

State Training Plan

Western Australia

2012-2015

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FOREWORD

Having withstood the global economic downturn in relatively sound shape, Western Australia's economy is firmly on a steady growth path.

While conditions in some parts of the State's economy are still somewhat subdued, the overall outlook for the State's economy is very positive, led by construction of the \$43 billion Gorgon LNG project and other key resources projects.

In order to maximise the returns of this economic expansion, Western Australia remains vigilant in identifying training and workforce strategies that will ensure the State has access to the skilled workforce that it will require for the future.

This year's State Training Plan continues to focus on developing training priorities based on occupations that remain critical to the economic prosperity of the State. In addition, the Plan identifies the need to support those Western Australians that are currently under-represented in the workforce, including Aboriginal people, people with disabilities and those from culturally and linguistically different backgrounds.

The Plan also recommends growth in higher level skills and the continued focus on the delivery of apprenticeships and traineeships.

Recent years have demonstrated how quickly the Western Australian economy can change course and the demand for skills change. The State Training Plan 2012-2015 reinforces the need for the State's training system to be flexible enough to cope with such changes.

The State Training Plan is a key strategic initiative that will support Western Australia to develop a skilled workforce to meet the needs of an expanding economy and to ensure that all Western Australians have the opportunity to participate in the State's future prosperity.

The State Training Board looks forward to working with the Department of Training and Workforce Development, Training Councils, training providers, key industry stakeholders and community bodies in progressing these priorities.

KEITH SPENCE
CHAIR
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1. Executive Summary and Recommendations

Economic and labour market outlook

Driven by the growth of the resources sector, Western Australia is once again entering a period of sustained economic expansion and the demand for skilled labour is expected to remain strong over the next four years¹.

The *Investment Monitor* released by Deloitte Access Economics² shows that as at June 2011 there was an estimated \$107 billion worth of projects either committed to or already under construction in Western Australia. This is almost a third of the national total.

Whilst employment growth is expected for almost all occupational areas, an analysis of Monash employment forecasts³ indicates that a mixture of highly skilled, trade and semi skilled occupations, such as professionals; clerical and administrative workers; managers; and community and personal service workers will continue to dominate employment growth in Western Australia.

The occupations which have the highest forecast growth are:

- Specialist managers;
- Business, human resource and marketing professionals;
- Health professionals;
- Carers and aides;
- Education professionals;
- Office management and program administrators;
- Road and rail drivers;
- Other labourers;
- Legal, social and welfare professionals; and
- Construction and mining labourers.

Those industries forecast to experience the greatest jobs growth include: health care and social assistance; construction; education and training; retail trade; transport, postal and warehousing; professional, scientific and technical services and mining. The areas of healthcare and social assistance; construction; education and training; and retail trade also featured in the top four in last year's Monash forecasts.

In order to capitalise on the forecast increase in economic activity and minimise the skill shortages experienced in the past, Western Australia will continue to develop a training system that is able to support and respond to the State's economic and workforce development needs.

Focus of past plans

The priorities outlined in past State Training Plans have been successful in shaping the purchasing direction for the training system. In recent State Training Plans there has also been a focus on supporting the State to move from a period of economic instability to one of growth.

¹ Based on analysis of data sourced from Department of Treasury, WA Chamber of Commerce and Industry, Access Economics and Monash University 2011

² *Investment Monitor*, Deloitte Access Economics, June 2011

³ Monash University Centre of Policy Studies, March 2011

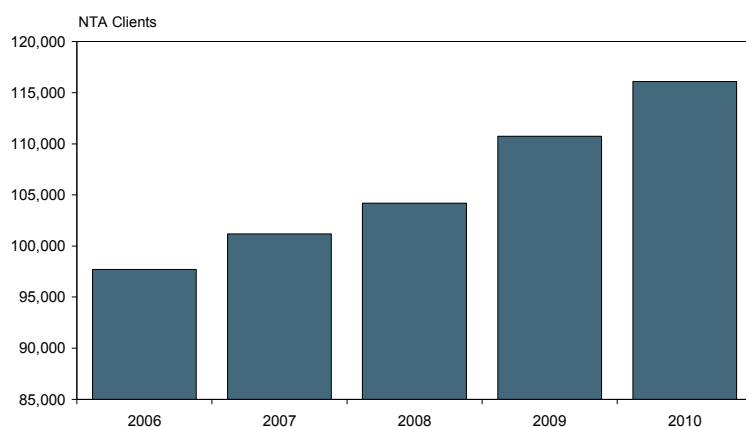
Set within the State and national framework and based on comprehensive labour market analysis, previous State Training Plans have focused on increasing the following areas:

- overall participation in training;
- apprenticeships and traineeships;
- delivery for identified priority areas; and
- delivery of higher level qualifications.

An analysis of how the training sector has progressed in regard to these priorities indicates that overall the training system has responded well to the workforce needs of Western Australia.

Figure 1 illustrates that training participation in Western Australia has grown significantly since 2006 with the most significant growth of 11.4% occurring between 2008 and 2010.

Figure 1: Participation in training 2006-2010



Source: Department of Training and Workforce Development AVETMISS VET Provider Collection

The largest increase in training delivery includes the community services, health and education, tourism and hospitality, and business and clerical areas.

This growth in training has been part of the State Training Board’s strategy through previous Plans to ensure that these important areas are not ‘crowded out’ by higher paying industries (such as mining and construction)⁴.

In light of the significant resource and infrastructure projects planned for the State, the growth of apprenticeships and traineeships continues to be a significant priority. An analysis⁵ in this area has indicated that between 2003 and 2010, there has been a 60% increase in the number of apprentices and trainees ‘in training’⁶.

The analysis has also identified positive growth in the levels of training for other key priorities contained in previous State Training Plans. These include increases in the

⁴ State Training Board, 2007, *Beyond the Resources Boom*

⁵ Analysis based on data sourced from Department of Training and Workforce Development AVETMISS VET Provider Collection

⁶ ‘In training’ is defined as the number of apprentices and trainees still in training at a nominated point in time (for example as at 31 December 2010).

delivery of higher level qualifications and the participation of Aboriginal people in employment related training.

The previous State Training Plans have been successful in directing the training system in response to changing economic environments. The current plan builds on the achievements to date and continues to deliver a flexible and responsive training sector for the State.

Current State and national settings

As in previous years, the State Training Plan 2012-2015 is set within the context of current State and national VET policies, commitments and agreements. The *National Agreement on Skills and Workforce Development* sets out the targets for the VET sector nationally, and *Training WA: Planning for the future 2009-2018* contains the strategies, initiatives and targets that will strengthen the State's training system. These are the same drivers of past State Training Plans.

Based on econometric modelling undertaken by the Department, the State Government has increased the number of training places available to Western Australians by 12,000 in the 2011-2012 Budget valued at \$33 million. This funding will provide additional training places in occupations critical to the economic prosperity of the State. A number of those places will also support those currently under-represented in the workforce, including Aboriginal people and those from culturally and linguistically different backgrounds. This increase in training places will help people benefit from the upturn in economic activity and provide industry with additional access to the skills they require for the future.

Priorities

Given the objectives of the above-mentioned initiatives and commitments, the State Training Plan 2012-2015 recommends again that the training system targets growth in overall participation in training, increases the delivery of higher level qualifications, apprenticeships and traineeships and enhances the training participation of groups that have been traditionally under-represented. These priorities align with those training and workforce initiatives that are outlined in *Skilling WA – A workforce development plan for Western Australia and Training together – working together: Aboriginal Workforce Development Strategy*.

Skilling WA outlines a range of high level strategies to increase the number of skilled workers and address issues impacting on the attraction and retention of labour during the next period of sustained economic expansion. *Training together – working together* is a collective approach to closing the gap in employment and training outcomes for Aboriginal people.

In order to support the future economic growth for the State, the Plan will also target growth in training delivery in those areas that are considered industry critical. Important work that has informed the determination of key priority areas is the State priority occupation list and the Western Australia Shares Model.

The State priority occupation list is a list of jobs that are in high demand or considered industry-critical in Western Australia.

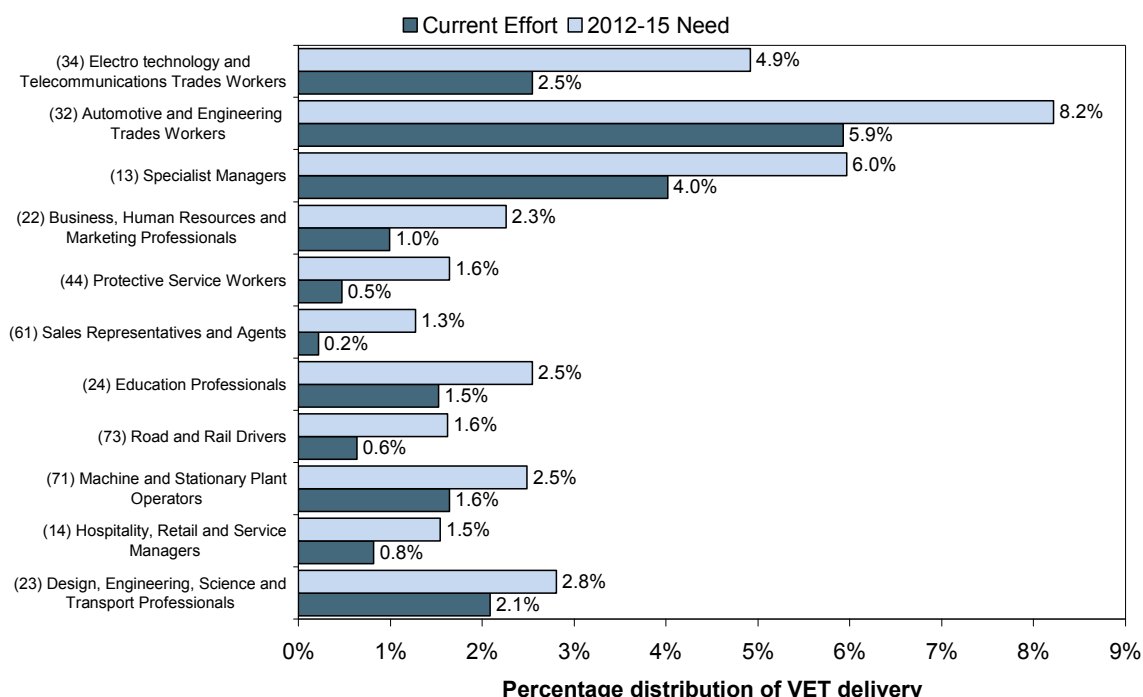
The 2011 State priority occupation list is not too dissimilar from last year, with the total number of identified occupations increasing from 345 to 364. Of these, 239 occupations

are deemed as 'State priority' occupations, and 125 are deemed 'Industry Training Council-Identified priority' occupations.

The Shares Model is an economic 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.

The outcomes of the Shares Models, indicates that the largest increases in projected training effort are required in the following occupational groups as illustrated in Figure 2.

Figure 2: WA Shares Model - Occupational groups requiring largest increase in training effort



The results of the Shares Model correlate strongly with those occupations identified in the State priority occupation list and form the basis of the priorities identified in this Plan.

Essentially, the list of priorities for the State Training Plan 2012-15 are comparable to those identified in the previous Plan.

Recommended State Purchasing Priorities

In order to provide a flexible and responsive training system within a State and national VET framework and based on the labour market analysis undertaken, the following purchasing priorities for 2012-2015 are recommended.

Growth in Employment Based Training – apprenticeships and traineeships

As in previous years, in response to State and national commitments, the Department will be continuing to give priority to apprenticeship and traineeship delivery. It is recommended that this be at two levels:

Top Priority

The following occupational areas be given highest priority to reflect the strong forecast for the increased training against current delivery:

- electrotechnology and telecommunications;
- automotive and engineering; and
- construction.

The focus on increased training delivery for the electrotechnology and telecommunications area in particular is supported by the forecast demand for resource and infrastructure projects and the introduction of the National Broadband Network (NBN)⁷ scheduled to begin in 2014.

Priority

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

Note: Although apprenticeships have traditionally been a focus, the delivery of traineeships is also important to ensure that Western Australia has the necessary skilled workforce for a range of industries that are not construction or trade related. Further, traineeships also help build a culture of on-the-job training in enterprises.

Priority institutional training delivery aligned to industry need

Again, it is recommended that priority be established at two levels:

Top Priority

In line with the outcomes of labour market analysis, the highest priority for growth in delivery should be given to the occupational groups as listed below:

- electrotechnology and telecommunications;
- automotive and engineering;
- specialist managers;
- education professionals;
- machine and stationary plant operators;
- design, engineering, science and transport professionals; and
- construction trade workers.

Priority

The labour market analysis indicates that priority should be given to the following occupational groups. Training in these groups should either be maintained or increased and include:

- business, human resources and marketing professional;
- protective service workers;
- sales representatives and agents;
- road and rail drivers;
- hospitality, retail and service managers;
- cleaners and laundry workers;
- inquiry clerks and receptionists;
- legal, social and welfare professionals;

⁷ The NBN is a new, wholesale-only, open access high-speed broadband network that will deliver high-speed broadband to all Australians. *NBN Empowering Australia* - <http://www.nbn.gov.au/>

- ICT professionals;
- carers and aides;
- office managers and program administrators;
- mobile plant operators; and
- other clerical and administrative workers.

High level skills

To meet long term national agreement targets and to align with other priorities, such as *Training WA* and the Australian Government's *Building Australia's Future Workforce*, it is recommended that additional weighting continue to be given to those occupations that have a higher level qualification.

Increased training participation and improved language, literacy and numeracy levels

To support a key strategic goal of Skilling WA which is to increase participation in the workforce, and the strategies outlined in *Training together - working together* and *Building diversity and equity in training 2010–18*⁸, it is recommended that training opportunities are maximised for those who may be currently under-represented in some areas of training and the workforce. These individuals tend to come from diverse backgrounds and include:

- people with disabilities;
- people from culturally and linguistically diverse (CALD) backgrounds;
- Aboriginal Western Australians;
- residents in regional and remote areas;
- women with dependents; and
- young people.

It is also recommended that there is a focus on those qualifications that can provide appropriate pathways to further training in the high priority areas identified in this Plan.

In addition, fundamental literacy and numeracy skills are a critical issue for all industry sectors of the State and therefore an increase in the provision of this training needs to be made in the Department's purchasing strategies. This is in line with the proposed National Foundation Skills Strategy for Adults which is under development⁹.

This priority is supported by the State Government's commitment of \$6.4 million allocated in the 2011-2012 Budget. This additional funding will provide 3,415 training places and focuses on increasing workforce participation for Western Australians who are under-represented in the workforce, returning to the workforce or from culturally and linguistically diverse backgrounds. Another \$3.86 million has been allocated to provide 1,131 training places to assist Aboriginal people into the workforce. The training will include Certificate I and II level training, and will allow job seekers to undertake skills training and work-readiness programs to take advantage of future employment opportunities.

⁸ *Building Diversity and Equity in Training 2010-2018* outlines the Department of Training and Workforce Development's commitment to creating a training sector that meets the diverse learning needs and goals of all Western Australians, regardless of differences in gender, ability, age, location and social and cultural backgrounds.

⁹ DEEWR, National Foundation Skills Strategy for Adults, <http://www.deewr.gov.au/Skills/Overview/Policy/Pages/NFSSforAdults.aspx>

Conclusion

In conclusion, 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.

2. Planning Process

2.1. Purpose of the State Training Plan

Western Australia's training system is guided by the *Vocational Education and Training Act (the VET Act) 1996*. An important objective of the *VET Act* is to establish a State training system to meet the current and future needs of industry and the community. The *VET Act* was amended in 2009 by the State Government to modernise the training system in Western Australia and align the legislation with the requirements of today's workforce.

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

The State Training Plan guides the purchasing for the training system in Western Australia for the short to medium term. The key purchasing priorities recommended in the Plan will be 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 2012-2015 continues to focus on identifying priorities and initiatives for training which will support Western Australia's growing economy.

The development of the State Training Plan is a cyclical process, commencing in January each year. As in previous years, the essential elements of the process include:

- State and national VET priorities;
- analysis of economic, labour market and demographic data;
- Western Australian Shares Model;
- industry liaison and advice;
- regional advice; and
- other relevant research and reports;

The methodology for the development of this Plan has essentially remained the same as in the past, however this year the term of the plan has been extended to four years rather than three years. This change ensures that the Plan aligns with State Government forward estimates¹⁰ and the Department's forecasting period.

Important work that has informed the State Training Plan 2012-2015 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.

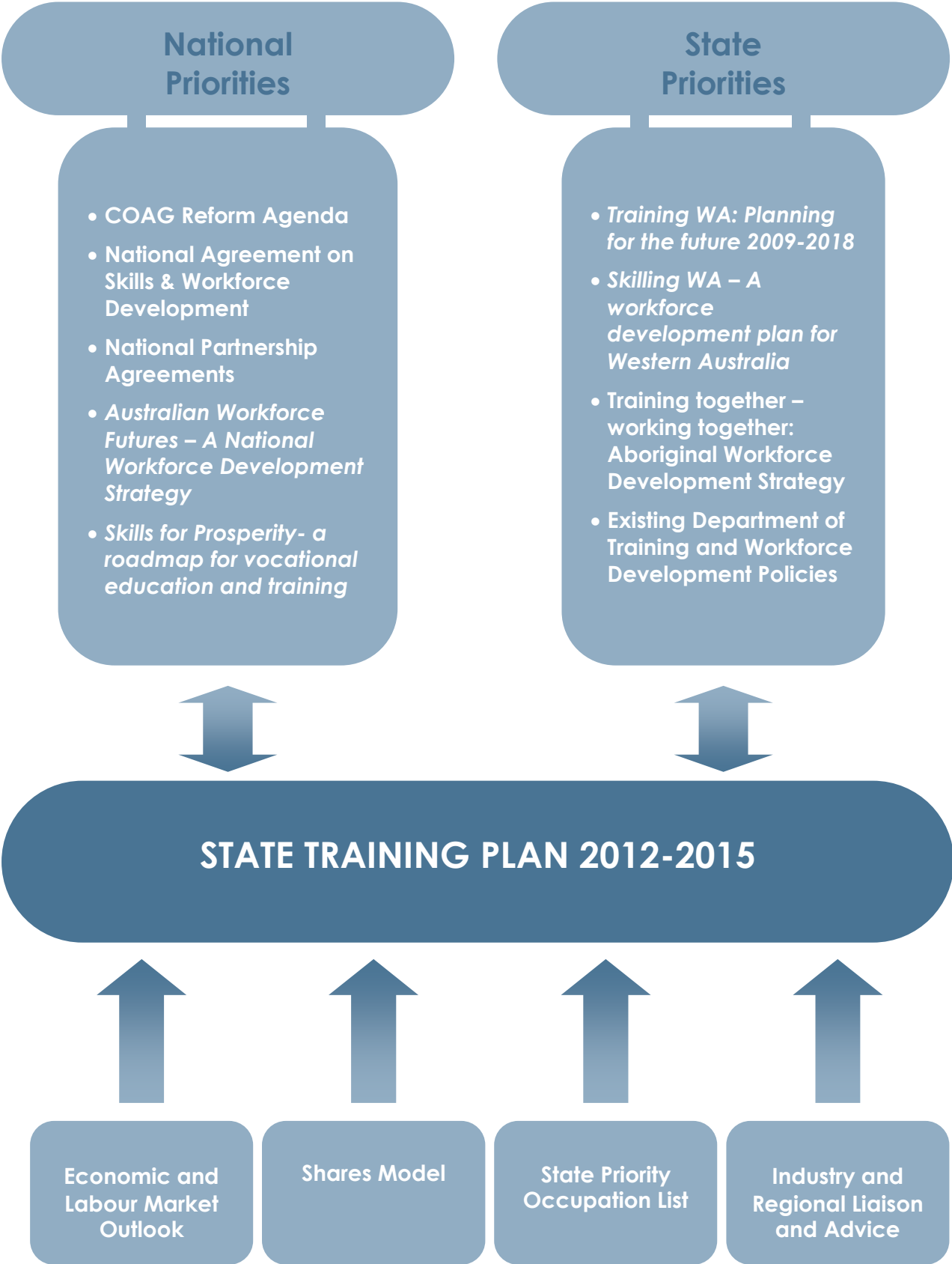
¹⁰ Forward estimates are a projection or estimate of the spending implied over the coming four years by current expenditure policies.

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 considered critical.

The Shares Model is an economic 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.

The diagram (Figure 3) on the following page provides an overview of the planning framework for the State Training Plan 2012-2015. The various elements are described in further detail in Sections 3 to 5 of this document.

Figure 3: 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 are key factors influencing the development of the State Training Plan 2012-2015.

Important developments that have featured in previous State Training Plans and continue to impact on Western Australia 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;
- 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 on Skills and Workforce Development

The National Agreement on 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.

The existing NASWD targets are to:

1. halve the proportion of Australians aged 20-64 without qualifications at Certificate III and above by 2020; and
2. double the number of higher qualification completions (Diploma and Advanced Diploma) between 2009 and 2020.

Under the NASWD, the State has committed to maintaining base training activity levels of 125,691 training places annually. Achieving this commitment and contributing to the NASWD targets is supported by the following related National Partnership Agreements between the State and national Government.

The Western Australian Government makes a significant investment to training delivery under the NASWD and its related partnerships. In 2010, the State Government's investment resulted in the provision of over 140,000 subsidised training places in Western Australia, benefitting over 116,000 clients.

A review of the NASWD is currently being undertaken jointly by the national Government and States and Territories. The revised NASWD is expected to come into place from 1 July 2012.

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

The National Partnership Agreement on the Productivity Places Program (NP PPP) provides funding for training growth above the baseline activity levels of the NASWD. The NP PPP will cease on 30 June 2012.

Funding committed under the NP PPP has been used to expand the extensive existing National/State funded programs in areas of industry priority skill shortage.

Major conditions of the NP PPP are for training delivery to be:

- in industry priority skills shortage qualifications at Certificate Level II and above;
- openly contestable for all registered training organisations; and
- additional to baseline activity levels of the National Agreement on Skills and Workforce Development.

Under the NP PPP, Western Australia is required to deliver a total of 76,000 additional training places above the baseline training delivery level over the life of the agreement. Together in 2009 and 2010, Western Australia has delivered an additional 44,000 places. This exemplary performance has provided an advantage to the State in steadily progressing towards the achievement of the total NP PPP target by the end of the agreement.

A new National Partnership agreement on VET reform is currently under consideration between the Australian Government and States and Territories, which is expected to replace the NP PPP.

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

The National Partnership on Youth Attainment and Transitions (YAT NP) 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 focus of the National Partnership is on an entitlement to an education or training place through the Compact with Young Australians. In addition it will support the successful transition from school, especially for at risk young people through the provision of efficient and effective career and transition services.

Of these elements, the education and training place entitlement will ensure anyone under the age of 25 will be able to take part in further education or training. Young people who are 15-19 years old are entitled to an education or training place and 20-24 year olds are entitled to a training place for the purposes of up-skilling. The Compact with Young Australians commenced via a staged process in July 2009 and will be offered until 31 December 2011.

Western Australia, in collaboration with key stakeholders, has developed a NP YAT Implementation Plan to focus its career pathways and transition reform initiatives. These initiatives include additional VET in Schools delivery, career development support for schools and the development of a Youth Mentoring Policy Framework.

The Western Australian Government will receive up to \$21.6 million under the NP YAT, with reward payments dependent on the State meeting participation and attainment targets in 2010 and 2012 respectively.

- **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 2010, there were 966 enrolments in childcare courses that were eligible for the fee waiver.

- **National Partnership Agreement on Pre-Apprenticeship Training**

The National Partnership Agreement on Pre-Apprenticeship Training aims to increase the number of pre-apprenticeship training opportunities that are available, thereby increasing the number of better prepared individuals taking up Australian Apprenticeship training.

The NP provides Western Australia with \$3.16 million over two years to redevelop the existing School Apprenticeship Link (SAL) program from a Certificate I to a Certificate II course. An additional 370 Certificate II SAL places have been established for 2011.

Proposed reforms and Western Australia's responses

The following are key issues currently being considered by the Ministerial Council for Tertiary Education and Employment and other relevant national committees and working groups. Western Australia is an active contributor to the debate on these issues through its membership and engagement in these national bodies.

Apprenticeships reforms

An important area of reform currently being considered at a national level is the Australian Apprenticeships system. Key reports, including the Expert Panel report entitled *A Shared Responsibility: Apprenticeships for the 21st Century*, have made a number of recommendations to reform and revitalise the Apprenticeships system. In addition, there is the work of the Australian Apprenticeships Harmonisation Working Group which will bring about national consistency.

Western Australia plays an important role in shaping the policy reforms in this area through its engagement at national level committees and working groups.

Demand driven and customer focused training delivery

In May 2010, the National Entitlement to a Quality Training Place initiative was proposed by the Australian Government.

Western Australia has contracted the services of an independent consultant to conduct an extensive stakeholder consultation and report on the impacts on the State of this reform

proposal. The broad scope of the consultancy is to review the models that already exist in other jurisdictions (e.g. Victoria), gain a better understanding of the settings that may apply in Western Australia and model the effect on supply and demand for training and how it might meet the State's skilled labour needs.

It is envisaged that at the end of the process Western Australia will have a fully developed reform agenda for consideration by the State Government that will be used as the foundation for bi-lateral discussions with the Australian Government around an entitlement model.

The above issues and the policy responses resulting from negotiations and deliberations between the Australian Government and the States and Territories will have significant impact on the training sector, and consequently on the State Training Plan. Appropriate changes to the State Training Plan would be considered in the forthcoming planning cycles.

National Foundation Skills Strategy for Adults

In order to address deficits in language, literacy and numeracy skills within the workforce, state and territory governments are working with the Australian Government to develop the National Foundation Skills Strategy for Adults.

A Foundation Skills Working Group (FSWG) has been established to drive the development of the National Strategy and comprises representatives from the Australian Government and all state and territory governments.

The National Strategy¹¹ will:

- focus on national priorities for improving adult foundation skills;
- provide a consistent and coordinated framework of approaches to improving; foundation skills across all levels of government for 2012 to 2022;
- consist of both systemic and program level responses to identified issues in the area of foundation skills; and
- complement national initiatives which aim to build foundation skills in the early childhood, schools, VET and higher education sectors.

Some of the work of the National Strategy will be undertaken as national initiatives which will include a national information service, national research programs, emphasis on teacher standards and building teacher capacity.

Each state will be expected to produce a Jurisdictional Implementation Plan against which it will report on a biennial basis. These plans are due to commence in July 2012. Whilst there is no additional funding for this initiative, the Strategy currently commits governments to maintain current levels of expenditure on language, literacy and numeracy delivery.

A communication strategy is due to commence in January 2012.

¹¹ DEEWR, National Foundation Skills Strategy for Adults, <http://www.deewr.gov.au/Skills/Overview/Policy/Pages/NFSSforAdults.aspx>

Australian Workforce Futures: A National Workforce Development Strategy

In March 2010, *Australian Workforce Futures* was released by Skills Australia. The aim of this strategy is to ensure Australia approaches and supports 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 community¹².

Key areas of focus in the strategy are:

- Sustain economic growth and raise productivity by increasing skills and avoiding future skills shortages;
- Lift the workforce participation rate to 69 per cent by 2025 to provide the required workforce and improve social inclusion;
- Lift the unacceptably low level of adult language, literacy and numeracy to enable effective educational, labour market and social participation;
- Increase productivity, employee engagement and satisfaction by making better use of skills in the workplace;
- Position the tertiary education sector to ensure it has the capacity to deliver skills for the new economy; and
- Lead a new partnership approach to workforce development at the government, industry and enterprise level.

Skills for Prosperity- a roadmap for vocational education and training

On 3 May 2011, Skills Australia launched its report, *Skills for Prosperity – a roadmap for vocational education and training*. The report puts forward comprehensive reforms for the vocational education and training (VET) sector in order to help raise productivity and address skill challenges that threaten Australia's economic growth and prosperity.

The report identifies nine broad themes for the future of the VET sector which will support the development of higher level skills and maximise the workforce opportunities for all Australians.

In order to implement the proposed reform agenda, the report argues that additional funding of 3 percent per year, or an average of \$310 million each year from 2012-13 accumulating to nearly \$12 billion in 2020 is required for the VET sector.

Key recommendations of the report¹³ include:

- Full public subsidy for those undertaking vocational courses up to and including Certificate III, and all foundation skills courses. For Certificate IV and above, a partial public subsidy, with co-funding between individuals and governments, supported through an income contingent loan.

¹² Skills Australia, March 2010, *Australian Workforce Futures – A National Workforce Development Strategy*.

¹³ Skills Australia, May 2011, http://www.skillsaustralia.gov.au/PDFs_RTFS/SkillsProsperityMR16May.pdf

- Extension of Student Start-Up Scholarships to VET students on Youth Allowance, Austudy and Abstudy.
- The creation of an industry-led Enterprise Skills Investment Fund that would consolidate a number of existing funding streams and be available to enterprises on a shared cost basis for skills and workforce development.
- Better targeting and prioritisation of financial incentives for employers, apprentices and trainees so funds are linked to sustainable careers, or equity or priority economic objectives, and linked to workforce development outcomes.
- A workforce development program to lift the professionalism and skills of the VET workforce.
- Improved transparency and availability of user-friendly information on the critical performance measures of RTOs, and publication on the MySkills website.
- A shift from input-based to output-and outcomes-based funding of training providers, including a funding model which rewards course completions.
- Support for a National Foundation Skills Strategy through additional funding of language literacy and numeracy programs.
- Regulation of apprenticeships and traineeships by the Australian Government, and the establishment of a high level apprenticeship advisory body to provide independent leadership and expertise.

There is continued focus at the National level that requires Western Australia to target growth in training participation and funding and in particular, focus on developing partnerships with industry and enterprises, increasing the delivery of higher level qualifications and apprenticeships, and enhancing the participation of groups that are under-represented.

3.2. State Vocational Education and Training (VET) Priorities

The Department of Training and Workforce Development has developed a framework and introduced a range of training and workforce development initiatives to ensure that Western Australia has a skilled workforce that meets the needs of a growing economy.

These initiatives which play a key part in the development of the State Training Plan are outlined in *Training WA – Planning for the future 2009-2018*, *Skilling WA – A workforce development plan for Western Australia* and *Training together – working together*.

Training WA: Planning for the future 2009-2018

In May 2009, the Minister for Training and Workforce Development released *Training WA: Planning for the future 2009-2018* as 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. Within this framework, the State Training Plan 2012-2015 outlines the priorities for the training system in Western Australia for the short to medium term.

As documented in previous State Training Plans, *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.

The strategies and initiatives within *Training WA* are focused on building:

- a skilled workforce;
- a contemporary apprenticeship and traineeship system;
- individual participation in training;
- support for regional communities;
- a vibrant and diverse training market; and
- training system capability and capacity.

Skilling WA – A workforce development plan for Western Australia

In December 2010, *Skilling WA – A workforce development plan for Western Australia* was launched. *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 has been 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.

Implementation of Skilling WA has commenced and whilst the plan encompasses strategies and actions across various government agencies¹⁴, the Department of Training and Workforce Development will be the lead agency for the following training strategies, priorities and initiatives:

- Working with the State Training Board, investigate and pilot models for a more flexible, responsive and resilient apprenticeship and traineeship system to respond to changing economic cycles;
- Publish and promote education and training pathways for targeted priority occupations and provide career advice on these occupations. This will be done in conjunction with industry, employer and training organisations;
- Focus funding towards high priority occupations (based on the State priority occupations list) and particularly those impacted by major resource and infrastructure projects;
- The State Government will work with the Australian Government to determine the appropriate level and type of investment in education and training to develop the State's future skilled workforce;
- Continue to implement *Training WA: Planning for the future 2009-2018* strategies to improve participation in training in Western Australia and the skills of graduates;

¹⁴ A comprehensive list of the workforce development strategies and initiatives are included in Skilling WA.

- The State Government investigate the targeted expansion of the use of apprenticeships, traineeships and cadetships within the State public sector to increase the availability of skilled labour in Western Australia;
- The State Government will work with the Australian Government to investigate the establishment of a deferred payment scheme for vocational education and training (VET) fees, to encourage greater participation in training;
- Work with industry to develop initiatives and targeted programs to improve the level of adult literacy and skills development in the workplace. This will be implemented through the development of a State Workplace Language Literacy and Numeracy Strategy;
- Work with industry to develop programs to increase the take-up of skills development of existing workers in Western Australian enterprises, building on the success of the Existing Worker Traineeship Program;
- Revise the Department of Training and Workforce Development's funding models to better deliver on the State's training priorities and provide greater flexibility and packaging of programs to meet the needs industry, enterprises and the community;
- Work with its partners to build the capacity and capability of the training system through a review of its infrastructure and resource allocation planning;
- Identify targeted initiatives to attract and retain skilled vocational education and training staff, in particular those to be engaged in the training of the occupational groups identified in the State priority occupations list. These initiatives will be implemented through a Vocational Education and Training Workforce Development Plan;
- Establish targeted working groups to provide advice on the training priorities for those sections of the community, which are under represented in the workforce;
- Explore the use of collaborative approaches between Western Australian universities and public vocational training providers for the strategic use of training infrastructure to provide higher education in regional and remote Western Australia; and
- In association with the State Training Board will monitor the need for 'green' skills to be embedded in existing training packages and the development of new green skills qualifications.

Training together – working together: Aboriginal workforce development strategy

In June 2010, *Training together – working together: Aboriginal Workforce Development Strategy* was launched as a collective approach to address the problem of low levels of participation by Aboriginal people in the State's workforce. Key elements of the strategy include:

- the 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 and the implementation of a state-wide mentoring strategy;
- the identification of Aboriginal role models who will provide mentoring to others and act as local ambassadors; and
- raising the awareness of Aboriginal employment opportunities and workforce development services throughout Western Australia through outreach services using two mobile vans.

Existing Department of Training and Workforce Development Policies

The Department's current funding arrangements for the delivery of VET are focused on supporting and promoting training in Western Australia's key occupational areas, as outlined in the State priority occupation list. The Department's funding of VET is also shaped by State and national level commitments. This includes the State's responsibilities under the Council of Australian Government's National Agreement for Skills and Workforce Development and its associated National Partnership Agreements and those commitments outlined in key State strategic documents related to training.

The Department of Training and Workforce Development is currently in the process of developing a Funding Policy which will provide a strategic framework for future funding decisions for the Department. While the State Training Plan and State priority occupation list provide the basis to determine Departmental purchasing priorities for training, the development of the Funding Policy will provide the framework within which policy decisions on these priorities can be determined in the future.

The State's VET priorities continues to focus on maximising the training opportunities for all Western Australians. Through the implementation of a range of initiatives, industry will be able to access the skilled workers they will require in the future.

4. Economic and Labour Market Outlook

In identifying priorities for the State Training Plan 2012-2015, current conditions in Western Australia's labour market and its outlook for the next few years have also been considered.

Western Australia withstood the global economic downturn in relatively sound shape, with the State's economy expanding at a stable pace, recording growth of 4.3% in 2009-10, following slightly lower growth of 4.1% in 2008-09 (with these rates close to the State's 20 year historical trend growth rate of 4.3%)¹⁵.

Conditions in Western Australia's resources sector are particularly strong. Robust demand from emerging economies for the State's key resource commodities and resulting high commodity prices has created a substantial pipeline of future investment activity.

However, conditions in other sectors of the State's economy are somewhat more subdued. Households are displaying increased fiscal conservatism, which is currently being manifest by soft growth in discretionary spending. This conservatism has combined with higher interest rates and the withdrawal of Australian Government stimulus measures to cause weak conditions in the State's housing market.

Also, Western Australia's agricultural sector has been affected by extreme weather conditions, while a number of externally-exposed industries outside of the resources sector are being challenged by the high Australian dollar.

At the same time, there is evidence that following a strong post-downturn recovery period over the first half of 2010, activity in the State's labour market since then has eased back slightly.

Economic Outlook

The overall outlook for the State's economy is nonetheless very positive, given it is in the midst of a major investment cycle, led by construction of the \$43 billion Gorgon LNG project and other key resources projects. The *Investment Monitor* publication released by Deloitte Access Economics shows that as at June 2011, there was an estimated \$107 billion worth of projects either committed to or already under construction in Western Australia (almost a third of the national total).

According to the Western Australian Department of Treasury, the outlook for growth in Western Australia is expected to increase to 4.5% in 2011-12 and 4.0% in 2012-13. Economic growth in 2013-14 and 2014-15 is then expected to ease back slightly to rates of around 4.0%.¹⁶

The Chamber of Minerals and Energy of Western Australia (CMEWA) expects commodity prices to be robust over the short term, with commodity demand from developing, high-growth economies (such as China and India) remaining high. The CMEWA's forecast growth profile for the next two years is similar to the Department of Treasury, with the

¹⁵ ABS Cat. 5220.0 – Australian National Account: State Accounts 2009-2010

¹⁶ Western Australian Department of Treasury 2011-12 *Budget Economic and Fiscal Outlook - Overview*

State's economy expected to grow by 4.2% in 2011-12, moderating slightly to 3.7% in 2012-13.¹⁷

The Chamber of Commerce and Industry of Western Australia (CCIWA) notes that recovery in the State's economy is back on track, following "...a more challenging period towards the end of 2010" (but with "...many businesses still facing difficult conditions"). 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 6.75% in 2011-12, and then by 7.0% in 2012-13.¹⁸

Key risks to growth

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).

Although international economic conditions have been gradually improving since the economic downturn, global risks remain elevated and skewed towards the downside, and include: high oil prices (including the potential for a supply shock); ongoing financial malaise in Europe (especially in respect to possible contagion flowing from Greece's public finance issues); the public debt problems faced by the United States; inflation in emerging economies; and potential spill-over effects arising from the natural disasters in Japan.

Key domestic risks to the State's expected economic growth path include the potential detrimental effects on resource sector investment and output arising from the Federal Government's proposed carbon and rent resource taxes; the future path of interest rates; consumers becoming increasingly cautious in their spending; and a high Australian dollar affecting the (non-resource) externally exposed parts of the State's economy.

Furthermore, current expectations of tightening labour supply (from moderating population growth and an ageing workforce – see below) could be further exacerbated if growth in international migration into the State moderates further, and/or the State is less able to attract or retain labour from other parts of Australia (particularly pertinent given the competition across Australia for major resource project construction labour). Accordingly, a key downside risk is if the back-end of the current major project pipeline (i.e. construction work on prospective major projects expected from about 2013 onwards) is significantly compromised due to final investment decisions on major projects either being delayed, or not being made at all, partly due to labour supply constraints.

Labour market factors

According to the Australian Bureau of Statistics (ABS), 1.24 million people were employed in Western Australia in June 2011.¹⁹

Currently, nearly a third of people employed are working in the three biggest industry sectors: retail, construction and healthcare and social assistance.

¹⁷ Chamber of Minerals and Energy of Western Australia, *WA Resources and Economics Report*, March 2011 (forecasts used come from KPMG Econtech; and are only published out to 2012-13).

¹⁸ Chamber of Commerce and Industry of Western Australia, *Outlook: June Quarter 2011* (forecasts are only published out to 2012-13).

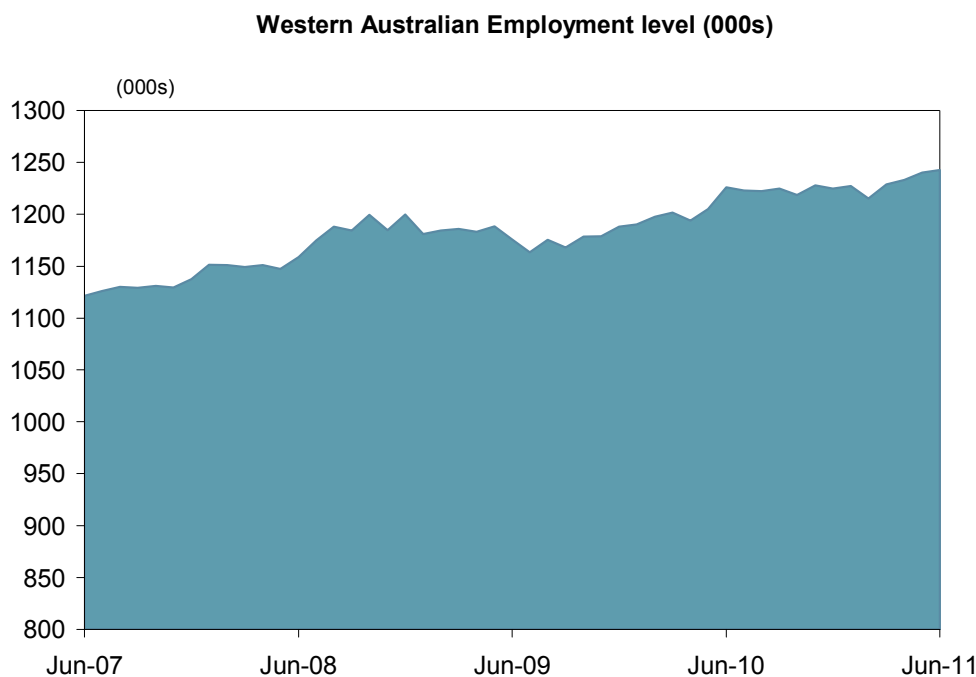
¹⁹ ABS Cat. 6202.0

Even so, demand for labour in the State is strongly associated with the resources sector. While the 86,400 people directly employed in the State’s mining industry means it currently ranks as Western Australia’s 7th largest employer, the industry also has important flow-on effects to other industries, creating a large number of additional jobs throughout the economy²⁰.

Over the year to June 2011, employment in Western Australia grew by 1.4%, compared to 2.0% nationally.

As shown in the Figure 4 below, after recovering strongly from late 2009 / early 2010, employment levels in the State stabilised over the latter half of 2010 and into 2011 (although they have picked up again in recent months).

Figure 4: Western Australia’s employment levels (000s)

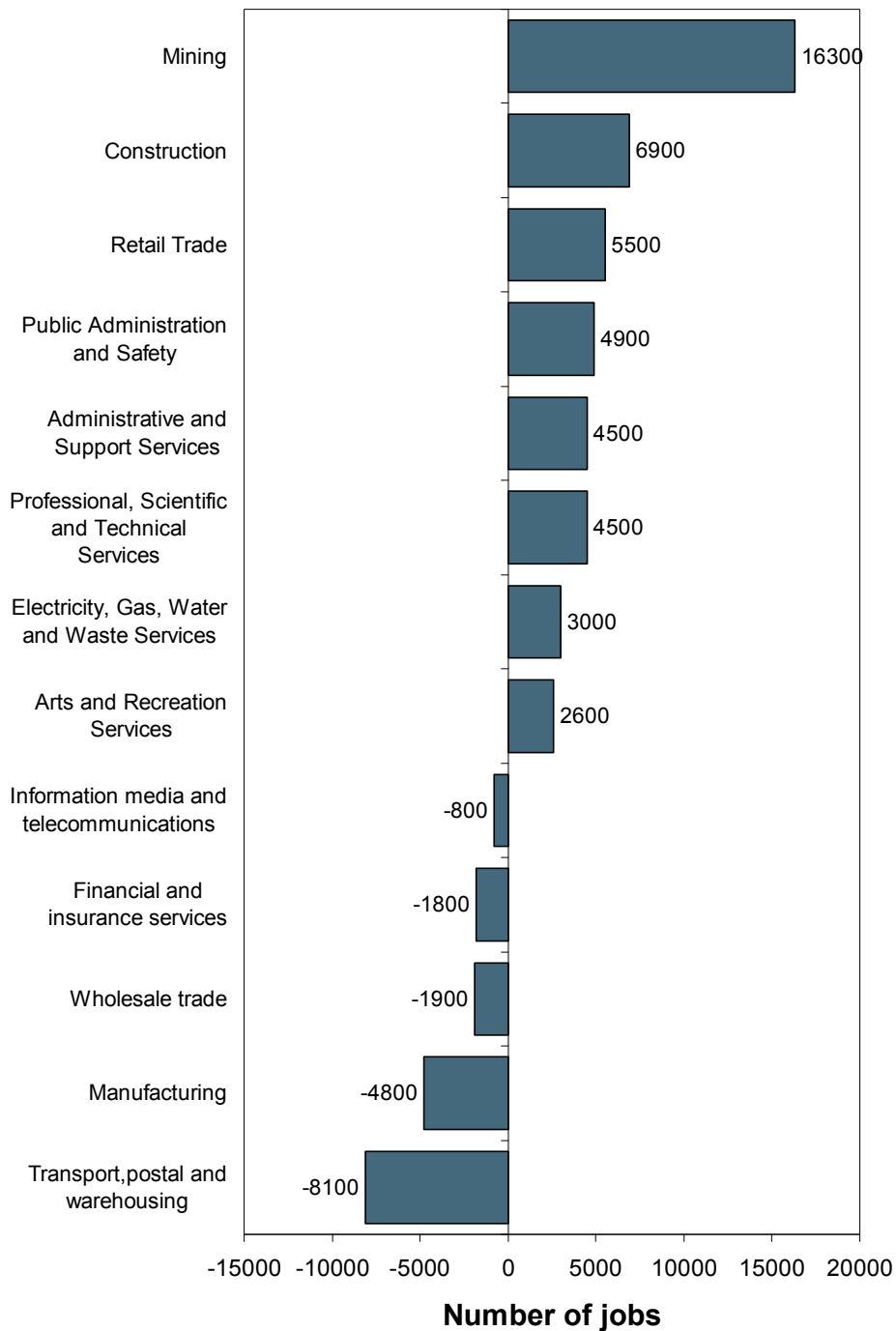


Source: ABS Cat.6202.0 (seasonally adjusted data)

Employment growth over the past year has been strongest in industries directly linked to the resources sector (i.e. mining and construction). However, reflecting some of the weakness evident in other parts of the State’s economy, this growth has been partly offset by lower employment growth (and even sizable falls) in other industries – see Figure 5 below.

²⁰ 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).

Figure 5: Annual change in employment, selected industries, 2010-11



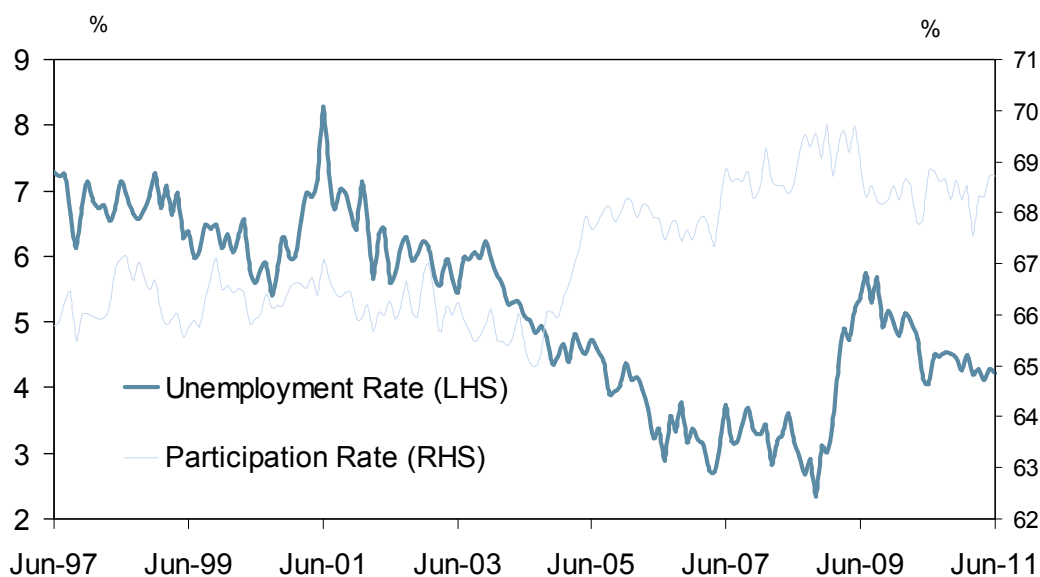
Source: ABS Cat. 6291.0, May 2011

Western Australia recorded a labour force participation rate of 68.7% in June 2011. While this was little changed from the rate of 68.8% recorded for the State a year ago, it is considerably higher than the rate of 65.6% recorded nationally for June 2011.

Similarly, the State's unemployment rate of 4.2% in June 2011 was lower than the national unemployment rate of 4.9% for June, with Western Australia now having recorded the lowest unemployment rate of all states for the 16 consecutive months to June 2011.

The State has maintained a historically low unemployment rate in recent months (with rates over the past year lower than the economic downturn period of 2009-10). However, as shown in Figure 6 below, unemployment rates are still higher than the very low rates recorded during the peak part of the State's previous resource boom period (most of the latter part of the last decade).

Figure 6: Western Australia's unemployment and participation rate

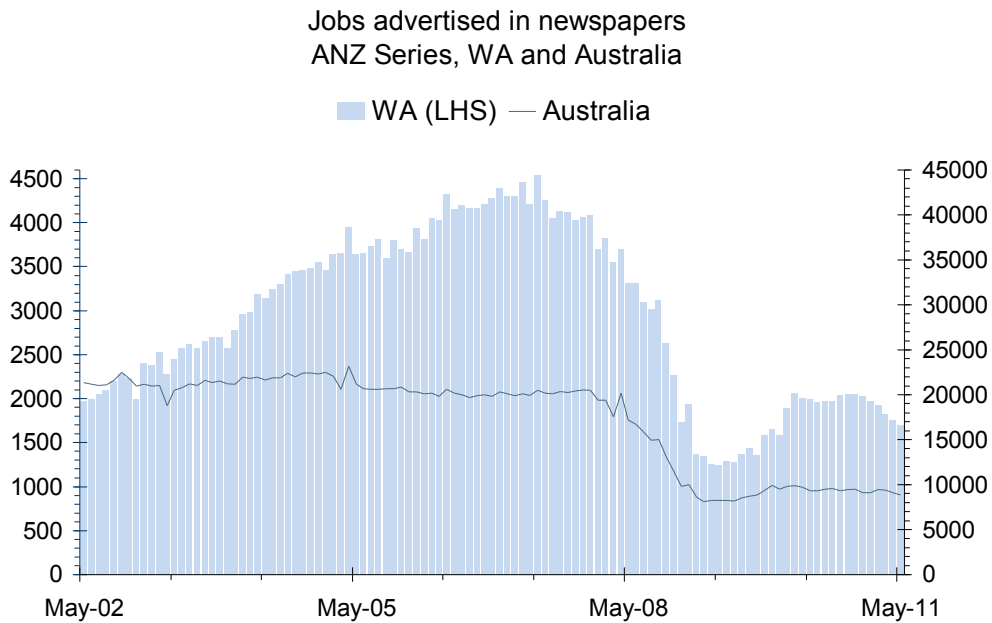


Source: ABS Cat.6291.0 (seasonally adjusted data)

A consistent story is also shown by the June 2011 *Commonwealth Bank-CCI Survey of Business Expectations*, which recorded a sizable 38% of employer respondents as indicating that labour in the State was “scarce” (compared to only around 15% two years ago). However, this is still much lower than the 60% (and higher) of employer respondents who rated labour as scarce over most of the previous resource boom (June 2005 through to June 2008).

Other leading indicators of employment demand also show similar trends. For example, while the *ANZ Newspaper Jobs Advertisements* series for Western Australia showed a strong post-downturn recovery in the first half of 2010, demand then plateaued over the second half of 2010. More recently the series has fallen back somewhat, and remains well down on boom levels as can be seen in Figure 7.

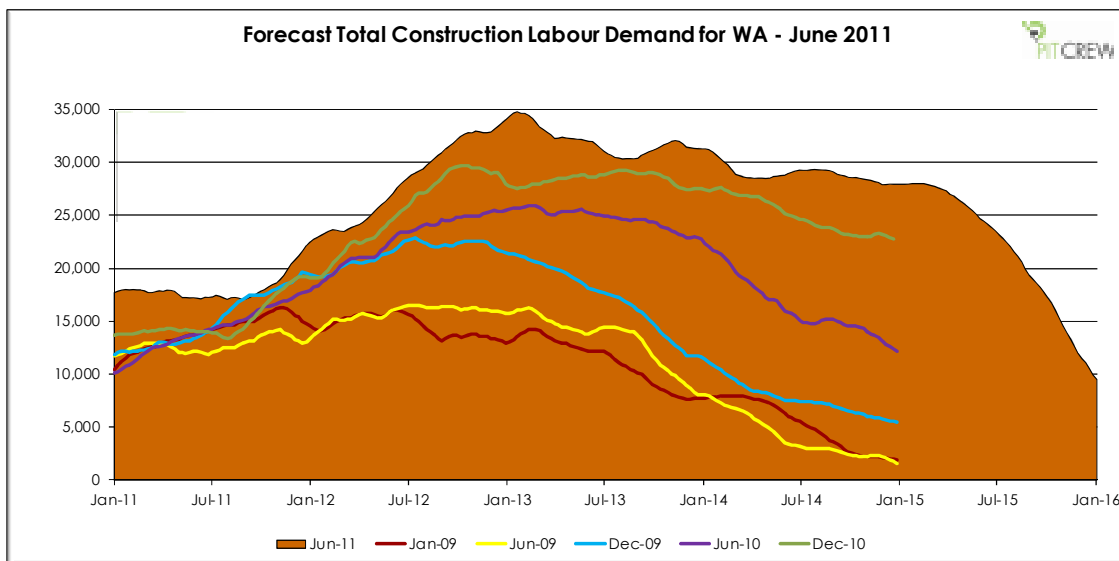
Figure 7: Jobs advertised in newspapers, WA and Australia



Source: ANZ Bank (seasonally adjusted data)

Notwithstanding the recent consolidation in the State’s labour market, activity associated with Western Australia’s current resource sector pipeline is expected to result in a sustained increase in the demand for labour. Such demand is evident from Pit Crew Management and Consulting Services’ (Pit Crew) June 2011 report²¹. The following chart shows Pit Crew’s latest estimates of construction and engineering labour demand over coming years for major projects across Western Australia.

Figure 8: Forecast total construction labour demand 2011-2016



The Pit Crew Report for Western Australia, Issue 8 – June 2011, p. 5

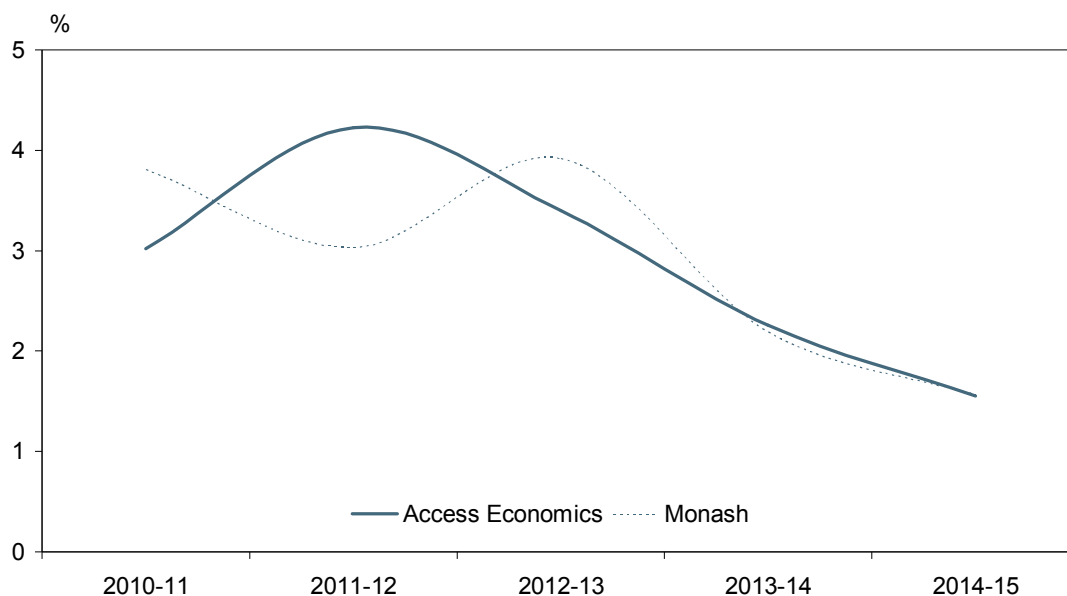
²¹ Pit Crew’s scope includes those projects valued around \$200 million and above that are either already underway, committed to, or ‘highly probable’.

While Pit Crew’s chart shows construction labour demand easing slightly over the first part of 2011-12, demand is then expected to sharply ramp-up over the latter part of 2011, reaching 23,000 by the start of 2012 – a 35% rise over the year.

Pit Crew’s forecasts then show construction labour demand accelerating throughout 2012, reaching a peak of approximately 34,900 in the beginning of 2013. According to Pit Crew, this climb is due to the expected confluence of peak construction occurring in a number of major resource projects around the same time. The year 2013 is characterised by a slight decline in demand to 30,000, followed by a small rise to 32,000 in the fourth quarter of 2013, with this in turn followed by a consolidation in demand at around 28,000 over 2014²².

Figure 9 shows total employment growth over the period 2010-11 to 2014-15, based on forecasts from Monash University’s Centre of Policy Studies and from Deloitte Access Economics. As shown by the chart, employment is projected to grow at rates between 2% to 4% over the next four years.

Figure 9: Employment growth projections, Western Australia 2010-11 to 2014-15



Source: Access Economics Business Outlook March 2011; Monash (Centre of Policy Studies) March 2011

Despite Monash’s and Access’ forecasts showing different timing for the expected short term peak in growth, both are forecasting similar aggregate growth over the next four years, with Monash projecting overall growth of 11.1% (an annual average rate of 2.7% per year) and Access projecting 11.9% (an annual average rate of 2.9% per year). Both of these forecast rates are quite close to the State’s long term historical average annual growth rate for employment of 2.6%.

However, it is quite possible that these employment growth forecasts would be higher, if not for constraints in the availability of labour that are expected to build over the next few

²² The sharp drop-off in Pit Crew’s chart from early 2015 mainly reflects the uncertainty surrounding major projects out that far in time (as opposed to any assessment of a pending collapse in major projects from then). As also shown in the chart, similar falls are typically a feature of the final year of forecasts from Pit Crew’s previous reports.

years (largely due to moderating population growth and the ageing of the State's population).

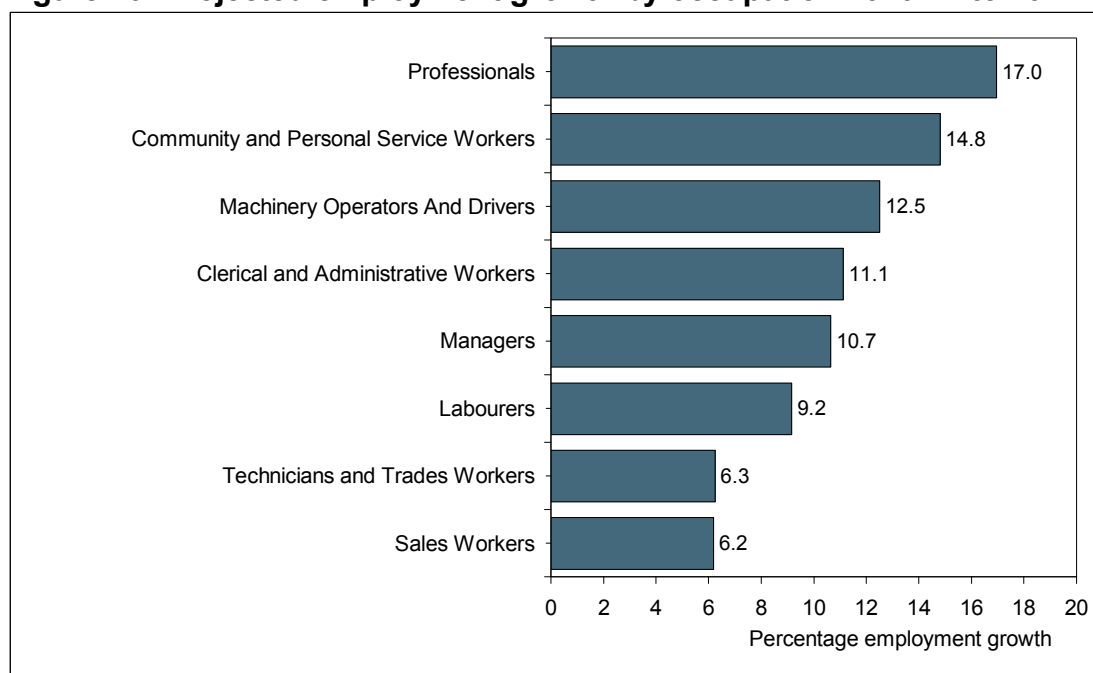
For example, the Western Australian Department of Treasury is forecasting that the State's population growth will slow to an annual average rate of 2.1% by 2014-15, down quite sharply from the peak rate of 3.3% that was recorded in 2008-09.

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 1.6% by 2014-15.

Given the mismatch expected over the next four years between strong labour demand (particularly for skilled labour) against moderating 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.

The Department of Training and Workforce Development's analysis of Monash occupational²³ employment forecasts indicates that, in the four years to 2014-15, professionals and community and personal service workers will dominate employment growth, followed closely by machinery operators and drivers, and clerical and administrative workers and is illustrated in Figure 10 below.

Figure 10: Projected employment growth by occupation 2010-11 to 2014-15

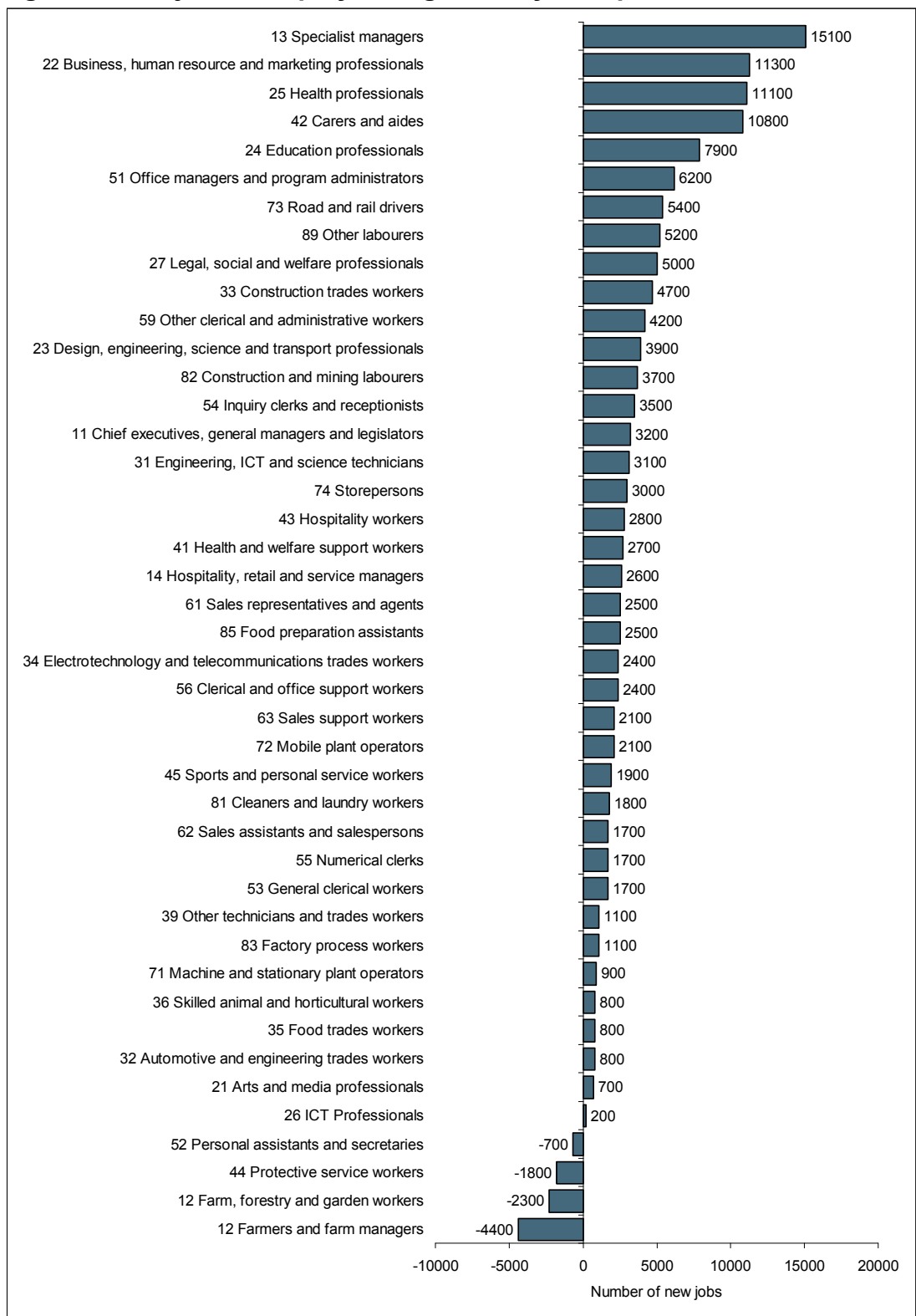


Source: Monash March 2011

²³ Occupational classifications are based on Australian and New Zealand Standard Classification of Occupations (ANZSCO).

As shown by the forecasts in Figure 11 below, almost all occupational categories show growth in the period to 2014-15.

Figure 11: Projected employment growth by occupation 2010-11 to 2014-15



Source: Monash March 2011

The largest (with 11.2% of total State employment growth over 2010-11 to 2014-15) will be within the occupational group specialist managers (15,100 additional jobs). Examples of these occupations include business administration managers; construction, distribution and production managers; advertising and sales managers; and education, health and welfare managers. Business, human resource and marketing professionals; health professionals; and carers and aides occupations are forecast to experience a 24.5% share of total employment growth, with an expected 33,100 new jobs. Other professional occupations expected to grow significantly relate to educational professionals; ICT professionals; office managers and program administrators; and legal social and welfare professionals.

Several groupings of trade and technician occupations are also expected to see large growth, including:

- construction trades workers;
- engineering, ICT and science technicians;
- electrotechnology (electrician) and telecommunications trades workers; and
- other technicians and trades workers.

There are also a number of semi-skilled and low skilled occupations forecast to be in demand. These include:

- office managers and program administrators;
- road and rail drivers;
- other labourers;
- other clerical and administrative workers;
- construction and mining labourers; and
- storepersons.

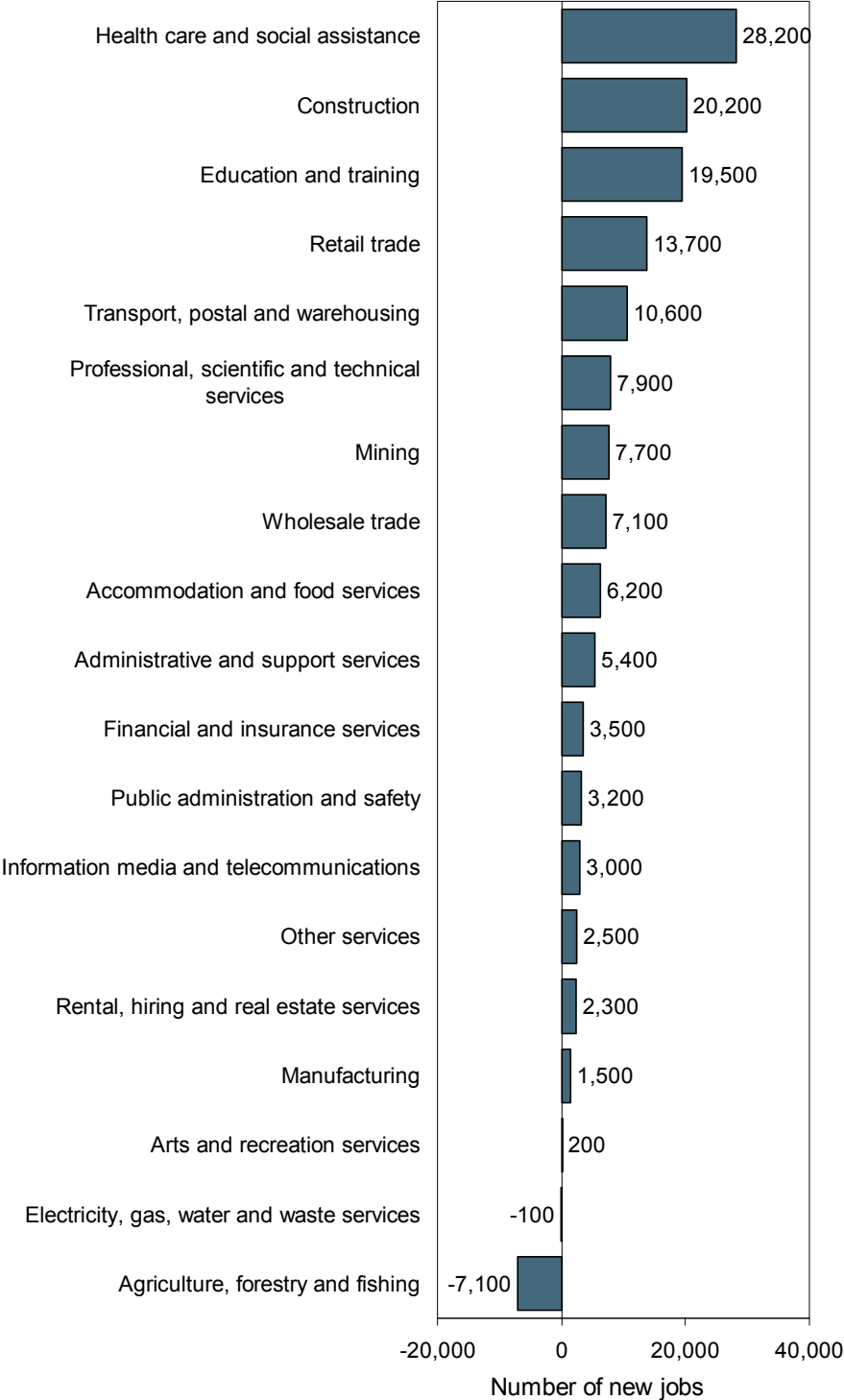
The occupational groups which are forecast to decline within this period is farmers and farm managers; farm, forestry and garden workers; and protective service workers.

Figure 12 on the following page presents the expected change in employment by industry²⁴ in Western Australia over four years to 2014-15. As the chart shows, over the next four year period the industries forecast to experience the highest total employment growth include health care and social assistance (28,200 additional jobs), construction (20,200), education and training (19,500), retail trade (13,700), transport and warehousing (10,600), professional and scientific and technical services (7,900).

While the sharp fall in employment in the agriculture, forestry and fishing industry appears quite significant, these appear to be based in the main on Monash's input assumptions from Access Economics (who expect national farm sector employment to fall over the next four years, based on food prices falling back to more 'normal' levels, along with falls in farm output as well).

²⁴ Industry classifications are based on 2006 Australian and New Zealand Standard Industry Classification (ANZSIC).

Figure 12: Projected new jobs by industry sectors, WA, 2010-11 to 2014-15



Source: Monash March 2011

Forecast caution

It is cautioned though that in the current changing economic environment, it is very difficult for forecasters to predict in detail specific movements in employment growth, particularly in the medium or longer term, as there are many uncertainties to be considered. 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; models and modelling techniques used; underlying assumptions; and many others.

Care should therefore be exercised when interpreting forecast movements (particularly the detailed employment forecasts). The forecasts should be treated as an indicative picture of what the State's future labour market *may* look like given expected growth trajectories (and on an assumption that key risks to growth do not eventuate – see 'Key risks to growth' section 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 severely impacted on the economy's growth capacity. 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 69.7% in December 2008, and again in May 2009;
- 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. As flagged above, there is 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.

Conditions in the State's labour market have improved significantly since the global financial crisis. The demand for labour is expected to remain strong over the next four years despite some sectors currently experiencing subdued conditions.

5. Other Key Inputs to the State Training Plan 2012-2015

The development of the State Training Plan 2012-2015 includes the analysis of additional economic and labour market modelling and research, and industry and regional advice.

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.

The 2011 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.

This year, the methodology for the development of the State priority occupation list has been modified. The key driver of this change was to ensure that the list was more robust and statistically rigorous. Changes to the methodology for the development of the State priority occupation list include:

- Data analysis is now undertaken in the first phase of the methodology, with occupations assigned a preliminary ranking prior to seeking Training Council input. This provides a more statistically rigorous approach than was possible previously;
- The terminology has changed to more clearly reflect each occupation's relative priority with respect to the State and its industry, and to provide a more transparent reasoning underpinning that relative priority. Each occupation is now deemed either a 'State Priority 1' or 'State Priority 2' occupation, or an 'Industry Training Council identified priority' occupation;
- The process of consultation with the Training Councils was much more comprehensive in 2011. Consultation began in late 2010 with the provision of the councils' industry workforce development plans. Continual feedback was sought regarding the final list and the related priority qualifications list; and
- All data and qualitative information relating to the development of the list has now been stored in an interactive relational database system, which allows for the easy retrieval of data and intelligence pertaining to 738 occupations. This system will underpin further development and integration of the State priority qualifications list with other Departmental systems, such as the course management system, training resource allocation funding systems and career development profiles on the website.

In addition to the above modifications, the Department has based the methodology for the State priority occupation list on the key principle underpinning the Skills Australia Skilled Occupations List (SOL). Given this, a Western Australian State priority occupation is defined 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.'

As in previous years, the State priority occupation list includes a three-tier structure indicating occupational priority. However in 2011, the terminology has changed to give a clearer indication of each occupation's relative priority, and to provide a more transparent reasoning underpinning that relative priority. Subsequently, for this year's list, each identified occupation was categorised as a *State Priority 1*, *State Priority 2* or *Industry Training Council- Identified Priority*.

The current State priority occupation list is attached at Appendix A. As the list will be updated regularly it is recommended that the most up to date version of the list be accessed at www.dtwd.wa.gov.au

A detailed explanation of the methodology used for the development of the State priority occupation list is also provided at Appendix A.

The 2011 total list of identified occupations is not too dissimilar from last year, with the total number increasing from 345 to 364. Of these, 239 occupations are deemed as 'State Priority' occupations, and 125 are deemed 'Industry Training Council-Identified Priority' occupations.

Perhaps unsurprisingly, the bulk of occupations on the list are from the broad categories of professionals and technicians and trade workers. These types of occupations generally have a strong fit between education and / or training undertaken and the eventual occupations taken up by graduates.

Occupational Group	State Priority 1	State Priority 2	Industry Training Council-Identified Priority	Total
1 Managers	17	6	18	41
2 Professionals	37	38	33	108
3 Technicians and trades workers	33	56	21	110
4 Community and personal service workers	16	7	18	41
5 Clerical and administrative workers	2	10	12	24
6 Sales workers	1	3	1	5
7 Machinery operators and drivers	9	1	13	23
8 Labourers	1	2	9	12
Total	116	123	125	364

The State priority occupation list has been used as a key driver in determining the purchasing priorities for training in this Plan. For example, the *Priority Qualifications List*, which is a list of qualifications which will be applied to the State Training Provider 'Delivery and Performance Agreements' and tenders for training programs, has been derived directly from the State priority occupation list. The State priority occupation list has also reinforced the importance of trade occupations and therefore the continuing emphasis on growing apprenticeships.

5.2. Western Australian Shares Model

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

The Model therefore helps determine the potential share of publicly funded training delivery that needs to be assigned to an occupational (ANZSCO²⁵) 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 need.

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. These factors include:

- Forecast Demand for New VET Qualified Workforce Entrants;
- Relative Training Time;
- Modular Completion Rates;
- Return from Government Investment in VET;
- Retirement Age Workforce Profile;
- Occupational Churn; and
- 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.

Review of the Shares Model

The WA Shares Model is based on the Victorian Shares Model and 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 (ANZSIC²⁶) 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 2014-15).

²⁵ Australian and New Zealand Standard Classification of Occupations (ANZSCO).

²⁶ Australian and New Zealand Standard Industry Classification (ANZSIC).

Figure 13 on the following page illustrates the results of the WA Shares Model, showing the actual share of training that each VET related ANZSCO occupational group received in 2010, against the projected share needed by 2015.

According to the latest results, for the next four years to 2014-15, the largest increases in projected training effort are expected in the following areas:

- electrotechnology and telecommunications trades workers;
- automotive and engineering trades workers;
- specialist managers;
- business, human resources and marketing professionals;
- protective service workers;
- sales representatives and agents;
- education professionals;
- road and rail drivers;
- machine and stationary plant operators;
- hospitality, retail and service managers; and
- design, engineering, science and transport professionals.

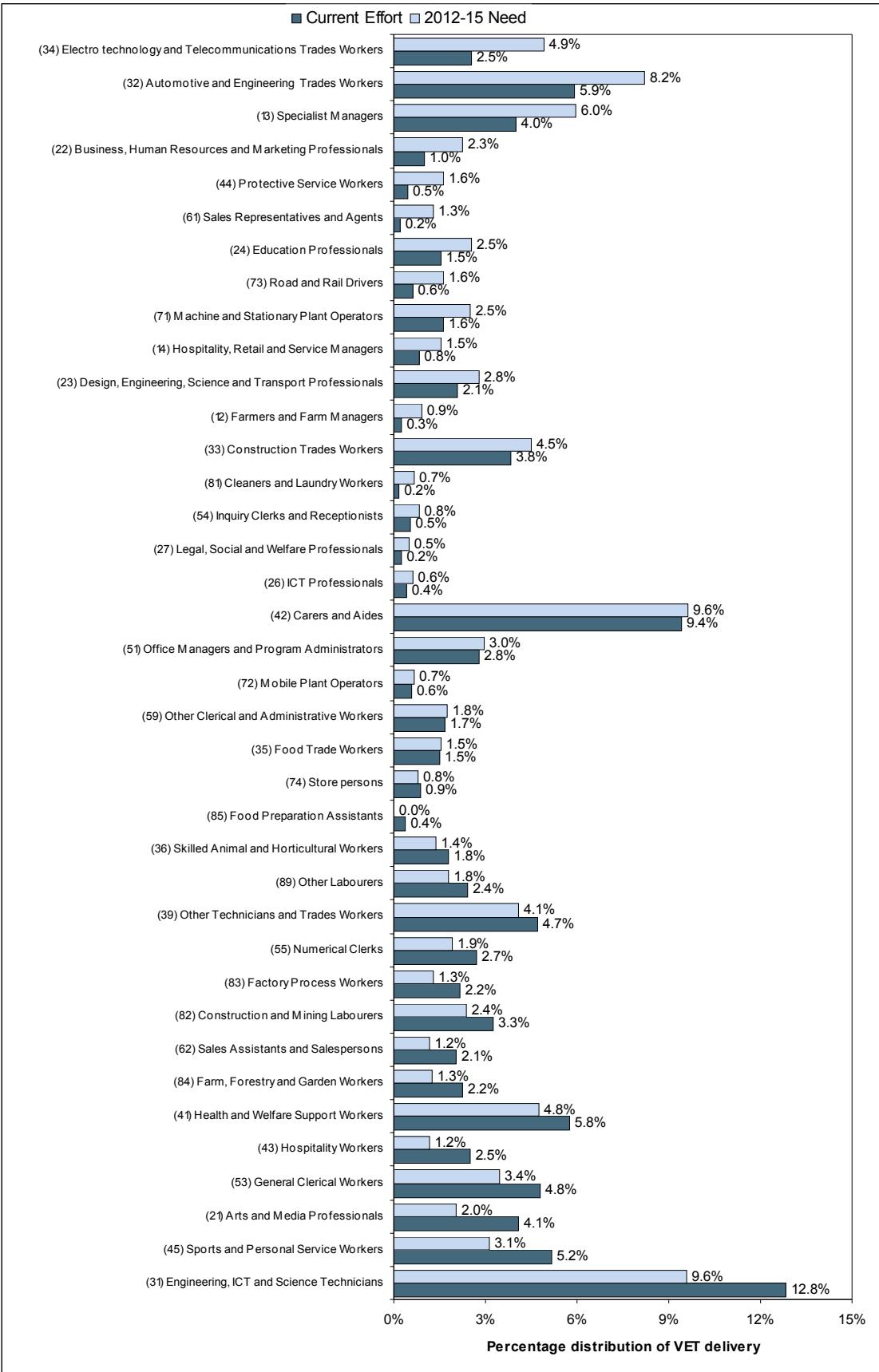
For all of the above occupational groupings, the number of new VET qualified entrants based on forecast demand is the main factor influencing expected increases in publicly funded vocational training delivery. Additionally, for trade-related occupations (namely electrotechnology and telecommunications trades workers; and automotive and engineering trades workers) the State priority occupations list is also a significant factor. However, in the case of specialist managers; education professionals; and road and rail drivers, their Retirement Age Workforce Profile and occupational churn are the other factors (besides forecast demand) that contribute significantly to future expected increases in their VET training.

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

- engineering, ICT and science technicians;
- sports and personal service workers;
- arts and media professionals;
- general clerical workers;
- hospitality workers;
- health and welfare support workers;
- farm, forestry and garden workers;
- sales assistants and salespersons;
- construction and mining labourers;
- factory process workers; and
- numerical clerks.

For hospitality workers and sales assistants and salespersons, 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.

Figure 13: ANZSCO WA Shares Model



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

Industry liaison and advice

Through extensive industry consultation, the ten Training Councils provide the Department with high level strategic information and advice regarding workforce development and training needs and priorities for each of their industry sectors.

As in previous years, 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. Through a consultative process with the Department, each Training Council provides advice on critical occupations and skill demands.

This year, in addition to the work undertaken for the State priority occupation list, Training Councils for the first time have finalised industry workforce development plans. These plans outline the skilled labour needs and workforce development strategies for their specific industry groups. They also provide recommendations for building, attracting and retaining a skilled workforce and have informed *Skilling WA – A workforce development plan for Western Australia*.

Workforce Development Plans for each industry Training Council are listed below:

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

Regional advice

Regional Workforce Development Plans 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 aligned to the five strategic goals of Skilling WA.

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

Comprehensive workforce development plans for each region continue to be progressively developed. These plans will inform the State Training Plan and Skilling WA.

An update to the Goldfields Esperance workforce development plan which was published in 2008 has been commissioned. The Alliance overseeing the implementation of the 2008 plan has continued to be proactive in driving and monitoring the initiatives within the Plan.

A number of initiatives developed in response to the recommendations contained in the updated Peel workforce development plan have continued to be implemented.

Individual Mid West and Gascoyne workforce development plans are currently being finalised and will be released shortly. Again a steering committee of local stakeholders have been involved in the development of these Plans. The steering committee has already overseeing a number of local initiatives aimed at improving skills development and attraction and retention of skilled workers in the region.

Work on the Wheatbelt workforce development plan commenced in July 2011 and will be carried out under the guidance of a steering committee based in the region.

The process to commission a consultant to undertake the Pilbara Workforce development plan is currently underway. It is expected the project will commence in September 2011.

Workforce development plans for the Kimberley, South West and Great Southern regions will be commissioned by October 2011.

5.4. 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 Schools²⁷.

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 has agreed to pilot a program based on an Advanced Pre-apprenticeship model in the following three key trade areas:

- Carpentry and Joinery;

²⁷ The Spectrum of Training Delivery Models and Training Pathways, Marketing and Schools sub-groups amalgamated in December 2010.

- Commercial Cookery; and
- Telecommunications.

Funding has been approved for the pilots to be developed. The pilots align with the Skilling WA, Strategy 4.1.1 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.

Pit Crew Report

Pit Crew Management and Consulting Services (Pit Crew) produce twice yearly reports that provide forecasts of the labour requirement associated with current and pending construction and engineering projects in the State over the next five years.

The report is broadly helpful as an indication of the expected profile of labour demand in coming years, and is also useful in identifying key areas where acute pending construction skills shortages are most likely. The report is also considered by the Department of Training and Workforce Development in the validation of occupations in the State priority occupations list.

Included in the Pit Crew Report is a detailed analysis of the labour demand with respect to the 10 most significant resource sector occupations that relate to the vocational education and training sector. In particular, the report reinforces the significant demand for the following trade workers:

- Structural steel and welding;
- Metal fitters and machinists;
- Electricians;
- Motor mechanics; and
- Carpenters and joiners.

The table in Appendix C shows a summary of the construction labour demand and the anticipated relative difficulty²⁸ in sourcing labour for projects over the next three to four years, which ranges from good availability to acute shortage.

As can be seen from the table, it is predicted that if all projects go ahead in accordance with the model, acute shortages of labour (forecast demand 50% greater than labour available in Western Australia) will occur for all the occupations listed (with the key exceptions of structural steel and welding trades workers, and earthmoving plant operators).

²⁸ The relative difficulty in sourcing labour relates to the ability to recruit specific skills *originating* from Western Australia.

6. Training System Progress towards State Training Plan Priorities

In addition to the key inputs that feed into the State Training Plan, an analysis of the progress against the priorities of previous Plans has been undertaken.

Preceding State Training Plans have been developed to support current and future economic growth and have identified training strategies to address the skill needs of Western Australia. These plans have been developed to reflect State and national priorities for training, with a particular focus on:

- growth of apprenticeships and traineeships;
- improving training participation and outcomes for under-represented client groups, including Aboriginal Western Australians and people with a disability;
- training in identified priority areas, which not only include those sectors that relate to mining and building and construction, but also to other sectors that support the State, such as health, community services and education; and
- growth in the delivery of higher level qualifications.

The strategies developed for the previous State Training Plan also reflect the key deliverables as outlined in *Training WA*.

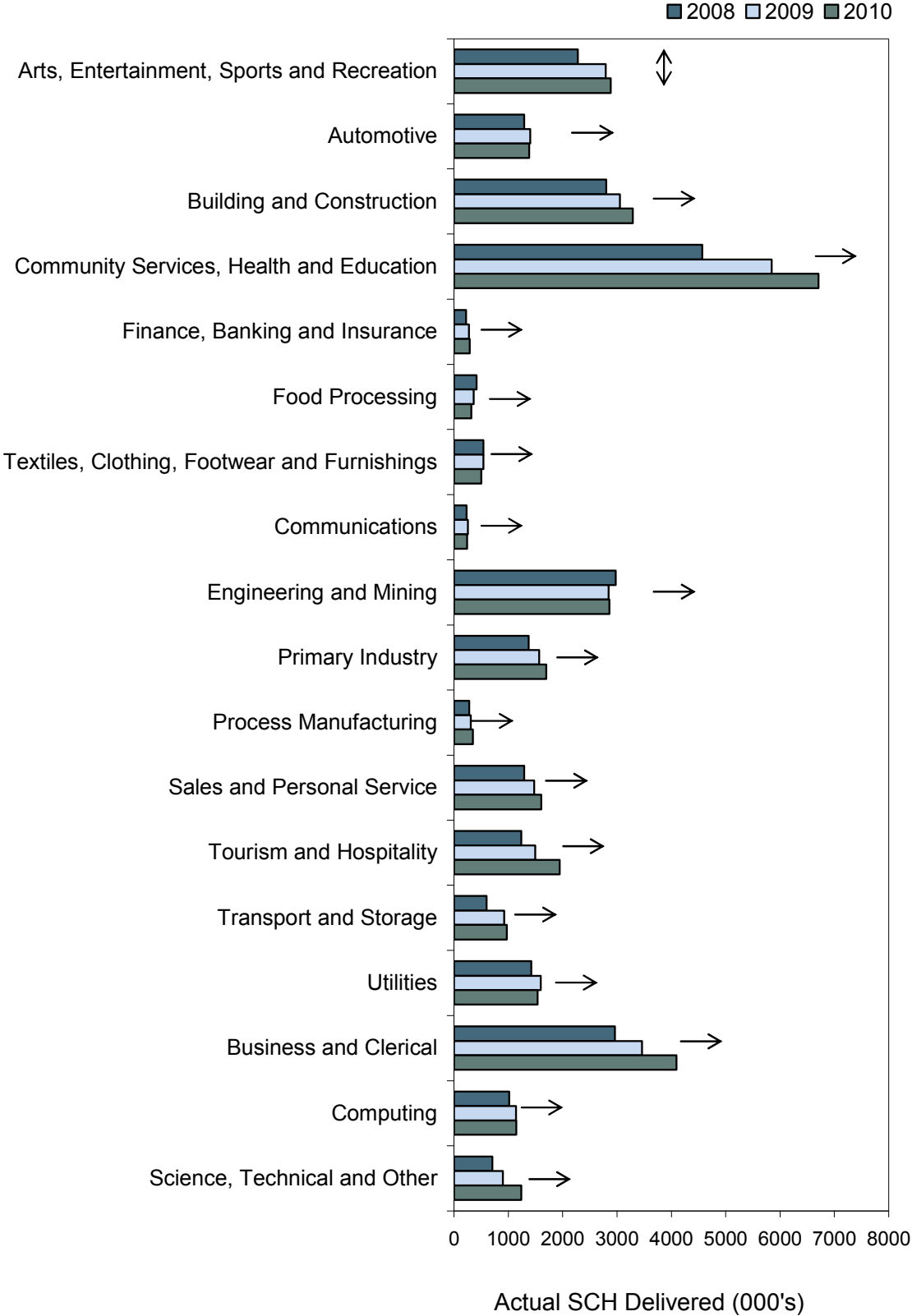
The following is an analysis of progress to date.

State Training Plan Growth Targets

The State Training Plan 2010-2012 growth targets were developed to assist the State to move from a period of economic instability to a period of growth. This would be achieved through increased training places under the Australian Government's Productivity Places Program.

The graph in Figure 14 identifies the actual student curriculum hours (SCH) delivered for the period 2008-2010 for each occupational group against the targets set in the 2010-2012 plan. The graph illustrates the occupational groups targeted for maintenance of training delivery effort by the arrow symbol ↓, whilst those targeted for an increase in training delivery are marked with the symbol → .

Figure 14: Achievement against 2010-2012 Growth Targets



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

For the 2010-2012 plan, all broad occupational groups with the exception of arts, entertainment, sports and recreation were targeted for priority growth. No occupational categories were earmarked for reduction given that increased funding was being made available through the Productivity Places Program.

The results in the above graph illustrate that the majority of occupational groups targeted for increased training achieved growth between 2009 and 2010. This is likely due to the increased allocated funding from both the State and Australian Governments to support the development of a skilled workforce.

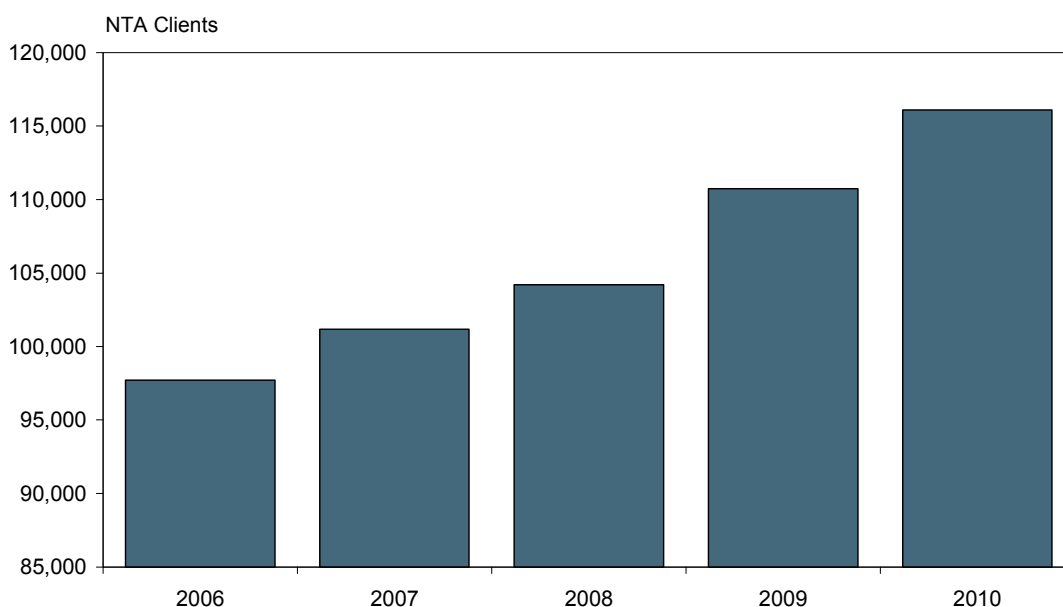
Participation in training

Increasing the participation of people in training is a key component in developing a skilled workforce for Western Australia.

Figure 15 illustrates that training participation has grown considerably since 2006 with an overall increase of 18.8% and the most significant growth occurring between 2008 and 2010.

The increased demand for training during the economic downturn between 2008 and 2010 is likely due to people commencing training and education programs rather than moving into the workforce. In addition, increased funding initiatives would have contributed to the increase in training participation.

Figure 15: Publicly funded²⁹ VET Clients 2006 to 2010



Source: Department of Training and Workforce Development AVETMISS VET Provider Collection

²⁹ Funded under the National Training Agreement

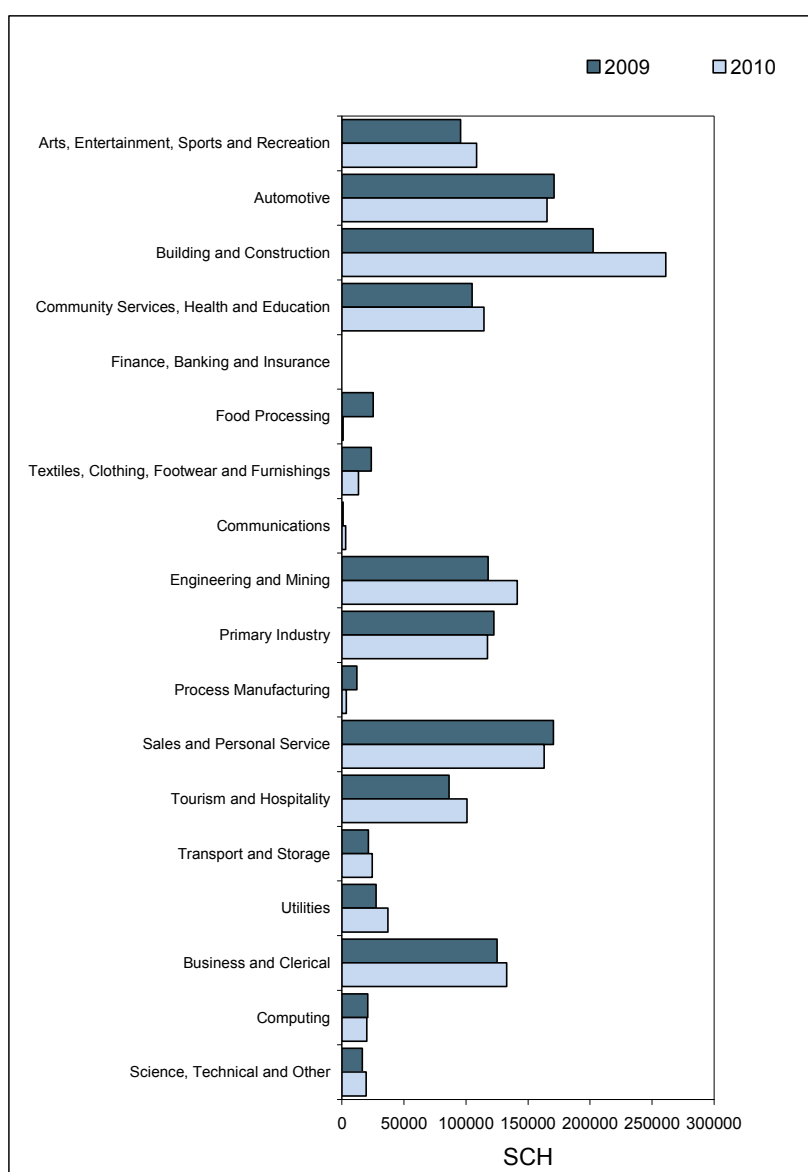
VET in Schools

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 in state training plans has been to more closely align enrolments in VET in Schools programs with industry priorities. This was seen as necessary in light of feedback from industry and also the fact that resources for these programs have been capped.

As illustrated in Figure 16 below, there has been a significant increase in the areas of building and construction, and engineering and mining which indicates that the above strategy has been successful in the planned delivery of VET in Schools.

Figure 16: VET in Schools delivery



Source: National Training Agreement funded VET in Schools by Broad WADT Group, Department of Training and Workforce Development AVETMISS VET Provider Collection.

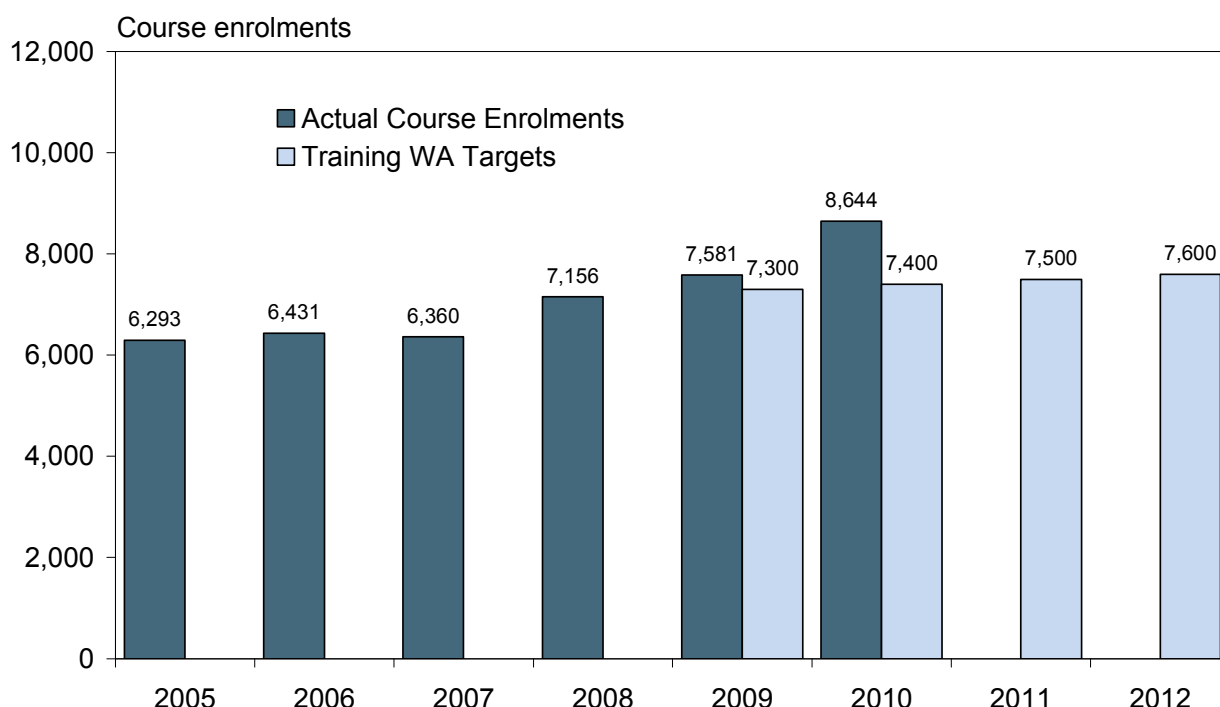
Aboriginal people’s participation in employment related training

As can be seen in Figure 17, in recent years there has been an increase in the participation of Aboriginal³⁰ people in employment based training³¹.

Most significant is the 14% increase in the period 2009 to 2010. This increase is likely to be due to the implementation of initiatives such as *Training together-working together* which was developed to address the low levels of participation of Aboriginal people in the State’s workforce.

As illustrated in the chart below, the targets for 2012 have already been exceeded. It must be noted that the targets listed below were sourced from *Training WA* which was published in 2009 using 2008 baseline data.

Figure 17: Aboriginal participation in employment related training 2005 to 2010



Source: Department of Training and Workforce Development AVETMISS VET Provider Collection

Growth in higher level qualification enrolments

In line with the deliverables of *Training WA* and the *National Agreement on Skills and Workforce Development*, Figure 18 highlights the State’s achievement in increasing the delivery of higher level qualifications.

³⁰ The term Aboriginal is inclusive of Torres Strait Islander people

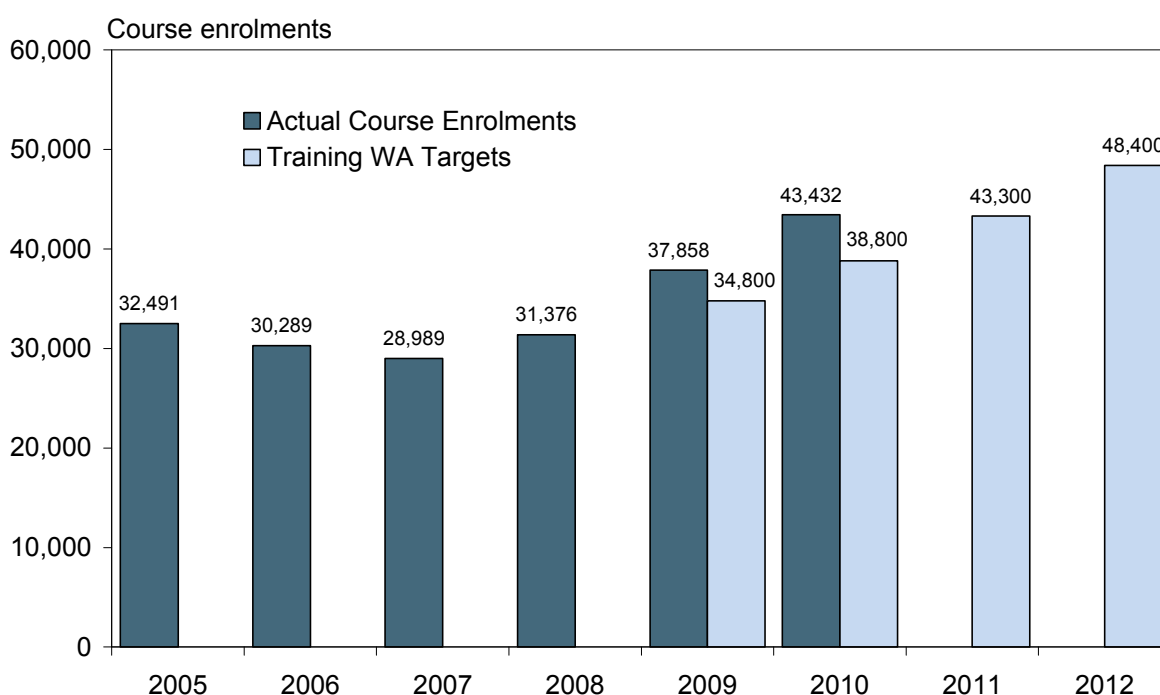
³¹ Employment Based Training (EBT) combines practical experience at work with structured training. Apprentices enter into a formal training contract with an employer which leads to a national qualification and recognition as a tradesperson. Traineeships provide employment and structured training over 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.

The graph shows the number of course enrolments at Certificate IV level and above over the period 2005 to 2010.

Whilst there has been continued growth up until 2010, the most marked increase occurred between 2008 and 2009. This spike can again be attributed to the downturn in the economy and people returning to training rather than entering the workforce during this time.

It also appears that the targeted purchasing by the Department of high level qualifications and the implementation of pilot projects aimed at canvassing barriers and opportunities and promoting higher level qualifications as a partnership between enterprises and registered training organisations has been successful.

Figure 18: Certificate IV and above training delivery 2005 to 2010



Source: Department of Training and Workforce Development AVETMISS VET Provider Collection

Increasing apprenticeships and traineeships

A key priority in previous State Training Plans has been to target growth in the delivery of apprenticeships and traineeships.

Table 1 and Figures 19 and 20 below illustrate the number of apprenticeship and traineeship numbers ‘in training’ as well as commencements and completions for the period 2003 to 2010.

As can be seen from the graphs below, for the period 2003 to 2010, there has been a 60% increase in the number of apprentices and trainees ‘in training’.

Whilst there was a general decrease between 2008 and 2009 in apprenticeship commencements and apprentices ‘in training’, this can be attributed to the economic downturn and employers not taking on apprentices at this time.

However from 2009 to 2010, the number of commencements for apprenticeships increased by 43%. This increase is likely to be the result of an improving economy and employers seeking to build on their existing skill base.

The table and graphs also show that there has been an increase in traineeships. Since 2003, the number of trainees 'in training' has increased from 11,732 to 20,061 in 2010. This represents an increase of 71% and is a result from growth in the number and availability of traineeships, greater national incentives and increased activity by training organisations in the training market.

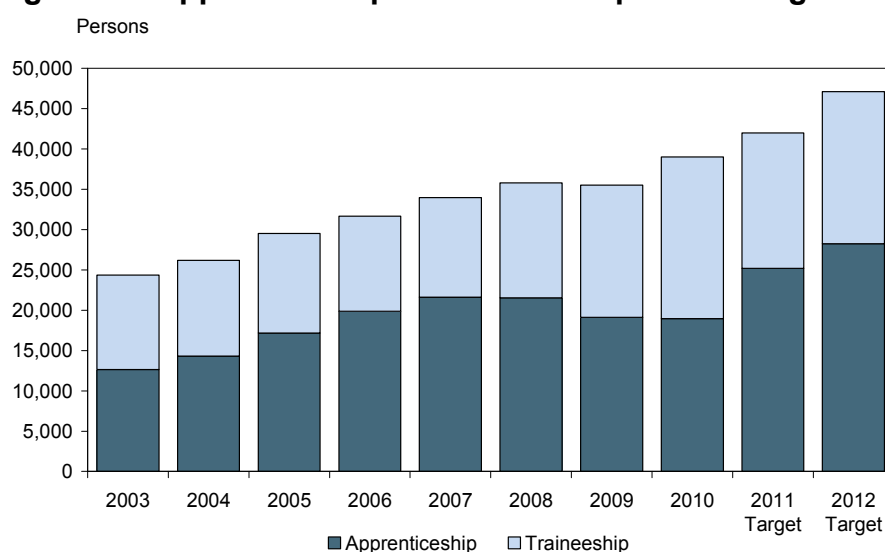
Note: The increase in apprenticeship and traineeship commencements is consistent with the findings in *Australian vocational education and training statistics: apprentices and trainees 2010 annual* published by the National Centre for Vocational Education Research (NCVER)³².

Table 1: Apprenticeships and traineeships participation 2003 to 2010

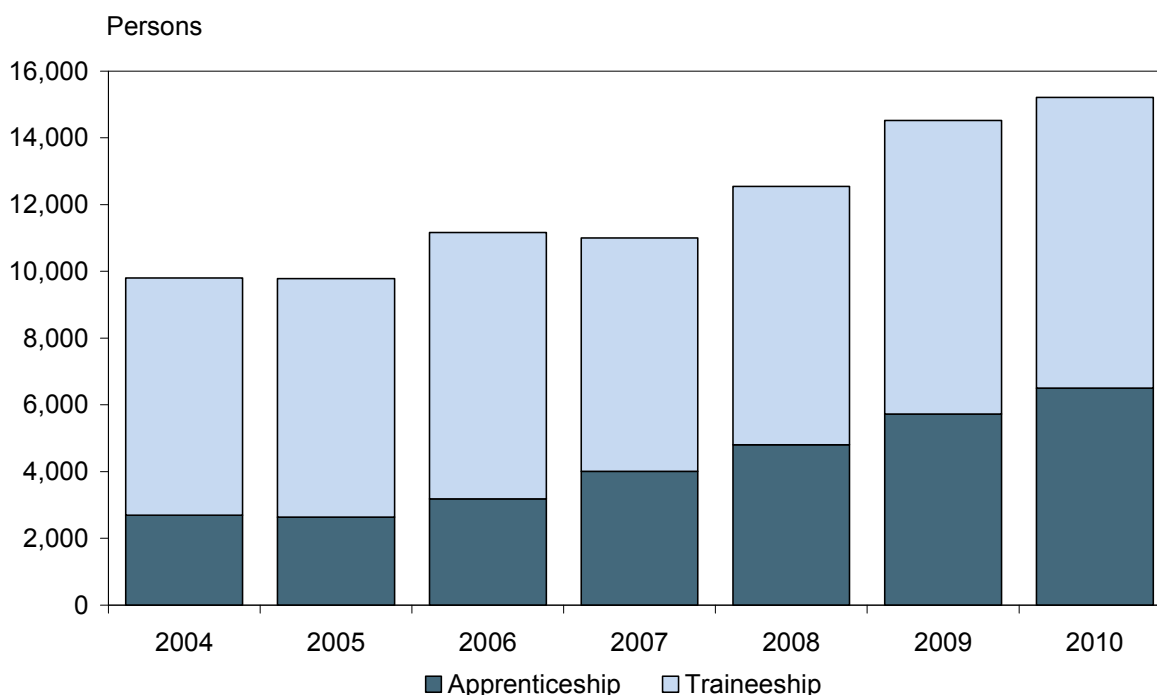
	Apprenticeship			Traineeship		
	In Training	Completed	Commenced	In Training	Completed	Commenced
2003	12,633	2,657	5,367	11,732	4,811	11,373
2004	14,328	2,692	6,451	11,841	7,110	13,353
2005	17,165	2,633	7,808	12,365	7,152	13,407
2006	19,869	3,179	8,916	11,792	7,989	13,709
2007	21,607	4,012	9,402	12,355	6,983	14,442
2008	21,555	4,807	8,779	14,231	7,743	16,918
2009	19,105	5,721	7,111	16,418	8,801	17,093
2010	18,962	6,499	10,177	20,061	8,707	18,834

Source: TRS data

Figure 19: Apprenticeship and traineeship 'in training'



³² NCVER, 28 July 2011, *Australian vocational education and training statistics: apprentices and trainees 2010 annual*, p 7.

Figure 20: Apprenticeship and traineeship completions

Source: TRS data

Summary - progress against *Training WA: Planning for the future 2009-2018*

Training WA Planning for the future 2009-2018 outlines the State Government's short, medium and long term plan to ensure the skills needs of industry are met and that individuals are provided with greater access to training. *Training WA* contains a range of deliverables and initiatives to transform the training system into one that is more flexible and responsive. It also captures a majority of the areas of focus of previous state training plans.

The table below provides a summary on the progress towards the 2012 key deliverables.

Table 2: Summary of *Training WA* key deliverables and achievements

Key Deliverables	2008 Actuals	2009 Actuals	2010 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	48,400
5 000 more apprentices and trainees will be in training by 2012.	37,281	36,197	39,023	47,100
30,000 Aboriginal people will be enrolled in employment related training from 2009 to 2012.	7,170	7,603	8,644	7,600
33 000 Western Australians will be enrolled in Certificate I foundation training during 2009 and 2010.	15,938	14,682	11,701	16,700*
450 courses at certificate III and above will be available to regional Western Australians by 2012.	403	466	511	450

Key Deliverables	2008 Actuals	2009 Actuals	2010 Actuals	2012 Target
The proportion of training delivery allocated through competitive processes will increase from 27% in 2008 to 50% in 2012.	27%	67%	72%	50%
Graduate achievement of their main reason for study will be maintained at more than 85% each year to 2012. ³³	89%	87%	87%	85%
Employer satisfaction with training will increase from 72% in 2007 to 85% by 2012. ³⁴	72%	87%	87%	85%

* Target for 2010

Source: WA AVETMISS VET Collection, VET Enrolment Statistics Unit

As illustrated in Table 2, five of the eight targets set for 2012 have already been exceeded, particularly for the proportion of training delivery allocated through competitive processes, Aboriginal employment related training and the number of Certificate III courses available to regional Western Australia.

Increasing the number of apprenticeships and traineeships remains a key challenge, and is largely dependent on the willingness of employers to take on apprentices, particularly in times of economic downturn.

The other challenge is to increase the amount of foundations training – the limiting factor appears to be the competition for available resources against priority skills training, which has been the focus of recent additional funding streams, with set criteria on how the funds are spent. For example, the funding from the Productivity Places Program can only be applied to qualifications at Certificate II and above and therefore precludes Certificate I foundations training.

³³ Source: PES – Student Outcome Survey 2010

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

7. Recommended State Purchasing Priorities 2012-2015

As in previous years, the State Training Plan 2012-2015 is set within the context of current State and national VET policies, commitments and agreements.

The *National Agreement on Skills and Workforce Development* sets out the targets for the VET sector nationally and *Training WA: Planning for the future 2009-2018* outlines the State Government's short, medium and long term plan to ensure the skill needs of industry are met and to provide Western Australians with greater access to training.

In addition to the above priorities, the State Training Plan takes into account the Department's (DTWD) planning processes which are related to training and workforce development and includes economic and labour market analysis and modelling, and draws on industry and regional advice.

Given the above planning framework, the following recommended purchasing priorities for 2012-2015 have been identified to ensure the State is able to build a more responsive and robust training system and address the skill requirements of Western Australia.

Growth in Employment Based Training – apprenticeships and traineeships

As in previous years, in response to State and national commitments, the Department will be continuing to give priority to apprenticeship and traineeship delivery. It is recommended that this be at two levels:

Top Priority

The following occupational areas be given highest priority to reflect the strong forecast for the increased training against current delivery:

- electrotechnology and telecommunications;
- automotive and engineering; and
- construction.

The focus on increased training delivery for the electrotechnology and telecommunications area in particular is supported by the forecast demand for resource and infrastructure projects and the introduction of the National Broadband Network (NBN)³⁵ scheduled to begin in 2014.

Priority

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

Note: Although traditionally apprenticeships have been a focus, the delivery of traineeships is also important to ensure that Western Australia has the necessary skilled workforce for a range of industries that are not construction or trade related. Further, traineeships also help build a culture of on-the-job training in enterprises.

³⁵ The NBN is a new, wholesale-only, open access high-speed broadband network that will deliver high-speed broadband to all Australians. *NBN Empowering Australia* - <http://www.nbn.gov.au/>

Priority institutional training delivery aligned to industry need

Again, it is recommended that priority be established at two levels:

Top Priority

In line with the outcomes of labour market analysis, the highest priority for growth in delivery should be given to the occupational groups as listed below:

- electrotechnology and telecommunications;
- automotive and engineering;
- specialist managers;
- education professionals;
- machine and stationary plant operators;
- design, engineering, science and transport professionals; and
- construction trade workers.

Priority

The labour market analysis indicates that priority should be given to the following occupational groups. Training in these groups should either be maintained or increased and include:

- business, human resources and marketing professional;
- protective service workers;
- sales representatives and agents;
- road and rail drivers;
- hospitality, retail and service managers;
- cleaners and laundry workers;
- inquiry clerks and receptionists;
- legal, social and welfare professionals;
- ICT professionals;
- carers and aides;
- office managers and program administrators;
- mobile plant operators; and
- other clerical and administrative workers.

High level skills

To meet long term national agreement targets and to align with other priorities, such as *Training WA* and the Australian Government's *Building Australia's Future Workforce*, it is recommended that additional weighting continue to be given to those occupations that have a higher level qualification.

Increased training participation and improved language, literacy and numeracy levels

To support a key strategic goal of Skilling WA which is to increase participation in the workforce, and the strategies outlined in *Training together - working together* and *Building*

*diversity and equity in training 2010–18*³⁶, it is recommended that training opportunities are maximised for those who may be currently under-represented in some areas of training and the workforce. These individuals tend to come from diverse backgrounds and include:

- people with disabilities;
- people from culturally and linguistically diverse (CALD) backgrounds;
- Aboriginal Western Australians;
- residents in regional and remote areas;
- women with dependents; and
- young people.

It is also recommended that there is a focus on those qualifications that can provide appropriate pathways to further training in the high priority areas identified in this Plan.

In addition, fundamental literacy and numeracy skills are a critical issue for all industry sectors of the State and therefore an increase in the provision of this training needs to be made in the Department's purchasing strategies. This is in line with the proposed National Foundation Skills Strategy for Adults which is under development³⁷.

This priority is supported by the State Government's commitment of \$6.4 million allocated in the 2011-2012 Budget. This additional funding will provide 3,415 training places and focuses on increasing workforce participation for Western Australians who are under-represented in the workforce, returning to the workforce or from culturally and linguistically diverse backgrounds. Another \$3.86 million has been allocated to provide 1,131 training places to assist Aboriginal people into the workforce. The training will include Certificate I and II level training, and will allow job seekers to undertake skills training and work-readiness programs to take advantage of future employment opportunities.

Conclusion

In conclusion, 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 *Building Diversity and Equity in Training 2010-2018* outlines the Department of Training and Workforce Development's commitment to creating a training sector that meets the diverse learning needs and goals of all Western Australians, regardless of differences in gender, ability, age, location and social and cultural backgrounds.

³⁷ DEEWR, National Foundation Skills Strategy for Adults, <http://www.deewr.gov.au/Skills/Overview/Policy/Pages/NFSSforAdults.aspx>

8. Procurement for the State Training Plan

The Service Resource Management Directorate 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), Vocational Education and Training Centre (VTEC), Workforce Development Centres, Group Training Organisations and other organisations. The Directorate manages all aspects of relationships with contractors and service providers.

The Service Resource Management Directorate designs and manages the Department's procurement processes to reflect: the long term planning goals of *Skilling WA – A Workforce Development Plan for WA*; the priorities in the National Agreement on Skills and Workforce Development; the various National Partnership Agreements and the medium and short term targets contained within the State Training Plan.

The training procurement processes utilised by the Department give effect to the priorities contained in the State Training Plan.

In the case of State Training Providers (STP's) this is done through the Delivery and Performance Agreements process. Delivery and Performance agreements contain negotiated training delivery profiles which are aligned to the 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 Productivity Places Program.
- 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 Access 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 Access 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 2011 – Guidelines and Methodology

Introduction

This paper is an information paper and details the process undertaken in the creation of the *State priority occupation list* to be released in mid-2011.

Described below are the actions undertaken by the Department of Training and Workforce Development throughout the first half of 2011 in order to produce the list. Included are detailed descriptions of:

- the statistical methodologies used to determine the initial rankings of 738 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 239 state 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 *State priority occupation list* 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 State priority occupation list.

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 738 occupations deemed of sufficient relevance or importance to the Western Australian economy and therefore for potential inclusion on the State priority occupation list.

Occupational ranking

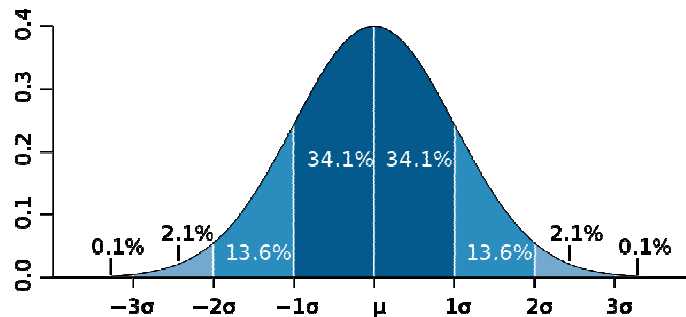
There are six primary indicators used to create the State priority occupation list:

- employment level;
- employment growth;
- average age of employed;
- net replacement rate;
- 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, ignoring the sign of the difference.

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 (60%) applied to the employment-related indicators. This recognises the primary purpose of the *State priority occupation list* as being employment related.

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

Table 1: Indicator weightings

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.

These standard deviation calculations are repeated for all 738 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).

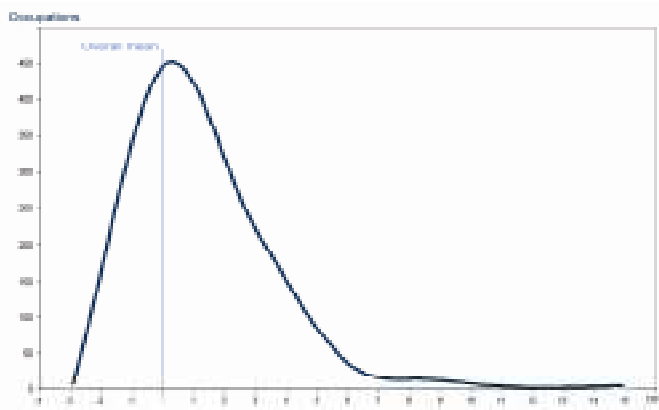
The level of an occupation's OPI score will determine its rank against each of the 738 occupations, basically the higher the OPI score, the higher the occupation's ranking. This ranked list is then divided into ten equal parts, or deciles.

Each decile contains approximately 73 occupations, representing ten per cent of all ANZSCO occupations in Western Australia. Decile 1 represents statistically the top ten per cent of occupations (in terms of employment, employment growth etc.), while decile 10 represents statistically the bottom 10 per cent.

The calculation of the OPI is included in Attachment 3.

The application of the abovementioned 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



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;
- is identified by the relevant Training Council in their workforce development plan in 2011.
- is identified by the Department of Education, Employment and Workplace Relations as an occupation in demand;
- 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

The ranked occupations were provided to Training Councils on 25 January 2011. This preliminary State priority occupation list included all 738 occupations in the form of an Access database showing the ANZSCO-coded occupations, skill levels, data

flags and the decile ranking. The database also included a preliminary list of qualifications that were matched to each occupation. The Training Councils were requested to:

- determine if the ANZSCO occupations linked to them were correct — that is, whether the Training Council would have the scope to verify the details on the identified occupations requested by the Department;
- verify that occupations identified in their Industry Workforce Development Plan 2011 were correctly recorded in the database;
- verify whether the qualifications linked to the occupation were correct;
- identify if the qualifications listed were at pre-entry level, entry level or post-entry for the specified qualification; and
- provide evidence if they did not agree or had concerns regarding an occupation's assigned decile.

All ten Training Councils returned the database with their feedback on 25 February 2011. The majority of comments related to the correspondence between qualifications and occupations and qualifications that were outdated. Feedback relating directly to occupations was taken into account in the compilation of the final list.

All data and qualitative information provided by Training Councils has been recorded in an information management system, creating a history of consultation and knowledge that has occurred relating to specific occupations. Over time, this history will become a highly valuable resource for the Department in decision making on training and migration issues relating to specific occupations.

Business rules for the compilation of the final list

As in previous years, the State priority occupation list includes a two-tier structure indicating occupational priority. In 2011 the terminology has changed to give a clearer indication of each occupation's relative priority, and to provide a more 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. The prioritisation also includes a transitional arrangement whereby previously 'top' priority occupations are managed off the list over a twelve-month period.

Summarised below are the business rules used in determining the relative priority for each occupation on the State priority occupation list.

State Priority 1

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

- in the top 10% (decile 1) of occupations on the OPI and has been identified by the relevant Training Council in their current Workforce Development Plan; or
- in the top 40% (deciles 1–4) of occupations on the OPI, has been identified by the relevant Training Council in their current Workforce Development Plan and was previously on the State priority occupation list as a top or high priority.

There are 116 occupations listed in the OPI which are deemed State Priority 1 according to this business rule.

State Priority 2

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

- in the top 40% (deciles 1–4) of occupations on the OPI, has been identified by the relevant Training Council in their current Workforce Development Plan and was previously on the State priority occupation list as a 'priority' (26 occupations);
- in any decile, identified by the relevant Training Council in their current Workforce Development Plan, was previously on the State priority occupation list as a top or high priority and identified as an occupation in demand by DEEWR (33 occupations);
- in any decile, identified by the relevant Training Council in their current Workforce Development Plan, was previously on the State priority occupation list as a top priority (16 occupations); or
- was not identified this year by the Training Council, but was previously listed on the State priority occupation list as a top priority. These occupations will be transitioned off the list if they are not identified by the Training Council in the following year (44 occupations).

In addition, there have been three occupations upgraded to State Priority 2 following the provision of evidence by Training Councils. This evidence relates specifically to deficiencies in the ANZSCO coding structure due to the changing nature of occupations, or issues relating to the statistical collection which have resulted in understated employment and employment growth figures. These occupations are:

- 312113, Building inspector
- 423411, Child or youth residential care assistant
- 899211, Deck hand

In all, there are 123 State Priority 2 occupations, making 239 State priority occupations overall. These are provided in Attachment 1.

Industry Training Council-Identified Priority

Additional to the State Priority Occupation List, 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.

Industry Training Council-Identified Priority occupations will not be considered for inclusion on the Western Australian skilled migration occupation list. The Department will 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.

There are 125 Industry Training Council-Identified Priority occupations, and these are provided in Attachment 2.

Further developments

Work is also being undertaken to correctly identify courses and qualifications associated with the State and industry-identified priority occupations. The list of courses will be used as the basis for consultation with Training Councils and Strategic Resource Management for the development of the Priority qualifications list (PQL). The PQL is used in the planning and monitoring of training delivery in Western Australia, as specified in the State Training Plan.

<http://www.stb.wa.gov.au/AboutUs/Pages/Publications.aspx>).

The 2011 list will also be used as the basis for the revision of the Western Australian Skilled Migration Occupation List (WASMOL), in negotiation with the Commonwealth Government. Because the WASMOL targets the highest priority occupations, only State Priority 1 and State Priority 2 occupations will be considered for inclusion.

State priority occupation list 2011**State Priority 1**

221111	Accountant (general)	323211	Fitter (general)
231111	Aeroplane pilot	323212	Fitter and turner
423111	Aged or disabled carer	323213	Fitter-welder
232111	Architect	231113	Flying instructor
312111	Architectural draftsman	234411	Geologist
321111	Automotive electrician	391111	Hairdresser
431111	Bar attendant	231114	Helicopter pilot
551211	Bookkeeper	423311	Hospital orderly
331111	Bricklayer	431411	Hotel service manager
312112	Building associate	132311	Human resource manager
731211	Bus driver	135199	ICT managers not elsewhere classified
351211	Butcher or smallgoods maker	135112	ICT project manager
141111	Cafe or restaurant manager	411112	Intensive care ambulance paramedic
149211	Call or contact centre manager	331213	Joiner
331212	Carpenter	312911	Maintenance planner
331211	Carpenter and joiner	411611	Massage therapist
351311	Chef	233512	Mechanical engineer
233111	Chemical engineer	251211	Medical diagnostic radiographer
111111	Chief executive or managing director	322311	Metal fabricator
135111	Chief information officer	323299	Metal fitters and machinists not elsewhere classified
421111	Child care worker	323214	Metal machinist (first class)
233211	Civil engineer	254111	Midwife
312211	Civil engineering draftsman	321211	Motor mechanic (general)
312212	Civil engineering technician	423312	Nursing support worker
272311	Clinical psychologist	251312	Occupational health and safety adviser
411711	Community worker	332211	Painting trades worker
821211	Concreter	324111	Panelbeater
133111	Construction project manager	423313	Personal care assistant
511111	Contract administrator	233612	Petroleum engineer
351411	Cook	334111	Plumber (general)
149212	Customer service manager	441312	Police officer
423211	Dental assistant	132411	Policy and planning manager
712211	Driller	442111	Prison officer
721211	Earthmoving plant operator (general)	133513	Production manager (mining)
233311	Electrical engineer	133112	Project builder
312311	Electrical engineering draftsman	612112	Property manager
312312	Electrical engineering technician	253411	Psychiatrist
341111	Electrician (general)	254412	Registered nurse (aged care)
312412	Electronic engineering technician	254413	Registered nurse (child and family health)
342313	Electronic equipment trades worker	254414	Registered nurse (community health)
133211	Engineering manager	254415	Registered nurse (critical care and emergency)
712311	Engineering production worker	254416	Registered nurse (developmental disability)
411411	Enrolled nurse	254417	Registered nurse (disability and rehabilitation)
251311	Environmental health officer	254421	Registered nurse (medical practice)
333211	Fibrous plasterer	254418	Registered nurse (medical)
132211	Finance manager	254422	Registered nurse (mental health)
		254423	Registered nurse (perioperative)

254499	Registered nurses not elsewhere classified	321212	Diesel motor mechanic
251513	Retail pharmacist	411712	Disabilities services officer
231212	Ship's engineer	334113	Drainer
231213	Ship's master	272112	Drug and alcohol counsellor
272511	Social worker	342211	Electrical lines worker
333212	Solid plasterer	341112	Electrician (special class)
149113	Sports centre manager	312411	Electronic engineering draftsman
133611	Supply and distribution manager	342314	Electronic instrument trades worker (general)
232212	Surveyor	233411	Electronics engineer
731112	Taxi driver	323411	Engineering patternmaker
342414	Telecommunications technician		Engineering professionals not elsewhere classified
423314	Therapy aide	233999	
712918	Train controller	221213	External auditor
731311	Train driver	222112	Finance broker
223311	Training and development professional	149914	Financial institution branch manager
149413	Transport company manager	222311	Financial investment adviser
733111	Truck driver (general)	222312	Financial investment manager
232611	Urban and regional planner	332111	Floor finisher
242211	Vocational education teacher	721311	Forklift driver
431511	Waiter	394211	Furniture finisher
712921	Waste water or water plant operator	334114	Gasfitter
322313	Welder (first class)	531111	General clerk
272613	Welfare worker	233212	Geotechnical engineer

State Priority 2

411511	Aboriginal and Torres Strait Islander health worker	251911	Health promotion officer
311111	Agricultural technician	223111	Human resource adviser
334112	Airconditioning and mechanical services plumber	261111	ICT business analyst
342111	Airconditioning and refrigeration mechanic	313112	ICT customer support officer
323111	Aircraft maintenance engineer (avionics)	552312	Insurance consultant
323112	Aircraft maintenance engineer (mechanical)	232112	Landscape architect
411111	Ambulance officer	362213	Landscape gardener
252711	Audiologist	341113	Lift mechanic
351111	Baker	323313	Locksmith
552111	Bank worker		Marine transport professionals not elsewhere classified
399111	Boat builder and repairer	231299	
312113	Building inspector	231211	Master fisher
394111	Cabinetmaker	311312	Meat inspector
234211	Chemist	312511	Mechanical engineering draftsman
311411	Chemistry technician	312512	Mechanical engineering technician
134111	Child care centre manager	234611	Medical laboratory scientist
423411	Child or youth residential care assistant	251212	Medical radiation therapist
252111	Chiropractor	322114	Metal casting trades worker
811211	Commercial cleaner	312912	Metallurgical or materials technician
312114	Construction estimator	234912	Metallurgist
552211	Credit or loans officer	312913	Mine deputy
899211	Deck hand	233611	Mining engineer (excluding petroleum)
252311	Dental specialist	121411	Mixed crop and livestock farmer
411213	Dental technician	321213	Motorcycle mechanic
252312	Dentist	251213	Nuclear medicine technologist
		254411	Nurse practitioner
		134212	Nursing clinical director
		252411	Occupational therapist
		512111	Office manager
		251411	Optometrist

351112	Pastrycook
521111	Personal assistant
621411	Pharmacy sales assistant
252511	Physiotherapist
252611	Podiatrist
399213	Power generation plant operator
323314	Precision instrument maker and repairer
322312	Pressure welder
233513	Production or plant engineer
591113	Purchasing officer
233213	Quantity surveyor
612115	Real estate representative
542111	Receptionist (general)
223112	Recruitment consultant
254424	Registered nurse (surgical)
411715	Residential care officer
142111	Retail manager (general)
334115	Roof plumber
333311	Roof tiler
131112	Sales and marketing manager
621111	Sales assistant (general)
323315	Saw maker and repairer
521211	Secretary (general)
361211	Shearer
322211	Sheetmetal trades worker
231215	Ship's surveyor
399112	Shipwright
321214	Small engine mechanic
251214	Sonographer
252712	Speech pathologist
331112	Stonemason
312116	Surveying or spatial science technician
422116	Teachers' aide
342212	Technical cable jointer
342412	Telecommunications cable jointer
263311	Telecommunications engineer
342413	Telecommunications lines worker
313213	Telecommunications network planner
313214	Telecommunications technical officer or technologist
323412	Toolmaker
324211	Vehicle body builder
324311	Vehicle painter
234711	Veterinarian
333411	Wall and floor tiler
591116	Warehouse administrator
394213	Wood machinist

Industry Training Council-Identified Priorities 2011

422111	Aboriginal and Torres Strait Islander education worker	224212	Gallery or museum curator
141999	Accommodation and hospitality managers not elsewhere classified	362211	Gardener (general)
551111	Accounts clerk	399212	Gas or petroleum operator
721111	Agricultural and horticultural mobile plant operator	234412	Geophysicist
149111	Amusement centre manager	711113	Glass production machine operator
311211	Anaesthetic technician	232411	Graphic designer
361199	Animal attendants and trainers not elsewhere classified	451812	Hair or beauty salon assistant
121311	Apiarist	313111	Hardware technician
362212	Arborist	512211	Health practice manager
212111	Artistic director	149999	Hospitality, retail and service managers not elsewhere classified
139911	Arts administrator or manager	141311	Hotel or motel manager
431112	Barista	542113	Hotel or motel receptionist
141911	Bed and breakfast operator	599411	Human resource clerk
712912	Bulk materials handling plant operator	262112	ICT security specialist
541112	Call or contact centre operator	263299	ICT support and test engineers not elsewhere classified
541111	Call or contact centre team leader	263212	ICT support engineer
399512	Camera operator (film, television or video)	313199	ICT support technicians not elsewhere classified
393111	Canvas goods fabricator	233511	Industrial engineer
141211	Caravan park and camping ground manager	599599	Inspectors and regulatory officers not elsewhere classified
149912	Cinema or theatre manager	611211	Insurance agent
599999	Clerical and administrative workers not elsewhere classified	599611	Insurance investigator
393212	Clothing patternmaker	422112	Integration aide
272611	Community arts worker	452413	Jockey
263111	Computer network and systems engineer	224611	Librarian
149311	Conference and event organiser	399312	Library technician
712111	Crane, hoist or lift operator	141411	Licensed club manager
262111	Database administrator	452414	Lifeguard
212312	Director (film, television, radio or stage)	721112	Logging plant operator
451211	Driving instructor	831211	Meat boner and slicer
811512	Drycleaner	542114	Medical receptionist
241111	Early childhood (pre-primary school) teacher	121317	Mixed livestock farmer
342315	Electronic instrument trades worker (special class)	721999	Mobile plant operators not elsewhere classified
441211	Emergency service worker	232413	Multimedia designer
233915	Environmental engineer	211299	Music professionals not elsewhere classified
139912	Environmental manager	211213	Musician (instrumental)
234399	Environmental scientists not elsewhere classified	263112	Network administrator
721214	Excavator operator	452317	Other sports coach or instructor
322113	Farrier	452215	Outdoor adventure instructor
899212	Fishing hand	211411	Painter (visual arts)
149112	Fitness centre manager	841913	Pest controller
452111	Fitness instructor	361113	Pet groomer
234212	Food technologist	311215	Pharmacy technician
841311	Forestry worker	211311	Photographer
451399	Funeral workers not elsewhere classified	121321	Poultry farmer
		512299	Practice managers not elsewhere classified

392111	Print finisher	452321	Sports development officer
899511	Printer's assistant	452322	Sports umpire
899512	Printing table worker	711914	Sterilisation technician
599912	Production assistant (film, television, radio or stage)	452315	Swimming coach or instructor
712917	Railway signal operator	261112	Systems analyst
224214	Records manager	733114	Tanker driver
272612	Recreation officer	212415	Technical writer
272114	Rehabilitation counsellor		Technicians and trades workers not elsewhere classified
721915	Road roller operator	399999	
312611	Safety inspector	263312	Telecommunications network engineer
711313	Sawmilling operator	451611	Tourist information officer
821712	Scaffolder	142116	Travel agency manager
442217	Security officer	451612	Travel consultant
711611	Sewing machinist	324212	Vehicle trimmer
831212	Slaughterer	361311	Veterinary nurse
392312	Small offset printer	212318	Video producer
261313	Software engineer	232414	Web designer
139999	Specialist managers not elsewhere classified	261212	Web developer
139915	Sports administrator		

Example of calculations of the Occupational priority index (OPI)

ANZSCO	Occupation	Standard Deviation Factors							Lead time	OPI
		Emp	Emp grth	NRR	Avg wge	Wge grth	Age	Tot		
111111	Chief Executive or Managing Director	0.82	1.27	0.02	0.31	0.09	0.20	2.67	5	13.36
111211	Corporate General Manager	0.62	0.99	0.02	0.31	0.09	0.11	2.11	5	10.55
111212	Defence Force Senior Officer	-	-	-	-	-	-	-	-	-
		0.13	0.05	0.02	0.31	0.09	0.01	0.21	5	1.05
111311	Local Government Legislator	-	-	-	-	-	-	-	-	-
		0.13	0.05	0.02	0.31	0.09	0.31	0.52	5	2.60
111312	Member of Parliament	-	-	-	-	-	-	-	-	-
		0.12	0.04	0.02	0.31	0.09	0.24	0.47	5	2.36
111399	Legislators nec	-	-	-	-	-	-	-	-	-
		0.14	0.06	0.02	0.31	0.09	0.50	0.68	5	3.42
121111	Aquaculture Farmer	-	-	-	-	-	-	-	-	-
		0.11	0.07	0.03	0.10	0.05	0.08	0.23	5	1.14
121211	Cotton Grower	-	-	-	-	-	-	-	-	-
		0.40	0.20	0.10	0.10	0.05	0.15	1.00	5	5.00
121212	Flower Grower	-	-	-	-	-	-	-	-	-
		0.11	0.07	0.03	0.10	0.05	0.21	0.09	5	0.47
121213	Fruit or Nut Grower	-	-	-	-	-	-	-	-	-
		0.03	0.08	0.03	0.10	0.05	0.24	0.07	5	0.35
121214	Grain, Oilseed or Pasture Grower	-	-	-	-	-	-	-	-	-
		0.12	0.08	0.03	0.10	0.05	0.19	0.11	5	0.54
121215	Grape Grower	-	-	-	-	-	-	-	-	-
		0.01	0.08	0.03	0.10	0.05	0.19	0.01	5	0.03
121216	Mixed Crop Farmer	-	-	-	-	-	-	-	-	-
		0.11	0.07	0.03	0.10	0.05	0.10	0.20	5	0.98
121217	Sugar Cane Grower	-	-	-	-	-	-	-	-	-
		0.14	0.07	0.03	0.10	0.05	0.13	0.46	5	2.30
121218	Turf Grower	-	-	-	-	-	-	-	-	-
		0.13	0.07	0.03	0.10	0.05	0.02	0.30	5	1.50
121221	Vegetable Grower	-	-	-	-	-	-	-	-	-
		0.01	0.08	0.03	0.10	0.05	0.13	0.06	5	0.30
121299	Crop Farmers nec	-	-	-	-	-	-	-	-	-
		0.11	0.07	0.03	0.10	0.05	0.12	0.18	5	0.92
121311	Apiarist	-	-	-	-	-	-	-	-	-
		0.12	0.07	0.03	0.10	0.05	0.22	0.09	5	0.46
121312	Beef Cattle Farmer	-	-	-	-	-	-	-	-	-
		0.18	0.09	0.03	0.10	0.05	0.31	0.28	5	1.42
121313	Dairy Cattle Farmer	-	-	-	-	-	-	-	-	-
		0.05	0.07	0.03	0.10	0.05	0.18	0.07	5	0.33
121314	Deer Farmer	-	-	-	-	-	-	-	-	-
		0.14	0.07	0.03	0.10	0.05	0.49	0.16	5	0.80
121315	Goat Farmer	-	-	-	-	-	-	-	-	-
		0.14	0.07	0.03	0.10	0.05	0.25	0.07	5	0.37
121316	Horse Breeder	-	-	-	-	-	-	-	-	-
		0.12	0.07	0.03	0.10	0.05	0.13	0.18	5	0.91
121317	Mixed Livestock Farmer	-	-	-	-	-	-	-	-	-
		0.04	0.08	0.03	0.10	0.05	0.28	0.12	5	0.58
121318	Pig Farmer	-	-	-	-	-	-	-	-	-
		0.12	0.07	0.03	0.10	0.05	0.12	0.19	5	0.96
121321	Poultry Farmer	-	-	-	-	-	-	-	-	-
		0.10	0.07	0.03	0.10	0.05	0.17	0.11	5	0.57
121322	Sheep Farmer	-	-	-	-	-	-	-	-	-
		0.18	0.09	0.03	0.10	0.05	0.27	0.25	5	1.24
121399	Livestock Farmers nec	-	-	-	-	-	-	-	-	-
		0.13	0.07	0.03	0.10	0.05	0.27	0.05	5	0.24

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 social return to society from the government investing in vocational education and training. In addition, the return on investment is moderated based on occupational churn, which tends to lower the social return from the government's investment in VET. The final criterion is *Government Policy*, due to government policy also impacting on the allocation of public training resources. In the current model, government training policy is estimated based on a list of priority occupations identified in the State priority occupation list.

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 weighting³⁸ 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.

³⁸ 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 social return to society from the government investing in vocational education and training. The model assumes that the greater the social return for an ANZSCO group, the more student curriculum hours

should be allocated to that group. The social return from the investment in VET replaces the distribution of average weekly earnings that was used in the Shares Model that was developed in 2007 for the State Training Profile 2008-2010. The distribution of average weekly earnings does not provide a good measure of the return to investment because it does not take into account factors such as the costs associated with providing training.

The social return from the investment in VET is based on Human Capital theory, and is estimated using similar techniques to those used to evaluate different financial investment options. The estimation of the social return from the investment in VET is based on the pecuniary costs and benefits to society from investing in VET. The social benefits to society include increased productivity (output), lower probability of unemployment, and increased tax revenue. The social costs to society include government expenditure on vocational education and training as well as foregone output during the period of training. In the current model, the social return from the investment in VET was given a **weighting of 10%**.

5. Occupational Churn

Occupational churn occurs in occupations where there is a high level of turnover of trained workers from an occupation. A consequence of this is that it lowers the social return from the government's investment in VET. Based on this, the model assumes that the higher the occupational churn in a group, the less student curriculum hours should be assigned to that group. The occupational churn factor is based on the percentage of workers aged between 15 and 24. The occupational churn measure is based on younger workers because they are generally the most mobile group in the labour market. In the current model, occupational churn was given a **weighting of 5%**.

6. Ageing Workforce

The obvious consequence of an ageing workforce is the existence of a large number of workers who are coming up to retirement, and thus need to be replaced by new VET qualified workers. Hence, in the model, it is assumed that the higher percentage of workers coming up to retirement age in an ANZSCO group, the more student curriculum hours that should be assigned to that group. The ageing workforce factor is estimated based on the percentage of workers aged between 55 and 74 in each ANZSCO group. In the current model, ageing workforce was given a **weighting of 5%**.

7. Priority Occupations

The priority occupations used in the model were based on those identified in the official State priority occupation list. 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%**.

9.3. Appendix C - Pit Crew Report –Construction Labour Demand and Availability Summary

Construction Labour Demand and Availability Summary – with origin in WA



This table provides a 1-page summary showing the anticipated relative difficulty in the resourcing of projects over the next 3 - 4 years, which ranges from acute shortage to good availability with respect to the ability to recruit specific skills originating from Western Australia.

ANZSCO Category	2011 Feb Quarter	2011 May Quarter	2011 Aug Quarter	2011 Nov Quarter	2012 Feb Quarter	2012 May Quarter	2012 Aug Quarter	2012 Nov Quarter	2013 Feb Quarter	2013 May Quarter	2013 Aug Quarter	2013 Nov Quarter	2014 Feb Quarter	2014 May Quarter	2014 Aug Quarter	2014 Nov Quarter	2015 Feb Quarter	2015 May Quarter	2015 Aug Quarter	2015 Nov Quarter
3223 Structural Steel and Welding Trades Workers	Yellow				Yellow	Orange	Pink	Pink	Pink	Pink	Pink	Pink	Pink	Pink	Pink	Pink	Pink	Pink	Orange	
3232 Fitters	Yellow				Yellow	Orange	Pink	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Pink	Yellow
3411 Electricians	Yellow				Yellow	Orange	Pink	Pink	Pink	Pink	Pink	Pink	Pink	Pink	Red	Red	Red	Red	Red	Pink
7212 Earthmoving Plant Operators	Yellow		Yellow	Orange	Pink	Pink	Pink	Pink	Pink	Pink	Pink	Orange	Yellow							
8217 Structural Steel Construction Workers	Yellow	Yellow	Yellow	Yellow	Orange	Pink	Pink	Red	Red	Red	Red	Red	Red	Pink	Pink	Pink	Pink	Orange	Yellow	
3212 Motor Mechanics	Yellow		Orange	Orange	Pink	Pink	Pink	Red	Red	Pink	Pink	Pink	Pink	Orange	Orange	Orange	Orange	Orange	Yellow	
7121 Crane, Lift & Hoist Operators	Yellow		Yellow	Yellow	Orange	Pink	Pink	Pink	Red	Red	Pink	Pink	Pink	Pink	Orange	Orange	Orange	Orange	Yellow	
3312 Carpenters & Joiners	Yellow	Orange	Orange	Pink	Red	Red	Red	Red	Red	Red	Red	Pink	Pink	Orange						
8212 Concreters	Yellow	Yellow	Orange	Pink	Red	Red	Red	Red	Red	Red	Red	Pink	Pink	Orange						
8219 Other Construction & Mining Labourers	Yellow	Orange	Orange	Orange	Pink	Pink	Pink	Red	Red	Red	Pink	Pink	Pink	Pink	Pink	Pink	Pink	Pink	Orange	

 Good Availability (Forecast demand = 20% < Availability)	 Moderate Shortage (Forecast Demand = 10% to 20% > Availability)
 Some Availability (Forecast Demand = 10% to 20% < Availability)	 High Shortage (Forecast Demand = 20% to 50% > Availability)
 About Level (Forecast Demand = + or - 10% Availability)	 Acute Shortage (Forecast Demand = 50% > Availability)

Source: Pit Crew June 2011