2001-2002 and ended with the onset of the global financial crisis in 2008, skill shortages were a key concern for a number of industries and employers.

A major issue was the 'crowding out' effect. This was caused when workers were attracted to higher paying industries (such as mining and construction) away from lower paying industries, resulting in widespread skill and labour shortages.

Key labour market indicators observed during this period reveal an increasingly tight labour market and evident skill shortages as the resource boom progressed. However, labour market indicators tend to lag economic conditions.

Consequently, despite the 2008-09 economic downturn, key labour market indicators showed that:

- the unemployment rate fell to a record low of 2.3% (in October 2008);
- total employment grew by over 35% last decade;
- the labour force participation rate reached an all time high of 69.8% in December 2008; and
- the annual growth in the Wage Price Index was higher in Western Australia than nationally (March 2011).

These indicators of a tight labour market and resulting skills shortages were driven by high levels of consumption, business activity, property market and construction activity, and global demand for the state's resource commodities. Most of these trends are expected to re-emerge in the short to medium term.

While crowding out can be beneficial in an aggregate sense (in respect to labour going to its most efficient and productive use, higher aggregate income levels, and similar), it can also produce some downsides – particularly at an enterprise level if labour churn is high.

There is also a real risk of prospective major projects being significantly compromised (ie final investment decisions on major projects either being delayed or not being made at all) in part due to labour supply constraints.



5. Other Key Inputs to the State Training Plan 2013-2016

In addition to State and national VET priorities and consideration of Western Australia's economic and labour market, the other key inputs into this Plan include the State priority occupation list, the WA Shares Model, industry and regional intelligence and other relevant research.

5.1. State priority occupation list

The State priority occupation list is an annually-produced list of jobs that are in high demand or considered industry-critical in Western Australia. These are particularly defined occupations:

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

The 2012 State priority occupation list 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 previous years, the list includes a three-tier structure indicating occupational priority – each occupation is ranked as either a *State priority 1, State priority 2 or industry training council- identified priority* occupation.

A number of significant developments were achieved with the production of the SPOL in 2012. Not the least of these was the establishment of a relational database system to store data and qualitative information relating to individual occupations, and the use of Microsoft Access by the Department and training councils to enter and retrieve that information.

The SPOL database now maintains nearly 4,000 qualitative data items pertaining to the occupations and qualifications identified on the database. This is in addition to quantitative data items from the Australian Bureau of Statistics, the Monash Centre for Policy Studies, the Department of Education, Employment and Workplace Relations, Skills Australia and the Department of Immigration and Citizenship.

More detailed information on the SPOL methodology and consultation process, plus a copy of the SPOL itself, can be found in the Information Paper provided in Section 9 of this document.

Outcomes of the State priority occupation list 2012

The greater rigour applied in 2012 has seen the total number of identified occupations decrease by 25 from 364 to 339. Of these, 179 occupations are deemed State priority occupations, and 160 are industry training council-identified priority occupations.

Over 70 per cent of occupations on the list are from the highly skilled categories of managers, professionals and technicians, and trade workers, which reflects one of the key underlying principles. These types of occupations generally have a strong fit between the education and/or training undertaken and the eventual occupations taken up by graduates.

Table 2: State priority occupation list outcomes

Occupational Group	State Priority 1	State Priority 2	Industry Training Council-Identified Priority	Total
1 Managers	5	17	6	28
2 Professionals	47	44	23	114
3 Technicians and trades workers	23	29	47	99
4 Community and personal service workers	5	1	31	37
5 Clerical and administrative workers	-	3	9	12
6 Sales workers	-	1	4	5
7 Machinery operators and drivers	-	4	26	30
8 Labourers	-	-	14	14
Total	80	99	160	339

The more rigorous approach and a the greater focus now being applied to higher-education-related occupations has seen a turnover of exactly one third of the entire list, with many more higher-skilled occupations coming onto the list, particularly in the health occupations. In all, 113 occupations came off the list from 2011 and 88 new occupations were identified. The majority of the occupations coming off the list were in the industry training council-identified priority category.

5.2. Western Australian Shares Model

The WA Shares Model is a prescriptive 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 therefore helps determine the potential share of publicly funded training delivery that needs to be assigned to an occupational (ANZSCO²²) 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 hours by adjusting the current distribution of student curriculum hours based on a number of different factors:

- 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.

For a detailed explanation of the factors contributing to the Model's determinations, see Appendix B.

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. Indeed, this whole State Training Plan document is designed to provide an outlook into Western Australia's skills needs and priorities.

Review of the Shares Model

The WA Shares Model was first developed in 2007 for the State Training Profile 2008-2010. The Model was further improved and updated in 2010 whereby its structure was changed from a model based on an industry (ANZSIC²³) structure to one based on ANZSCO occupational groups.

In 2011, the Model's forecasting time frame was modified from three to four years to align with the State Government's four year planning cycle (which currently goes out to 2015-16).

²² Australian and New Zealand Standard Classification of Occupations (ANZSCO).

²³ Australian and New Zealand Standard Industry Classification (ANZSIC).



Figure 14 on the following page illustrates the current results of the WA Shares Model, showing the actual share of training that each VET-related ANZSCO occupational group received in 2011, against the projected share needed by 2016.

According to the latest results, for the next four years to 2015-16, the key areas of focus with respect to increasing training effort are in the following areas:

- road and rail drivers;
- specialist managers;
- hospitality, retail and service managers;
- business, human resources and marketing professionals;
- electro technology and telecommunications trades workers;
- construction trade workers;
- sales representatives and agents; and
- cleaners and laundry workers.

For all of the above occupational groupings, the main factor influencing expected increases in training delivery is the forecast demand for new VET qualified entrants. However, additionally, for trade-related occupations (namely electro technology and telecommunications trades workers; and construction trades workers) the State priority occupations list is also a significant factor. For other occupations, such as road and rail drivers; specialist managers; hospitality, retail and services managers; and business, human resources and marketing professionals, their Ageing Workforce Profile and occupational churn are also factors that contribute significantly to their proposed increases in their VET training.

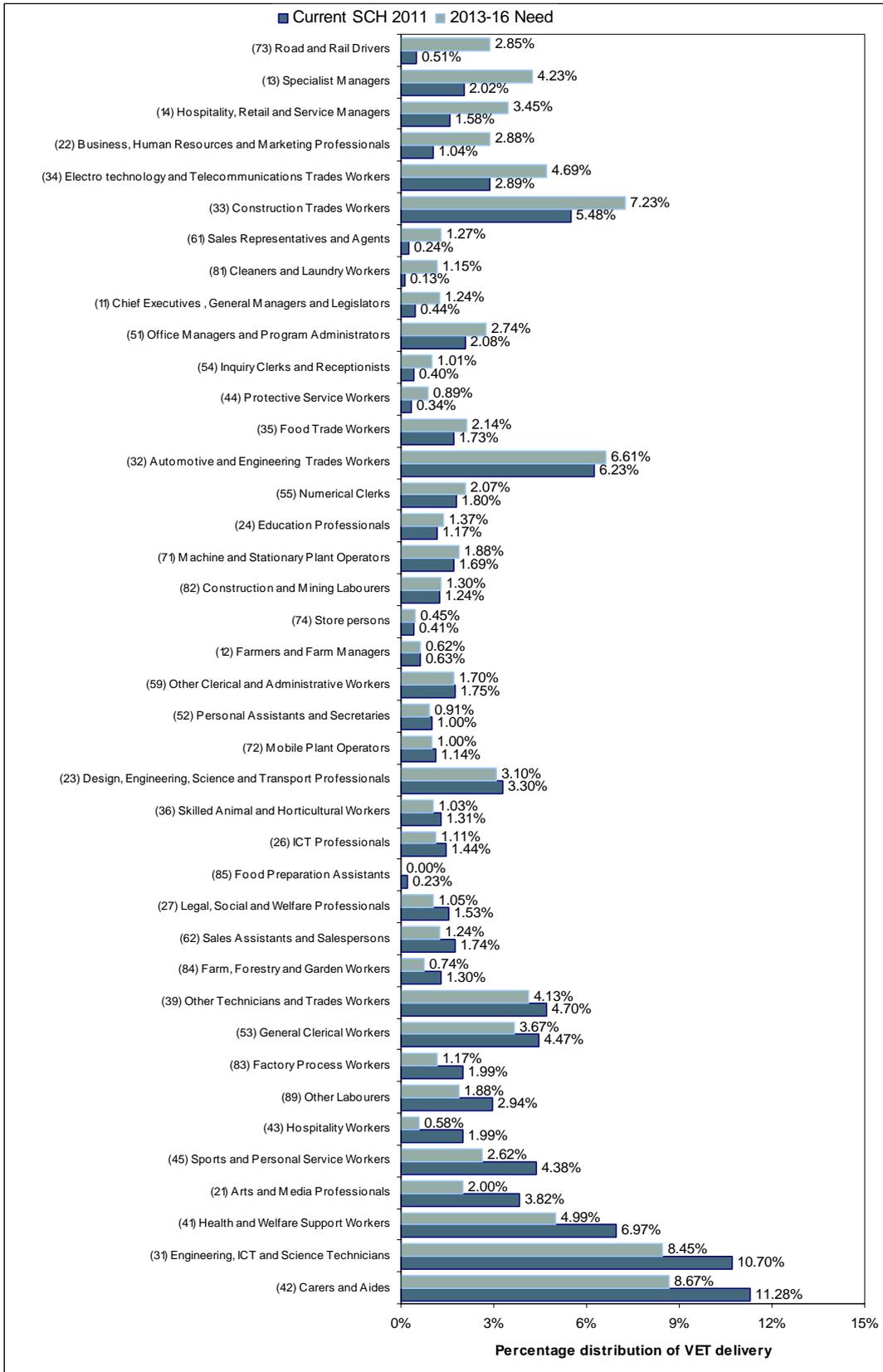
The occupational groups that have a share of future delivery need lower than the current effort include:

- carers and aides;
- engineering, ICT and science technicians;
- health and welfare support workers;
- arts and media professionals;
- sports and personal service workers;
- hospitality workers;
- other labourers;
- general clerical workers; and
- factory process workers.

For hospitality workers their future training need is assessed to be lower than the current effort based on the impact of ageing workforce and occupational churn factors. For all the other occupational groups their future training need is assessed to be lower than the current effort due to relatively low demand for new entrants with VET qualifications anticipated for their workforce in the next four years. Additionally, for carers and aides; and general clerical workers, adjustments done to the State priority occupations list contributed to the decrease in their projected future training needs.



Figure 14: ANZSCO WA Shares Model for 2013-16



Source: Department of Training and Workforce Development Note: Figures in brackets show the two-digit ANZSCO classification

5.3. Industry and regional inputs to the State Training Plan

Western Australia has a network of ten Training Councils and through extensive industry consultation provides high level advice and services in relation to training and workforce development needs of the State.

Training Councils provide a valuable contribution to the State Training Plan, particularly through their significant involvement in the development of the State priority occupation list.

In addition, Training Councils develop annual industry workforce development plans. Through the provision of industry intelligence on critical occupations and skill demands, these plans identify the challenges to workforce development, identify strategies and recognise the training needs and priorities for their respective industry sectors.

Whilst each workforce development plan is industry specific, an examination of the ten plans has identified common workforce development and training issues that impact across all industries. These include:

- Aging workforce/mature age workers – retirement of a large number of older, experienced workers with fewer young people to replace those who are leaving;
- VET in Schools – the need for more alignment of this training delivery to priority industries;
- Participation issues – increasing the participation of those traditionally under represented groups such as youth, women with dependants and Aboriginal people;
- Apprenticeships/Traineeships – addressing the currently low numbers of commencements/completions due to subdued conditions in some industries;
- Impact of resources sector – competing job opportunities due to growth in the resources sector; and
- Increasing the language, literacy and numeracy levels, especially in trade industries.

For further information, 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/>

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- 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/>

Regional advice

The Department has embarked on the development of regional workforce development plans, which will outline key challenges to workforce development in each of the nine regions of the State (based on Regional Development Commission boundaries) and provide industry, Government and community sector strategies at a local and State level. These strategies are being aligned to the five strategic goals of Skilling WA.

To generate local ownership of the plans, the development and implementation of the plans are overseen by regional alliances made up of stakeholders from industry, Government and the community sectors.

To date, draft plans for Midwest, Goldfields-Esperance and Wheatbelt regions are close to finalisation and it is anticipated that four more plans (i.e. Pilbara, Kimberley, Great Southern and South West) will be completed progressively through to the end of 2012. Workforce development plans for the Peel and Gascoyne regions are expected to be completed in 2013.

For this year's State Training Plan, these regional workforce development plans provide context and some background information to help validate the priority occupational and training needs for the State.

However, as part of the new methodology for the development of regional plans, there is an endeavour to identify regional training priorities through the compilation of a regional priority occupation list (RPOL).

The RPOL will be a list of jobs that are in high demand or considered industry-critical for each region in Western Australia. This information is sourced through available data at a regional level (which is currently problematic) and local input through consultations with local industry, local government and community leaders.

The draft RPOs will progressively be developed for each of the regions in the State and will complement and contribute to the development of the State priority occupation list. The RPOs once developed and validated will be used as a key input into future State Training Plans, and in particular to provide the basis for defining the training purchasing priorities for each region - something that can't currently be done now.

The results of the 2011 Census being released in October 2012 will provide an important base for further work on the RPOs in early 2013.



Other relevant research and reports

Responsive Trade Training Working Group

In February 2010, the Responsive Trade Training Working Group was established. The purpose of this group was to plan for a responsive and resilient training system to address skill requirements in a continually changing economic environment.

The membership of the working group included State Training Board members, representatives from UnionsWA, Training Councils and the Department of Training and Workforce Development. The working group created four themed groups to further explore the spectrum of training models which included:

- National and International Benchmarking;
- Surveys and Demographics;
- Spectrum of Training Delivery Models; and
- Training Pathways, Marketing and Schools²⁴.

As part of its research and consultation, including the examination of commencement, cancellation and completion rates of key trades in Western Australia, the Responsive Trade Training Working Group agreed to pilot a program based on an Advanced Pre-apprenticeship model in the following three key trade areas:

- Carpentry and Joinery;
- Commercial Cookery; and
- Telecommunications.

The pilots align with a key strategic goal of Skilling WA, where the Department of Training and Workforce Development will investigate and pilot models for a more flexible, responsive and resilient apprenticeship and traineeship system to respond to changing economic cycles

Progress has been made regarding the pilot studies with the Data and Voice Communication program commencing in May 2012. In July 2012, the Carpentry and Joinery and Commercial Cooking pilot programs were also launched.

The Department of Training and Workforce Development will manage a consultancy to evaluate the pilot programs. It is expected that the evaluation project will commence in August 2012 and will conclude in April 2013.

Youth Unemployment Project

In March 2012, the State Training Board Steering Committee on Youth Employment was established and will focus on three main themes which include:

- Youth unemployment demographics – an analysis of the youth unemployment statistics will be undertaken to develop a statistical picture of young people's transition to employment and further education;
- Preparation of young people – consultation with relevant stakeholders will be conducted to identify activities, programs and training that provide for a successful

²⁴ The Spectrum of Training Delivery Models and Training Pathways, Marketing and Schools sub-groups amalgamated in December 2010.



transition from secondary education to further education, training or employment; and

- Expectations and career advice – employer, young person and parent – consultation will take place with targeted agencies providing career development services in schools, tertiary institutions, industry and other community advisory bodies to examine the role, source and quality of advice provided to young people and their parents/guardians on career choices. The project will also explore employer expectations when employing young people.

A consultant has been engaged to undertake this project on behalf of the committee and it is envisaged that a draft report will be submitted to the Board in August 2012.

Crowding Out: Competition for Skilled Labour Project

The aim of the Crowding Out project is to identify strategies that will alleviate the competitive pressures for skilled labour across all industries. These strategies are aimed at ensuring that Western Australia can meet the labour and skills requirement for existing and future projects critical to the State's economy.

In June 2012, a consultant was engaged to undertake this project and it is expected to be completed by September 2012.

It is envisaged that the outcomes of this project will provide greater insight into labour demands and will assist in the preparation of future State Training Plans.

6. Training System Progress towards State Training Plan Priorities

Recent Plans have focused on identifying training priorities which support Western Australia's growing economy and forecast economic expansion resulting from a large pipeline of major resources and infrastructure projects.

For 2011-2013, the State Training Plan recommended:

- growth in employment based training – apprenticeships and traineeships;
- priority institutional training delivery aligned to industry need;
- growth in the delivery of higher level qualifications; and
- training to support increased participation and outcomes for under-represented groups, including Aboriginal Western Australians, people with disabilities, women with dependants, people from culturally and linguistically diverse (CALD) backgrounds, mature age people and women with dependants.

An analysis of how the State's training system has progressed over recent years is provided in this section.

Shaping of the training profile

Previous State Training Plans have aimed to “shape” the profile of training over time to meet the priority needs of industry and the State's economy.

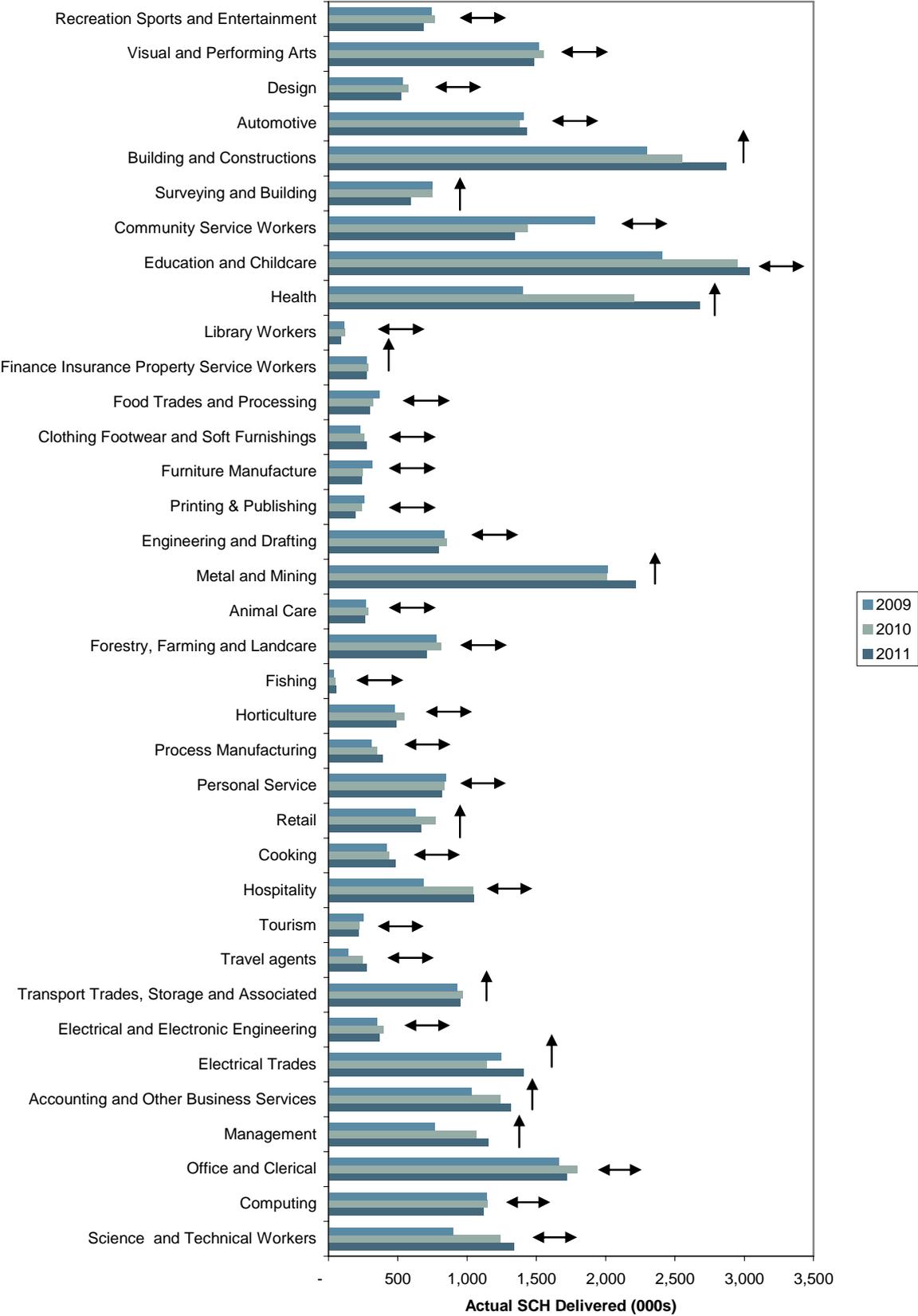
For comparative purposes, progress in the shaping of the profile of training over the last three years has been shown using the WADOT groupings classification, which is used by the Department in its funding allocation model. Translating the priorities from previous State Training Plans, the groupings recommended for priority were as follows:

- building and construction;
- electrical;
- high level qualifications in management;
- high level qualifications in finance, insurance and property service workers;
- metals and mining;
- transport and storage;
- high level qualifications in accounting and other business services;
- surveying and building;
- health; and
- high level qualifications in retail.

The graph in Figure 15 identifies the actual student curriculum hours (SCH) delivered for each group and illustrates those occupations that were marked for growth in training delivery by the arrow symbol ↑. Those groups targeted for maintenance of training delivery effort are marked with the symbol ↔ No occupational categories were earmarked for reduction in delivery due to funding available through the previous Productivity Places Program.



Figure 15: Achievement against 2011-2013 State Training Plan priorities



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

As can be seen in Figure 15, growth has occurred for the majority of those groups targeted for increased training. In particular, considerable growth occurred in the delivery of training in the building and construction, metal and mining, and health areas.

The recommended purchasing priorities of previous State Training Plans identified that whilst growth was required in those occupational groups that would support the significant resource and infrastructure projects in the future, it also identified the need to support those areas that in the past had been “crowded out”²⁵.

One such area that had been impacted by the ‘crowding out’ effect in the past and was subsequently targeted for future growth was the area of health. As illustrated in Figure 15, a 91% increase in training delivery occurred during 2009 to 2011.

Participation in training

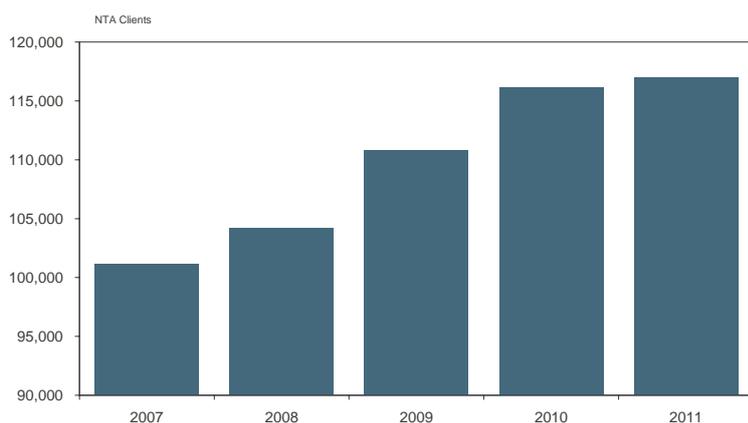
In order to equip the State with a skilled workforce in order to meet future economic growth, increasing overall participation in training is crucial.

Figure 16 illustrates that since 2007, there has been a 15.6% increase in the number of people participating in training, with the most significant growth occurring during the period between 2008 and 2010.

In 2008, the global economic downturn was impacting on Western Australia and it is likely that the increase over the two years was likely due to people commencing training rather than entering the workforce in the subdued economic climate.

However since 2010, participation in training has remained stable with some 116,959 people in training at the end of 2011.

Figure 16: Publicly funded²⁶ VET Clients 2007 to 2011



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

VET in Schools

²⁵ “Crowding out” occurs when workers are attracted to higher paying industries (such as mining and construction) away from lower paying industries.

²⁶ Funded under the National Training Agreement



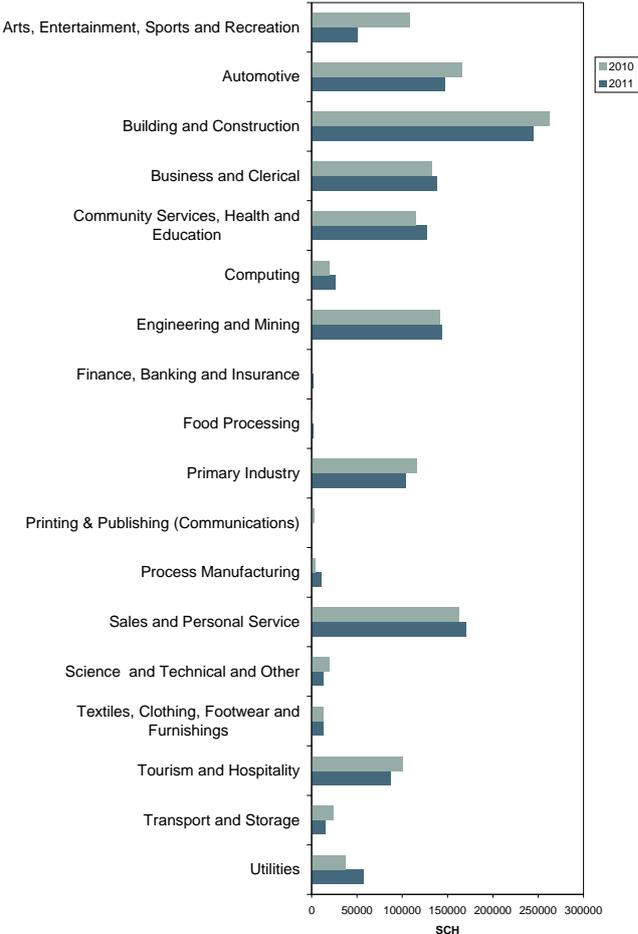
VET in Schools is designed to enhance school students' transitions to a broad range of post-school options and pathways, including apprenticeships and traineeships.

Since 2009, the strategy for VET in Schools has been to more closely align enrolment in VET in Schools programs with industry priorities. As illustrated in Figure 17 below, while there has been some success in this approach, it has been identified that there is a need for further work in this area.

In 2011, 1,472,948 student contact hours (SCH)²⁷ were delivered under the National Training Agreement (NTA)²⁸. This represents 4% of the total VET delivery for the year.

The Department of Training and Workforce Development, in collaboration with the Department of Education is currently undertaking a strategic review of VET in Schools. This review will result in several measures which will see a renewed realignment of VET in Schools delivery with industry priorities, including a VET in Schools industry endorsed qualifications register and a revised VET in Schools policy.

Figure 17: VET in Schools delivery 2010-2011



²⁷ Source: Department of Training and Workforce Development, VET enrolment data collection

²⁸ National Training Agreement (NTA) Scope - Delivery of training claimed under the terms of the national VET funding arrangement between Western Australia and the Commonwealth.

Aboriginal²⁹ people's participation in employment related training

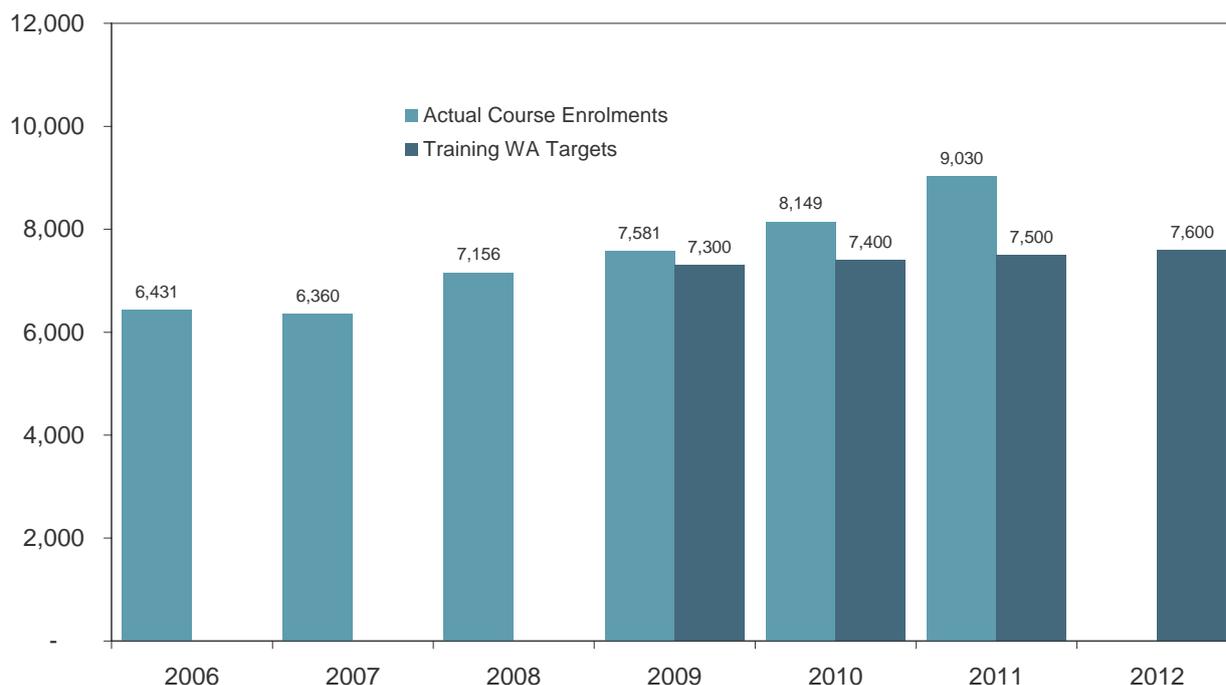
One of the key deliverables of *Training WA* and previous State Training Plans is improving the employment outcomes for Aboriginal people through participation in training.

As illustrated in Figure 18, since 2006, there has been strong growth in the number of enrolments in employment related training³⁰ by Aboriginal people.

The most significant increase of 19% occurred from 2009 to 2011. In this period, enrolments increased from 7,581 to 9,030 thereby exceeding the *Training WA* target of 7600 course enrolments originally set for 2012³¹.

This increase is likely to be attributed to the implementation of strategies outlined in *Training together-working together: Aboriginal Workforce Development Strategy*. This initiative to support Aboriginal people to participate in employment consists of several key strategies, including the successful establishment of a metropolitan and four regional Aboriginal Workforce Development Centres.

Figure 18: Aboriginal participation in employment related training 2006 to 2011



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

Growth in higher level qualification enrolments

²⁹ The term Aboriginal is inclusive of Torres Strait Islander people

³⁰ Employment Based Training (EBT) combines practical experience at work with structured training. Apprentices enter into a formal training contract with an employer which leads to a national qualification and recognition as a tradesperson. Traineeships provide employment and structured training over a period of a year or more, on either a full-time or part-time basis. They lead to nationally recognised qualifications, generally in non-trades areas.

³¹ *Training WA* targets were published in 2009 using 2008 baseline data.

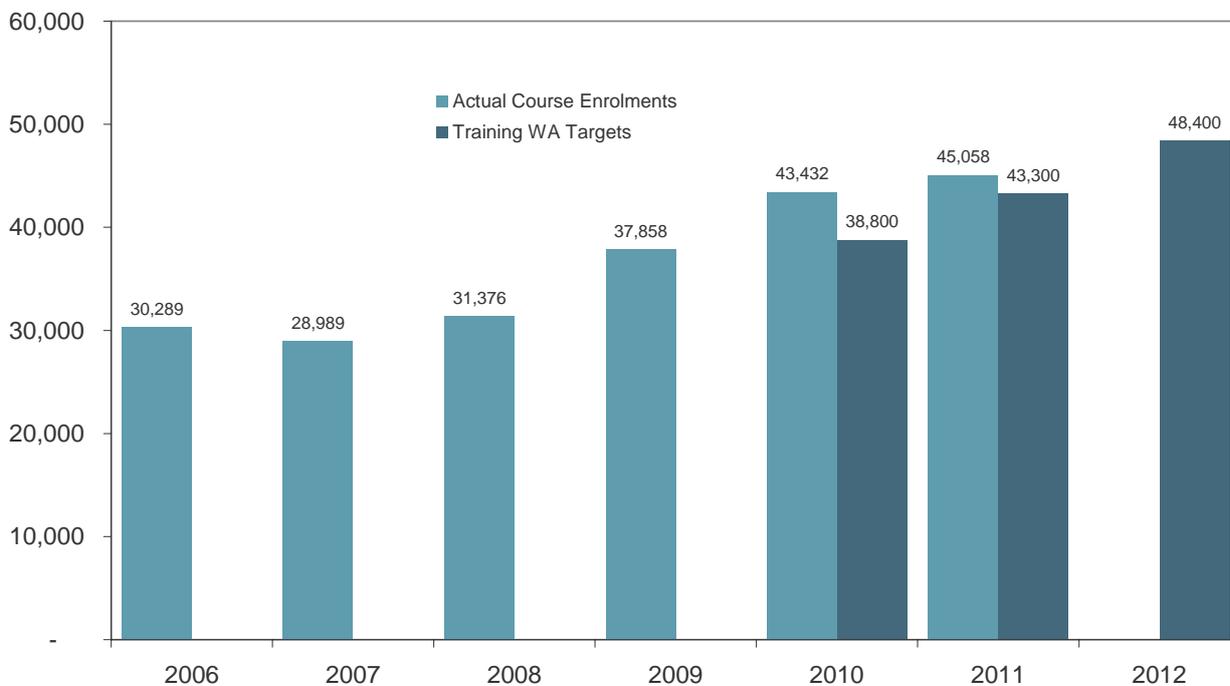


Another key deliverable of *Training WA* and of previous State Training Plans is increasing the delivery of higher level qualifications. Through the Productivity Places Program, additional higher level training places have been made available in order to achieve this priority.

Figure 19 highlights the State's progress in the delivery of qualifications at Certificate IV and above over a number of years. The graph illustrates that since 2006 there has been an overall increase of 49% in the number of course enrolments in higher level training.

Given this continued growth, it is likely that the State will achieve the *Training WA* target set for the delivery of higher level training and subsequently will maximise the State's ability to develop a highly skilled workforce.

Figure 19: Certificate IV and above training delivery 2006 to 2012



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

Increasing apprenticeships and traineeships

In order to maximise the opportunities that the State is currently experiencing in the resources sector and addressing the wider issue of skill shortages across a range of industry areas, it is imperative that Western Australia continues to target growth in the delivery of apprenticeships and traineeships.

While the Department gives apprenticeships and traineeships the highest priority in its purchasing of training, including guaranteeing funding for any apprenticeship place and eligible traineeships, ultimately the take-up of apprentices and trainees is dependent on employers.

The following table and Figures 20 and 21 highlight the number of apprentices and trainees 'in training', and the number of commencements and completions since 2003.

Table 3: Apprenticeships and traineeships participation 2003 to 2011

	Apprenticeships			Traineeships		
	In Training	Completed	Commenced	In Training	Completed	Commenced
2003	12,722	2,547	5,084	12,360	4,178	11,020
2004	14,307	2,590	6,119	12,515	6,315	13,007
2005	17,191	2,558	7,385	13,044	6,451	12,874
2006	19,958	3,019	8,480	12,558	7,264	13,145
2007	22,178	3,828	9,148	12,984	6,402	13,933
2008	22,177	4,596	8,537	15,072	7,019	16,628
2009	19,317	5,543	6,943	17,538	8,144	16,911
2010	18,941	6,497	10,170	20,012	8,704	18,812
2011	18,792	5,286	9,589	20,701	9,591	19,291

Source: Training Records System, contract snapshots end of January 2004-2012

As can be seen, the drop in commencements in apprenticeships in 2008 and 2009 in the immediate aftermath of the Global Financial Crisis has affected the overall numbers of apprentices in training, which is likely to flow through for another year or so. However, commencements in 2010 and 2011 indicate a recovery in this area which will increase the numbers of apprentices in training in the out years of this Plan. The number of apprenticeship completions has improved since 2008 which reflects the increased emphasis by employers and training providers alike to retain apprentices.

The drop in 2011 from 2010 in commencements and completions is likely to be a reflection of the downturn in domestic and commercial building construction activity in Western Australia during the last two years.

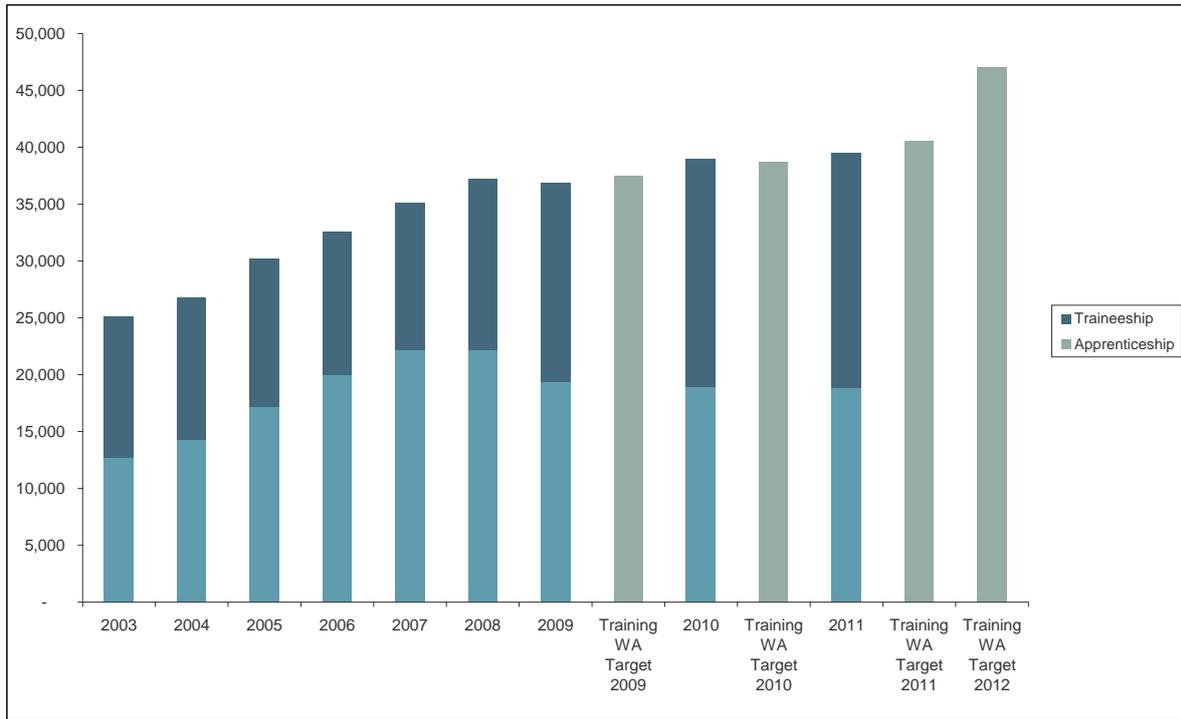
Traineeships is an area of continued growth in commencements, completions and overall "in training" activity. A number of employers from a diverse range of industries appear to be looking for flexible employment and training pathways to attract and retain workers, with the traineeship approach being seen as way to do this.

Figure 20 below illustrates that overall, there has been a steady increase in the number of apprentices and trainees 'in training' between 2003 and 2011, with an increase of 57.4% during this time.

Figure 21 illustrates that the number of apprenticeship and traineeship completions from 2003 to 2010 have increased steadily. However, it is also evident that for 2011 the number of completions for apprenticeships has decreased. This reduction in completions is likely to be a consequence of the apprenticeship suspensions and/or cancellations that had occurred four years prior when Western Australia was in the midst of the global economic crisis. It is expected that this is likely to affect the rate of completions for apprenticeships for the next couple of years to come.

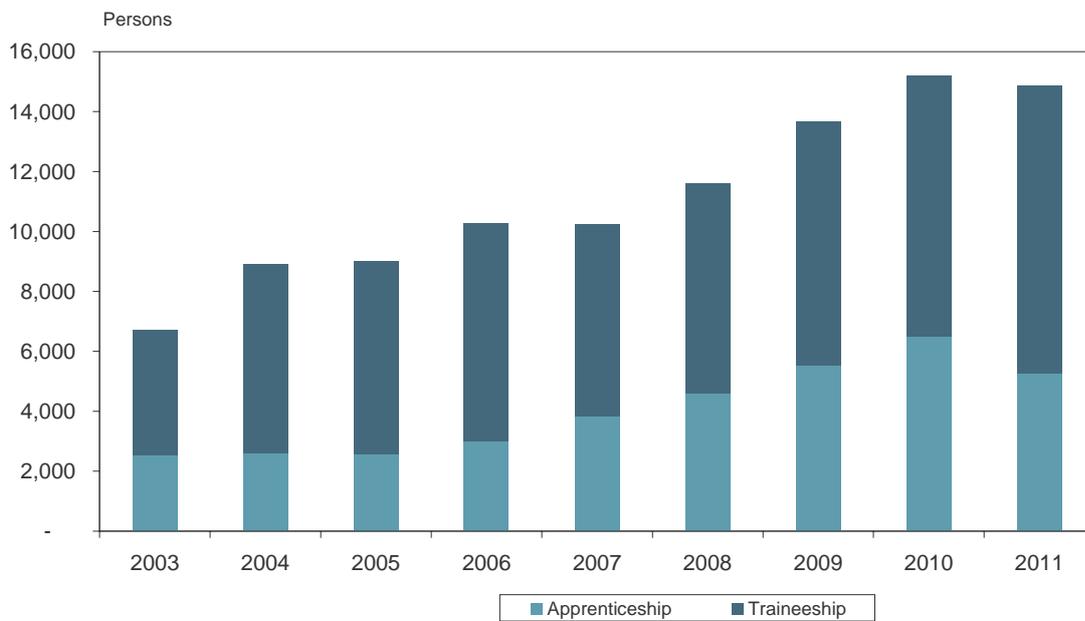


Figure 20 : Apprenticeship and traineeship 'in training'



Source: Training Records System, contract snapshots end of January 2004-2012

Figure 21: Apprenticeship and traineeship completions



Source: Training Records System, contract snapshots end of January 2004-2012

Progress against *Training WA: Planning for the future 2009-2018* Deliverables

Training WA is a targeted plan bringing together the training sector, industry and employers to maximise the training opportunities for all individuals and build a skilled workforce for Western Australia.

To ensure that the training system was responsive to the needs of the State, *Training WA* included a range of short, medium and long term strategies and a set of deliverables to be achieved by 2012. The table below provides a summary on the progress towards these deliverables.

Table 4: Summary of *Training WA* key deliverables and achievements

Key Deliverables	2008 Actuals	2009 Actuals	2010 Actuals	2011 Actuals	2012 Target
17,000 more Western Australian enrolments in high level training (certificate IV and above) will be achieved by 2012.	31,376	37,858	43,432	45,058	48,400
5 000 more apprentices and trainees will be in training by 2012.	37,281	36,197	39,023	39,493	47,100
30,000 Aboriginal people will be enrolled in employment related training from 2009 to 2012.	7,156	7,581	8,149	9,030	7,600
33 000 Western Australians will be enrolled in Certificate I foundation training during 2009 and 2010.	15,938	14,682	11,701	Target for 2010 16,700*	
450 courses at Certificate III and above will be available to regional Western Australians by 2012.	403	466	511	480	450
The proportion of training delivery allocated through competitive processes ³² will increase from 27% in 2008 to 50% in 2012.	27%	67%	72%	60%	50%
Graduate achievement of their main reason for study will be maintained at more than 85% each year to 2012. ³³	89%	87%	87%	88%	85%
Employer satisfaction with training will increase from 72% in 2007 to 85% by 2012. ³⁴	72%	87%	87%	85%	85%

*There are no actuals provided for 2011 as the deliverable period is for 2009 and 2010.

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

Note: Previous year Stream 3000 figures are affected by reclassification of courses to different streams of study.

As shown in Table 4, considerable progress has been made in achieving the majority of the *Training WA* targets. Five of the eight targets have been exceeded including Aboriginal employment related training which has seen a 26% increase since 2008 and a

³² Including user choice funding arrangements.

³³ Source: PES – Student Outcome Survey 2010

³⁴ Source: Survey of Employer Use and Views of the VET System



19% increase in the number of Certificate III and above courses available to Western Australians.

Whilst increasing the number of apprenticeships and traineeships continues to be challenging, it must be noted that achieving this target is largely dependant on the business activity of employers which varies according to economic cycles.



7. Recommended State Purchasing Priorities 2013-2016

Western Australian Training Priorities

Drawing on the trends from the economic and labour market data and forecasts, and aligning with current State and national VET priorities, the State Training Plan 2013-2016 has identified targeted training priorities to assist Western Australia in addressing its workforce requirements in the current economic environment.

These training priorities need to account for the larger projected growth in employment in industry sectors such as health care and social assistance, retail, construction, mining and professional, scientific and technical services and in the occupational categories of professionals and technical and trades workers.

More importantly, the Plan needs to focus on ensuring training is targeted at those skilled occupations which are critical to industry and that are predicted to be in short supply.

As outlined above, the State priority occupation list, resulting from a comprehensive analysis of labour market data and industry advice, provides the basis for determining which occupations, and therefore which qualifications, should be a priority. The occupations on the 2012 List is shown at Appendix A. The composition of occupations on this list is similar to the 2011 list, with 70% from the higher skilled categories of managers, professionals and technicians and trade workers. The list ranks occupations in three categories, being as State Priority 1, State Priority 2 and other Industry Training Council Priority.

The priority qualifications are reflected in a Priority Qualification List (PQL) which is directly mapped from the State priority occupation list.

In order to validate these occupational priorities and take into account the supply side, that is, the amount of training that is undertaken within occupational categories, the outputs from the WA Shares Model is overlaid on the State priority occupation list and the PQL.

The 2012 Shares Model³⁵ provides a calculation of the assessed need for training for the 2013-2016 period by occupational group as a share of the total need. This is compared to the total current delivery (2011) for each occupational group, again as a share of the total amount of delivery.

The model therefore shows the relative gaps between the need and effort for those occupational groups and provides a view of which occupational groups needs an increase in the training share. Additionally, it shows which groups could have a decrease in training delivery (based on the assumption that there is a finite amount of funding). The outcome of the 2012 Shares Model is shown in Figure 14 on page 45.

In past State Training Plans, the purchasing priorities have been primarily determined using the State priority occupation list and the WA Shares Model, within the context of State and national VET policies.

³⁵ The outcome of the 2012 Shares Model is shown in Figure 14 on page 45 of this Plan



When comparing the 2011 and 2012 Shares Models, the gap between need and delivery has reduced, (that is, improved) in all but one of the top priority occupational groups that were identified as purchasing priorities in the previous Plan.

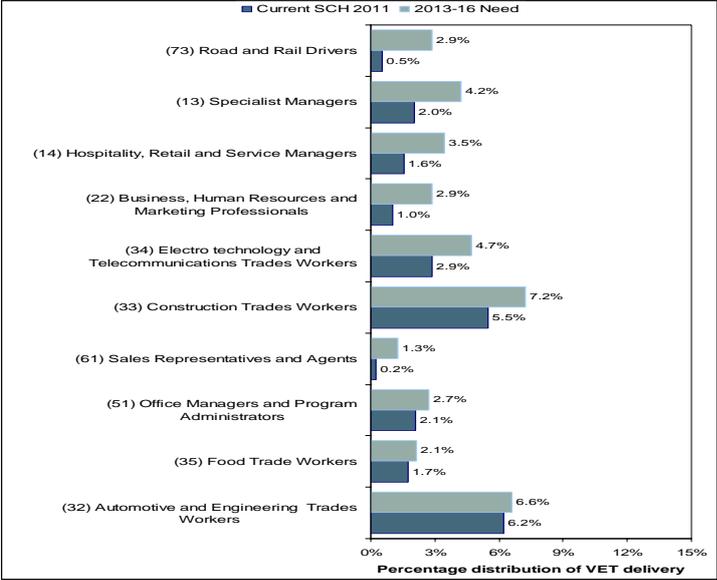
These include automotive and engineering design; engineering, science and transport professionals; educational professionals; specialist managers; machine and stationary plant operators; and electro technology and telecommunication trade workers.

The one occupation where the gap between need and training effort has increased is construction trade workers, notwithstanding the growth in training delivery in this area during 2011. A possible explanation for this is the continued expansion of the pipeline of major resource and infrastructure projects.

The evident closing of the gap on the above priority occupational groups is supported generally by the increase in the amount of training taken up in many of these areas as shown in Figure 14 on page 45.

For the coming period of 2013-2016, those occupational groups requiring the largest increase in training effort is shown below in Figure 22.

Figure 22: WA Shares Model – Occupational groups requiring largest increase in training effort



The occupational mix of groups above is similar to the 2011 Shares model. These include specialist managers; hospitality, retail service managers; business, human resource and marketing professionals; electrotechnology and telecommunications trade workers; road and rail drivers; automotive and engineering trades workers; and protective service workers; and sales representatives and agents.

Those occupations of scale that are now included in the above graph in 2012 are construction trade workers; office managers and program administrator; and food trade workers.

In terms of overall share, those occupations that have the largest need are:

- 
- Construction trades workers;
 - Automotive and engineering trades workers;
 - Electrotechnology and telecommunications trade workers; and
 - Specialist managers.

The purchasing priorities recommended in the State Training Plan 2013-2016 have been based on a detailed analysis of each occupational group in the Shares Model. This has included taking into account their ranking in the Shares Model, which is matched against where each occupation sits on the State priority occupation list (i.e. State Priority 1 or 2, or if they are not on the list) and what qualifications are being delivered.

Further to this, evidence from the Training Council's Industry Workforce Development Plans and the Department's work relating to Aboriginal workforce development and training (*Training Together – working together*), Skilling WA and regional workforce development plans all indicate the need for continued, if not increased emphasis in training programs which promote greater participation in training and the workforce by under-represented groups including:

- people with disabilities;
- people from culturally and linguistically diverse (CALD) backgrounds (particularly those from new and emerging communities);
- Aboriginal Western Australians;
- residents in regional and remote areas;
- women with dependents;
- disengaged youth; and
- mature aged workers.

This also includes improved language, literacy and numeracy levels for individuals.

Recommended Purchasing Priorities

The following recommended purchasing priorities have been based on:

- economic and labour market analysis;
- the policy parameters set by the State and Commonwealth Governments;
- the advice provided by industry, particularly through the Training Council's Industry Workforce Development Plans;
- the work of the Department on Aboriginal workforce development and training and regional workforce development planning.

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

This does not mean that occupations that are not listed below in the Purchasing Priorities will not have their training needs met. Indeed, as can be demonstrated by delivery patterns in the past, the provision of training is largely demand driven, with the Board 'shaping' priorities in State Training Plans to ensure that those needs which are critical to the State and its industries are addressed.

The objective of this Plan is to continue to apply the '80/20 rule' whereby a large part of the training needs are addressed by meeting the demand of the consumer (that is,



students), with a focus on addressing critical areas of need through establishing purchasing priorities using the above methodology.

The Purchasing Priorities set out below are similar the 2012-2015 Plan approved in 2011 - this should not be surprising as the current economic and labour outlook, government policy settings and the occupational priorities as detailed in the 2012 SPOL and Shares Model are not markedly different to last year.

State Training Plan 2013-2016 Purchasing Priorities

Industry targeted training:

- Increased growth in employment based training – apprenticeships and traineeships;
- Priority institutional training delivery; and
- Building high level skills.

Greater training and workforce opportunities for all Western Australians:

- Increased training participation and improved language, literacy and numeracy levels.

Industry targeted training

Growth in employment based training – apprenticeships and traineeships

Whilst considerable achievements have been made in growing apprenticeships and traineeships through preceding State Training Plans, further growth is required in this area.

A strong focus in the delivery of apprenticeships and traineeships will continue and will be targeted according to two levels:

State Training Plan Priority 1

The following occupational areas are considered critical and require the highest priority in the delivery of training:

- Electro technology and telecommunications trades workers;
- Construction and trade workers; and
- Road and rail drivers (traineeships).

State Training Plan Priority 2

- Food trade workers; and
- Automotive and engineering trade workers.

Priority be given to all other occupations with an apprenticeship and traineeship pathway.



Priority institutional training delivery

To address the need for skilled labour in high demand occupations, priority is established at two levels:

State Training Plan Priority 1

Based on the outcomes of the Shares Model and the State priority occupation list, the highest priority of growth is recommended as listed below:

- Specialist managers;
- Hospitality, retail and service managers;
- Business, human resources and marketing professionals;
- Electro technology and telecommunications trades workers; and
- Construction trades workers.

State Training Plan Priority 2

Training in these occupational areas should either be maintained or increased and include:

- Sales representatives and agents;
- Office managers and program administrators;
- Food trade workers;
- Automotive and engineering trade workers; and
- Educational professionals.

Building high level skills

Increased training effort in the delivery of higher vocational levels is also needed to meet the needs of industry.

In order to meet the long term targets of State and national commitments, it is recommended that additional weighting continues to be given to those occupations that have higher level skill requirements.

Greater training and workforce opportunities for all Western Australians

Increasing training participation and improved language, literacy and numeracy levels

While Western Australia is experiencing high workforce participation rates currently, engaging those people who are unemployed or not fully participating in the workforce remains a priority for the State.

It is therefore recommended that training and workforce opportunities are maximised for all Western Australians, in particular those from the following diverse backgrounds:

- people with disabilities;
- people from culturally and linguistically diverse (CALD) backgrounds (particularly those from new and emerging communities);
- Aboriginal Western Australians;
- residents in regional and remote areas;
- women with dependents;

- 
- disengaged youth; and
 - mature aged workers.

This includes training which prepares, bridges and pathways people directly into vocational training, or addresses fundamental language, literacy and numeracy skills, which are critical for all industry sectors and for those people experiencing disadvantage.

In addition to the above, dual-enrolment courses³⁶ such as the Course in Applied Vocational Study Skills (CAVSS) and the Course in Underpinning Skills for Industry Qualifications (USIQ) are important to improve retention and completion across all qualification levels.

Purchasing

It is recommended that the above purchasing priorities are reflected in the Delivery and Performance Agreements for State Training Providers and in tender documents for training programs accessed by private training providers and State Training Providers.

³⁶ co-delivered with a vocational qualification



8. Procurement for the State Training Plan

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 organisations. 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*; the State and Commonwealth priorities, including the National Agreement for Skills and Workforce Development; and the various National Partnership Agreements.

In the case of State Training Providers (STP's), this is done through Delivery and Performance Agreements process. Delivery and Performance agreements contain negotiated training delivery profiles which are aligned to the Employment Based Training and Institutional skills shortage priorities identified in the State Training Plan. The profiles also identify General Institutional delivery targets that among other things support skills pathways and training delivery for targeted access groups.

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. 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.

Tools to describe the targeted procurement include the State Priority Occupation List which highlights those key occupations critical for the future and is embedded in the State Training Plan. An ongoing process of mapping the priority occupations to qualifications has been developed and is utilised to produce lists of priority qualifications used in the procurement of training in programs to address critical skills.

Specific programs are tailored to support the priorities of the State Training Plan. The procurement process is designed and managed to:

- Provide additional training places in occupations critical to the economic prosperity of the State through a number of programs including apprenticeships, traineeships and the workforce participation programs.

- 
- Increase Aboriginal participation in the workforce, to close the gap in the employment and training outcomes for Aboriginal people, as described in *Training Together – Working together: Aboriginal Workforce Development* strategy; through a number of programs that either: prioritise Aboriginal training places; provide additional support to Aboriginal participants; or develop support infrastructure to encourage participation.

These programs include: the Equity Program, Aboriginal School-based Traineeships; Aboriginal Education Training and Employment Officer Program; the Ngaanyatjarra Lands Training and Workforce Development project and the development of the Aboriginal Workforce Development Centres.

- Increase participation in the workforce from groups under represented in the workforce through such programs as the Equity Program; and the At Risk School Students Program; and various initiatives under the Youth Attainment and Transitions Program.
- Increase the numbers of apprenticeships and traineeships through the competitive tendering process and initiatives to increase the engagement and retention of trainees and apprentices.

Procurement processes are designed to ensure that targeted purchasing of training is strongly aligned with the State Training Plan.

9. Appendices

9.1. Appendix A – State Priority Occupation List 2012 – Guidelines and Methodology

Introduction

This paper is an information paper and details the process undertaken in the creation of the *State priority occupation list (SPOL)*.

Described below are the actions undertaken by the Department of Training and Workforce Development throughout the first half of 2012 in order to produce the list. Included are detailed descriptions of:

- the statistical methodologies used to determine the initial rankings of 751 occupations in Western Australia;
- the nature of consultations involved with industry — via the State’s training council network;
- the business rules employed in order to determine the priority weightings for the final 179 state priority occupations and 160 industry training council-identified priority occupations; and
- details on further consultations and actions to be taken by the Department in relation to the State priority occupation list.

Background

The SPOL is an annually-produced list of jobs that are in high demand or considered industry-critical in Western Australia. The list informs workforce development planning, the Western Australian skilled migration occupation list (WASMOL) and the State Training Plan.

Underlying principle

After detailed research and consultations with Training Councils regarding various methodologies and principles underpinning priority occupation lists, the Department settled on the key principle underpinning the Skills Australia Skilled Occupations List (SOL). This principle basically defines a priority occupation as 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.’

Criteria for inclusion on the State priority occupation list

In practice, this means the following criteria are used in determining the occupations to be included on 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. This means that the occupation must have a valid ABS Australia and New Zealand Standard Classification of Occupations (ANZSCO) code 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 will be excluded from the list, for example labourers, process workers, and kitchen hands.

c) Clear pathways

The occupation should have clear education and/or training pathways or qualifications, where the skills learnt clearly match the requirements of the occupation. Where an occupation does not have any educational or VET qualifications associated with it, it will be excluded from the list. Examples of these include judges and defence force personnel.

d) Occupational impact

An occupation will be considered if any disruption in its supply would result in significant impacts to its industry or the State economy, for example higher unemployment or slower growth due to supply bottlenecks.

Methodology

The Australian Bureau of Statistics' ANZSCO coding structure is used for the identification and analysis of occupations for inclusion in the State priority occupation list. ANZSCO includes 1342 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 specific 'real' occupations;
- required a lower skill level, not requiring any post-school qualifications or experience; or
- did not have clearly articulated VET or higher education pathways.

This left a total of 751 occupations deemed of sufficient relevance or importance to the Western Australian economy and therefore for potential inclusion on the SPOL.

Occupational ranking

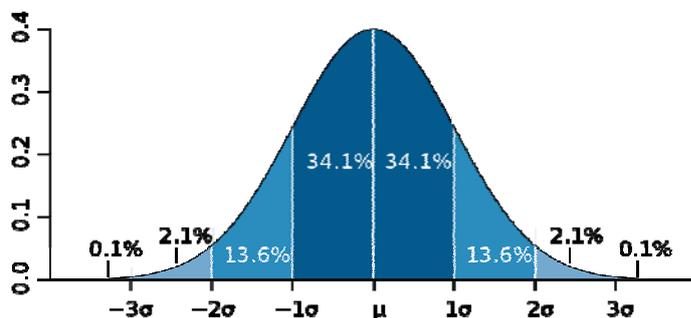
There are six primary indicators used to create the SPOL:

- employment level;
- labour demand (or oversupply), which is calculated by combining employment growth and net replacement rate figures from Monash University;
- average age of employed;
- average weekly ordinary time wages for full time adult employees; and
- average weekly ordinary time wages growth.

The overall standard deviation of each occupation against each of the above indicators is then calculated. Standard deviation is the most commonly-used measure of the spread of values in a distribution and refers to the average amount by which scores in a distribution differ from the mean.

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 1483 in 2006, which is a value greater than the mean employment level for all occupations (726). Using traditional standard deviation calculations, this value represents 0.4 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 the 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 applied to each indicator. As can be seen, the bulk of the weighting (70%) are applied to the employment-related indicators.

This recognises the primary purpose of the *SPOL* as being employment-related.

Table 1: Indicator weightings

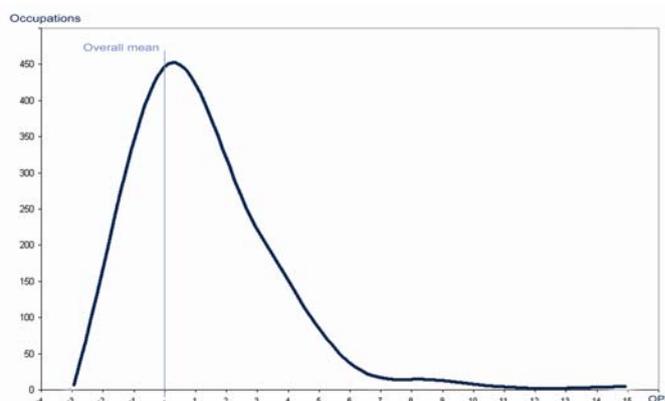
Indicator	Weighting
Employment	40.0%
Labour demand (or oversupply)	30.0%
Average weekly wage	10.0%
Average weekly wage	5.0%

growth	
Age	15.0%
Total	100.0%

An additional weighting is applied to each occupation to reflect that occupation’s lead time. That is, 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.

The application of these weightings has the effect of skewing the overall distribution curve for the OPI, as illustrated in the Figure 2 below:

Figure 2: The OPI weighted distribution curve



These standard deviation calculations are repeated for all 751 ANZSCO occupations for each of the six indicators. The weighted standard deviation factors for each indicator are summed and then multiplied by the lead time for each occupation. The resulting set of values for all occupations is deemed the Occupational Priority Index (OPI).

The level of an occupation’s OPI score will determine its rank against each of the 751 occupations, basically the higher the OPI score, the higher the occupation’s ranking. This ranked list is then divided into ten parts, called deciles.

Each decile represents approximately ten per cent of all ANZSCO occupations in Western Australia. Decile 1 reflects (statistically) the top ten per cent of occupations (in terms of employment, employment growth etc.), while decile 10 reflects the bottom 10 per cent.

An example of the calculation of the OPI is included in Attachment 3.

Occupational flags

In addition to the statistical analysis outlined above, occupations are flagged according to a number of other factors used in the consideration of priority, including whether it:

- has VET qualification(s) linked to it;

- has higher education qualification(s) linked to it;
- was included on the State priority occupation list in 2010 and/or 2011;
- is identified by the relevant training council in their workforce development plan in November 2011.
- is identified by the Department of Education, Employment and Workplace Relations as an occupation in demand; and
- is included on the Commonwealth Government's Skilled Occupation List (persons applying for a general skilled migration visa must nominate an occupation on this list).

Training council consultation

A number of significant developments were achieved with the production of the SPOL in 2011. Not the least of these was the establishment of a relational database system to store data and qualitative information relating to individual occupations, and the use of Microsoft Access by the Department and Training Councils to enter and retrieve that information. This change allowed far greater rigour in analysing both quantitative and qualitative data relating to over 750 occupations and 3,500-plus qualifications and courses.

However, undertaking the analysis in this way highlighted a number of issues with Departmental systems and operational policies. These were mostly technical in nature and required the redevelopment and implementation of relatively new and undeveloped systems in order to produce last year's SPOL.

In 2012, the focus of Training Council consultations was on the collection of qualitative information from Training Councils, in greater depth and with a greater focus on occupations rather than qualifications in the first instance.

This was achieved through the use of a questionnaire. Training Councils were provided with seven explicit questions about each of 751 ANZSCO occupations. No specific data or decile information was included with the questionnaire. Training Councils were asked to provide information based on their own understanding and experience of their industry areas. The primary source of information was expected to be their industry workforce development plans, although other sources of information could be put forward.

Training Councils were asked:

- to identify which occupations were included in their latest Industry Workforce Development Plan;
- whether the occupation could be considered of the highest priority, or a priority, and why;
- whether the occupation was suitable for inclusion on the WASMOL and why;
- whether the issues associated with the occupation were of a short, medium or long term nature;
- whether the occupation has higher education or VET pathways;
- if they were aware of any specific regional issues relating to the occupation; and
- whether they had any additional comments or evidence to provide.



Information could be provided by *exception* – that is, they were not required to answer questions for all occupations, only those they considered a priority. However, in **all** cases where Training Councils made claims relating to particular occupations and their relative priority, they were required to provide explanatory notes to back such claims, and that these notes should include relevant citations of appropriate sources. If no evidence was provided, Training Councils were advised that the occupation could not be considered for inclusion on the SPOL.

Training Councils were also advised that the Department intended to publish all available information relating to each occupation in 2012. Therefore any evidence provided to the Department were required to be of publication quality.

A copy of the questionnaire is provided in Attachment 4.

Consultation Process

All ten Training Councils were briefed on the review process and provided with the questionnaire.

Departmental staff then undertook an intensive analysis of just under 1,200 responses provided against approximately 380 of the 751 occupations. This analysis also incorporated the statistical review of the OPI, as described above.

As a result of this analysis, it was deemed that a *prima facie* case was established for 332 occupations to be included on the list. Approximately 50 occupations that had been put forward by Training Councils were not considered to have sufficient evidence to be considered for inclusion at that stage.

Consequently, the results of the analysis were provided back to the Training Councils for their information and consideration. They were given a further time to provide any additional evidence relating to the abovementioned 50 occupations. A number of Training Councils provided additional responses to the Department and the further evidence provided allowed for the addition of a further seven occupations to the list.

Business rules for the prioritisation of the final list

The SPOL includes a two-tier structure indicating occupational priority. The terminology gives a clear 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.

State Priority 1

An occupation is deemed to be a State Priority 1 if:

- 
- appropriate evidence had been provided by a training council in identifying that occupation as a critical occupation of the highest priority;
 - it has an OPI rating greater than 0, or is ranked in the top 50% of occupations in the State; and
 - is a skilled occupation.

There are 80 occupations listed in the OPI which are deemed State Priority 1.

State Priority 2

An occupation is deemed to be a State Priority 2 if:

- appropriate evidence had been provided by a training council in identifying that occupation as a critical occupation which is a priority;
- it has an OPI rating greater than 0, or is ranked in the top 50% of occupations in the State; and
- it is a skilled occupation.

In all, there are 99 State Priority 2 occupations, making 179 State priority occupations overall. These are provided in Attachment 1.

Industry training council-identified priority

Additional to the SPOL, there are a set of industry-training council-identified priority occupations. These are occupations that have been identified by Training Councils in their industry workforce development plans as critical to their particular industry, but are not State priority occupations.

While an occupation may be identified as critical within its own industry area, if it does not meet the criteria as specified above, it will not be considered for inclusion as a State Priority 1 or State Priority 2 occupation.

There are 160 industry training council-identified priority occupations, and these are provided in Attachment 2.

Outcomes – further developments

Western Australian skilled migration occupation list (WASMOL)

In 2012, the questionnaire sent to Training Councils included specific questions relating to the suitability of particular occupations for migration solutions generally and the WASMOL more particularly.

The quality of responses in this regard has been for the most part disappointing and improvement in this area will be a focus of development in 2013. However, where suitable responses have been received, it has allowed greater focus in the identification of occupations which may be considered for inclusion on WASMOL.

For example, whereas last year, only State priority occupations were considered for inclusion on the WASMOL, in 2012 industry training council-identified priority occupations could be considered for inclusion on the WASMOL where a specific



case has been made by the industry for its inclusion, and appropriate evidence has been provided. Alternately, State priority occupations may be considered unsuitable for inclusion, despite being a higher priority, because of certain factors relating to that specific occupation in a Western Australian context.

The Department is currently awaiting confirmation from the Commonwealth Minister for Immigration and Citizenship regarding the Consolidated sponsored occupation list (CSOL). This list consolidates a number of separate lists relating to Section 457, employer-sponsored and State-sponsored visas. For 2012-13, only occupations on the CSOL can be considered for inclusion on any State-sponsored lists.

Once the Department has received the final CSOL, the WASMOL can be finalised.

Priority qualifications list (PQL) 2013

The Training Councils were sent a second questionnaire dealing specifically with qualifications and how they relate to ANZSCO occupations. This work continues a process begun during the 2011 SPOL review – in relation to some of the technical issues mentioned in Section 4 above.

The questionnaire focused on certain technical aspects relating to ANZSCO coding, the treatment of multiple occupational outcomes from specific courses, training council coverage of specific qualifications, and the currency of qualifications listed on the database.

Training Councils provided the Department with completed questionnaires and the Department is currently analysing these returns. The final result of a verifiable data set will be used to formulate the PQL for 2013.

In the meantime, the Department will continue to work with the industry Training Councils to monitor and assess the relative priorities for training, including assessment of the current supply of training in these occupations, as further evidence of need arises.

9.1.1. Attachment 1 – State priority occupation list 2012

State Priority 1

ANZSCO	Occupation
233913	Biomedical engineer
351211	Butcher or smallgoods maker
394111	Cabinetmaker
253512	Cardiothoracic surgeon
351311	Chef
233111	Chemical engineer
399211	Chemical plant operator
234211	Chemist
421111	Child care worker
253313	Clinical haematologist
234311	Conservation officer
411712	Disabilities services officer
451211	Driving instructor
233311	Electrical engineer
312311	Electrical engineering draftsman
312312	Electrical engineering technician
341111	Electrician (general)
312411	Electronic engineering draftsman
312412	Electronic engineering technician
233411	Electronics engineer
233999	Engineering professionals not elsewhere classified
411411	Enrolled nurse
441212	Fire fighter
323211	Fitter ((general) - plant mechanic)
323212	Fitter and turner
399212	Gas or petroleum operator
253316	Gastroenterologist
253111	General medical practitioner
234411	Geologist
391111	Hairdresser
135112	ICT project manager
272412	Interpreter
312911	Maintenance planner
311312	Meat inspector
233512	Mechanical engineer
234611	Medical laboratory scientist
253999	Medical practitioners not elsewhere classified
322311	Metal fabricator
323299	Metal fitters and machinists not elsewhere classified
323214	Metal machinist (first class)
234912	Metallurgist

ANZSCO	Occupation
254111	Midwife
312913	Mine deputy
233611	Mining engineer (excluding petroleum)
321211	Motor mechanic (general)
253318	Neurologist
253513	Neurosurgeon
251312	Occupational health and safety adviser
253914	Ophthalmologist
253516	Paediatric surgeon
324111	Panelbeater
234314	Park ranger
233612	Petroleum engineer
241213	Primary school teacher
133513	Production manager (mining)
233513	Production or plant engineer
254412	Registered nurse (aged care)
254413	Registered nurse (child and family health)
254415	Registered nurse (critical care and emergency)
254421	Registered nurse (medical practice)
254418	Registered nurse (medical)
254422	Registered nurse (mental health)
254423	Registered nurse (perioperative)
254424	Registered nurse (surgical)
253112	Resident medical officer
142111	Retail manager (general)
253323	Rheumatologist
253311	Specialist physician (general medicine)
253399	Specialist physicians not elsewhere classified
133611	Supply and distribution manager
253511	Surgeon (general)
342414	Telecommunications technician
272413	Translator
149413	Transport company manager
233215	Transport engineer
253521	Vascular surgeon
234711	Veterinarian
242211	Vocational education teacher
322313	Welder (first class)
272613	Welfare worker

State Priority 2

ANZSCO	Occupation
141999	Accommodation and hospitality managers not elsewhere classified
221111	Accountant (general)
231111	Aeroplane pilot
342111	Air conditioning and refrigeration mechanic
323113	Aircraft maintenance engineer (structures)
253211	Anaesthetist
232111	Architect
312111	Architectural draftsman
139911	Arts administrator or manager
399111	Boat builder and repairer
331111	Bricklayer
312112	Building associate
312113	Building inspector
141111	Cafe or restaurant manager
141211	Caravan park and camping ground manager
253312	Cardiologist
331212	Carpenter
331211	Carpenter and joiner
134111	Child care centre manager
233211	Civil engineer
312211	Civil engineering draftsman
312212	Civil engineering technician
272311	Clinical psychologist
411711	Community worker
149311	Conference and event organiser
312114	Construction estimator
133111	Construction project manager
511111	Contract administrator
351411	Cook
132111	Corporate services manager
253911	Dermatologist
253917	Diagnostic and interventional radiologist
241111	Early childhood (pre-primary school) teacher
342313	Electronic equipment trades worker
253912	Emergency medicine specialist
133211	Engineering manager
234312	Environmental consultant
234313	Environmental research scientist
333211	Fibrous plasterer
132211	Finance manager
222311	Financial investment adviser
222312	Financial investment manager
323213	Fitter-welder
332111	Floor finisher

ANZSCO	Occupation
231113	Flying instructor
224212	Gallery or museum curator
234412	Geophysicist
512211	Health practice manager
231114	Helicopter pilot
141311	Hotel or motel manager
223111	Human resource adviser
132311	Human resource manager
222113	Insurance broker
253317	Intensive care specialist
331213	Joiner
139913	Laboratory manager
233112	Materials engineer
312511	Mechanical engineering draftsman
134211	Medical administrator
253314	Medical oncologist
312912	Metallurgical or materials technician
121411	Mixed crop and livestock farmer
254211	Nurse educator
254311	Nurse manager
253913	Obstetrician and gynaecologist
253514	Orthopaedic surgeon
253321	Paediatrician
332211	Painting trades worker
253915	Pathologist
334111	Plumber (general)
511112	Program or project administrator
133112	Project builder
253411	Psychiatrist
233213	Quantity surveyor
612115	Real estate representative
254414	Registered nurse (community health)
254416	Registered nurse (developmental disability)
254417	Registered nurse (disability and rehabilitation)
231212	Ship's engineer
231213	Ship's master
231214	Ship's officer
272511	Social worker
333212	Solid plasterer
241511	Special needs teacher
149113	Sports centre manager
331112	Stonemason
232212	Surveyor
733114	Tanker driver
253324	Thoracic medicine specialist
323412	Toolmaker



ANZSCO	Occupation
712918	Train controller
731311	Train driver
223311	Training and development professional
733111	Truck driver (general)
253518	Urologist
324311	Vehicle painter
333411	Wall and floor tiler
323316	Watch and clock maker and repairer
399917	Wool classer

9.1.2. Attachment 2 – Industry training council-identified priorities 2012

ANZSCO	Occupation
422111	Aboriginal and Torres Strait Islander education worker
411511	Aboriginal and Torres Strait Islander health worker
423111	Aged or disabled carer
721111	Agricultural and horticultural mobile plant operator
311111	Agricultural technician
231112	Air traffic controller
323111	Aircraft maintenance engineer (avionics)
323112	Aircraft maintenance engineer (mechanical)
411111	Ambulance officer
311211	Anaesthetic technician
731199	Automobile drivers not elsewhere classified
321111	Automotive electrician
351111	Baker
431111	Bar attendant
551211	Bookkeeper
731211	Bus driver
399512	Camera operator (film, television or video)
393111	Canvas goods fabricator
711911	Chemical production machine operator
311411	Chemistry technician
423411	Child or youth residential care assistant
393212	Clothing patternmaker
811211	Commercial cleaner
821211	Concreter
821711	Construction rigger
899211	Deck hand
732111	Delivery driver
423211	Dental assistant
252311	Dental specialist
411213	Dental technician
321212	Diesel motor mechanic
334113	Drainer
712211	Driller
272112	Drug and alcohol counsellor
811512	Drycleaner

ANZSCO	Occupation
721211	Earthmoving plant operator (general)
342211	Electrical linesworker
899914	Electrical or telecommunications trades assistant
341112	Electrician (special class)
342314	Electronic instrument trades worker (general)
342315	Electronic instrument trades worker (special class)
441211	Emergency service worker
253315	Endocrinologist
323411	Engineering patternmaker
712311	Engineering production worker
233915	Environmental engineer
234399	Environmental scientists not elsewhere classified
721214	Excavator operator
411713	Family support worker
322113	Farrier
311311	Fisheries officer
899212	Fishing hand
149112	Fitness centre manager
452111	Fitness instructor
234212	Food technologist
841311	Forestry worker
721311	Forklift driver
451399	Funeral workers not elsewhere classified
394211	Furniture finisher
733113	Furniture removalist
334114	Gasfitter
233212	Geotechnical engineer
711113	Glass production machine operator
333111	Glazier
451812	Hair or beauty salon assistant
142114	Hair or beauty salon manager
423311	Hospital orderly
542113	Hotel or motel receptionist
431411	Hotel service manager
599411	Human resource clerk
135199	ICT managers not elsewhere classified
262112	ICT security specialist

ANZSCO	Occupation
591212	Import-export clerk
611211	Insurance agent
552312	Insurance consultant
422112	Integration aide
411112	Intensive care ambulance paramedic
452413	Jockey
232112	Landscape architect
141411	Licensed club manager
452414	Lifeguard
721912	Linemarker
323313	Locksmith
721112	Logging plant operator
231211	Master fisher
831211	Meat boner and slicer
312512	Mechanical engineering technician
251212	Medical radiation therapist
542114	Medical receptionist
311299	Medical technicians not elsewhere classified
712212	Miner
721999	Mobile plant operators not elsewhere classified
321213	Motorcycle mechanic
211299	Music professionals not elsewhere classified
254411	Nurse practitioner
423312	Nursing support worker
252411	Occupational therapist
311214	Operating theatre technician
251912	Orthotist or prosthetist
252112	Osteopath
421114	Out of school hours care worker
452215	Outdoor adventure instructor
351112	Pastrycook
423313	Personal care assistant
361113	Pet groomer
621411	Pharmacy sales assistant
311215	Pharmacy technician
234914	Physicist
711514	Plastics production machine operator (general)
399916	Plastics technician
121321	Poultry farmer
322312	Pressure welder
392111	Print finisher

ANZSCO	Occupation
442111	Prison officer
591112	Production clerk
272399	Psychologists not elsewhere classified
721914	Railway track plant operator
821611	Railway track worker
272114	Rehabilitation counsellor
711515	Reinforced plastic and composite production worker
411715	Residential care officer
621511	Retail supervisor
334115	Roof plumber
333311	Roof tiler
711516	Rubber production machine operator
621111	Sales assistant (general)
821712	Scaffolder
442217	Security officer
711611	Sewing machinist
361211	Shearer
322211	Sheetmetal trades worker
231215	Ship's surveyor
399112	Shipwright
712213	Shot firer
831212	Slaughterer
321214	Small engine mechanic
392312	Small offset printer
251214	Sonographer
841516	Stablehand
711914	Sterilisation technician
591115	Stock clerk
741111	Storeperson
731112	Taxi driver
422116	Teachers' aide
342212	Technical cable joiner
342412	Telecommunications cable joiner
342413	Telecommunications linesworker
423314	Therapy aide
451412	Tour guide
142116	Travel agency manager
232611	Urban and regional planner
324211	Vehicle body builder
324212	Vehicle trimmer
361311	Veterinary nurse
431511	Waiter
591116	Warehouse administrator



ANZSCO	Occupation
712921	Waste water or water plant operator
394213	Wood machinist
841517	Wool handler
411716	Youth worker

9.1.3. Attachment 3 – Example of calculations of the Occupational priority index (OPI)

ANZSCO	Occupation	Standard Deviation Factors							Lead time	OPI
		Empl	Labor demand/over supply	Avg wge	Wge grth	Age	Total			
111111	Chief executive or managing director	0.8	0.6	0.2	-0.1	0.2	1.7	5	8.6	
111211	Corporate general manager	0.6	0.4	0.2	-0.1	0.1	1.3	5	6.5	
111212	Defence force senior officer	-0.1	-0.1	0.2	-0.1	0.0	-0.1	5	-0.3	
111311	Local government legislator	-0.1	-0.1	0.2	-0.1	0.3	0.2	5	1.2	
111312	Member of parliament	-0.1	-0.1	0.2	-0.1	0.2	0.2	5	0.9	
111399	Legislators not elsewhere classified	-0.1	-0.1	0.2	-0.1	0.5	0.4	5	2.0	
121111	Aquaculture farmer	-0.1	-0.1	0.0	-0.1	0.1	-0.2	5	-1.0	
121211	Cotton grower	-0.4	-0.3	-0.1	-0.1	-0.2	-1.0	5	-5.0	
121212	Flower grower	-0.1	-0.1	0.0	-0.1	0.2	-0.1	5	-0.3	
121213	Fruit or nut grower	0.0	-0.1	0.0	-0.1	0.2	0.1	5	0.5	
121214	Grain, oilseed or pasture grower	0.1	-0.1	0.0	-0.1	0.2	0.1	5	0.7	
121215	Grape grower	0.0	-0.1	0.0	-0.1	0.2	0.0	5	0.2	
121216	Mixed crop farmer	-0.1	-0.1	0.0	-0.1	0.1	-0.2	5	-0.9	
121217	Sugar cane grower	-0.1	-0.1	0.0	-0.1	-0.1	-0.4	5	-2.2	
121218	Turf grower	-0.1	-0.1	0.0	-0.1	0.0	-0.3	5	-1.4	
121221	Vegetable grower	0.0	-0.1	0.0	-0.1	0.1	0.0	5	-0.2	
121299	Crop farmers not elsewhere classified	-0.1	-0.1	0.0	-0.1	0.1	-0.2	5	-0.8	
121311	Apiarist	-0.1	-0.1	0.0	-0.1	0.2	-0.1	5	-0.3	
121312	Beef cattle farmer	0.2	-0.1	0.0	-0.1	0.3	0.3	5	1.6	
121313	Dairy cattle farmer	0.0	-0.1	0.0	-0.1	0.2	0.0	5	-0.2	
121314	Deer farmer	-0.1	-0.1	0.0	-0.1	0.5	0.2	5	0.9	
121315	Goat farmer	-0.1	-0.1	0.0	-0.1	0.3	0.0	5	-0.2	
121316	Horse breeder	-0.1	-0.1	0.0	-0.1	0.1	-0.2	5	-0.8	
121317	Mixed livestock farmer	0.0	-0.1	0.0	-0.1	0.3	0.1	5	0.7	
121318	Pig farmer	-0.1	-0.1	0.0	-0.1	0.1	-0.2	5	-0.8	
121321	Poultry farmer	-0.1	-0.1	0.0	-0.1	0.2	-0.1	5	-0.4	
121322	Sheep farmer	0.2	-0.1	0.0	-0.1	0.3	0.3	5	1.4	
121399	Livestock farmers not elsewhere classified	-0.1	-0.1	0.0	-0.1	0.3	0.0	5	-0.1	

9.1.4. Attachment 4 – State priority occupation List – Survey questions for Training Councils February 2012

1. Is this occupation identified in your Industry Workforce Development Plan?
 - a. What does your Workforce Development Plan say about this occupation?
2. In terms of overall priority within your industry area, would you say this occupation is:
 - Of the highest priority – that is, there may be other occupations equally as critical, but there are none more critical?, or
 - A priority – there are other occupations more critical than this occupation?
 - Not a priority
 - a. Why?
3. Would you consider this occupation as suitable for a migration solution? *That is, for inclusion on a list such as the WA Skilled Migration Occupation List, or similar list?*
 - a. Why?
4. Do you consider the issues associated with this occupation to be:
 - Short term (1-2 years)
 - Medium Term (3-5 years), or
 - Long term (5+ years) in nature?
 - No issues.
 - a. Why?
5. Does this occupation have:
 - Higher Education Pathways?
 - VET Pathways?
6. Are you aware of any specific issues relating to this occupation in particular regions?
7. Are there any further comments you would like to make about this occupation?

9.2. Appendix B - 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. 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 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.

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/units, but not graduate with a Certificate. Studies show that particularly with existing workers, module/unit 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 weighting³⁷ 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.

³⁷ The sum of all the weightings equals one.

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. Retirement Age Workforce Profile; and
7. State List of Priority Occupations.

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%**.

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 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 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 return from the investment in VET is based on the pecuniary costs and benefits to society from investing in VET. The benefits to society include increased productivity (output), lower probability of unemployment, and increased tax revenue. The costs to society include government expenditure on vocational education and training, as well as foregone output during the period of training.

This method 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. In the current model, the 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 return to society 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. 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%**.