



A RAIL REVOLUTION

**FUTURE CAPABILITY IDENTIFICATION
AND SKILLS DEVELOPMENT FOR THE
AUSTRALASIAN RAIL INDUSTRY**



Australian Government

**Department of Education, Employment
and Workplace Relations**



**AUSTRALASIAN
RAILWAY
ASSOCIATION INC**

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This report has been prepared by the combined efforts of:

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ARA CEO Forward

This is an exciting yet challenging time for the rail industry. We have more people and freight utilising our services than ever before and that is expected to increase. We also have the most significant public and private infrastructure investment going into the rail industry than has ever been seen before.

But we also have the challenges of a very tight labour market, increasing customer expectations of service and efficiency, an ageing rail workforce and some past practices which do not suit 21st century requirements. One of the key future challenges we face is ensuring that the industry has a workforce that is highly skilled and flexible.

This project is the first time the rail industry has banded together to have a clear view on what we collectively need in targeted occupations over the next five to ten years and how we need to tackle skills and labour shortages in the rail industry. The solutions proposed are complex but comprehensive.

I would like to thank all the staff from ARA member companies for their considerable time and effort in producing this report. It has required thousands of hours of time to deliver the results. It is also important to acknowledge the financial contribution of the Australian Government through the Department of Education, Employment and Workplace Relations. It is indeed an ideal opportunity to address the issues presented in this report with the new reality that is the Federal Labor Government and their commitment to skills and training. Implementation of the recommendations will need the leadership of the ARA, the support and contribution of member organisations and some innovative thinking by all relevant stakeholders.

What we indeed need is a rail revolution.



Brian Nye

CEO

Australasian Railway Association



Preface

The Australasian Railways Association (ARA) is a member based organisation that represents the rail sector in Australia and New Zealand. The rail sector comprises all rail operators, track owners and managers, manufacturers of rolling stock and components, and other aspects of the rail industry in Australia. The fundamental purpose of ARA is to create an environment that will permit the rail industry to prosper. One of the key issues identified by ARA that inhibits this outcome is skills. As a result, in 2004 the ARA established the Rail Skills and Careers Council (RSCC) which focuses on the Human Resource aspects of the industry.

The Rail Industry

The rail industry is in a period of expansion - patronage, revenues and investments in infrastructure have been increasing and are expected to continue to grow. The industry has experienced significant organisational change due to both privatisation and increased competition as part of Competition Reform adopted by various governments.

Over 40,000 men and women are employed in diverse occupations in rail throughout urban and regional Australia. Many more people work in supporting industries providing goods and services to the industry (estimates place the number at almost 100,000 people). Research shows that the problem of an ageing workforce is being felt more acutely in the rail industry than in the general workforce. According to the ABS Labour Force Survey for 2006, the median age of all Australian workers was 39 years while the median of Rail Transport workers was 44 years. To address these issues in 2007 the ARA launched the Human Capital Strategy Project.

ARA Human Capital Strategy Project Rationale and Approach

Despite the considerable work ARA and its members have undertaken examining skill shortages and capability development, a number of critical areas of concern remain. Prior to this research and report, there was limited reliable information about the current status of the industry relating to both its employees and future skill requirements. While this report significantly advances these issues there still remains much to be done to ensure rail companies have access to the necessary skills to meet future business requirements.

The ARA Human Capital Strategy Project had 2 parallel streams running and covered four elements:

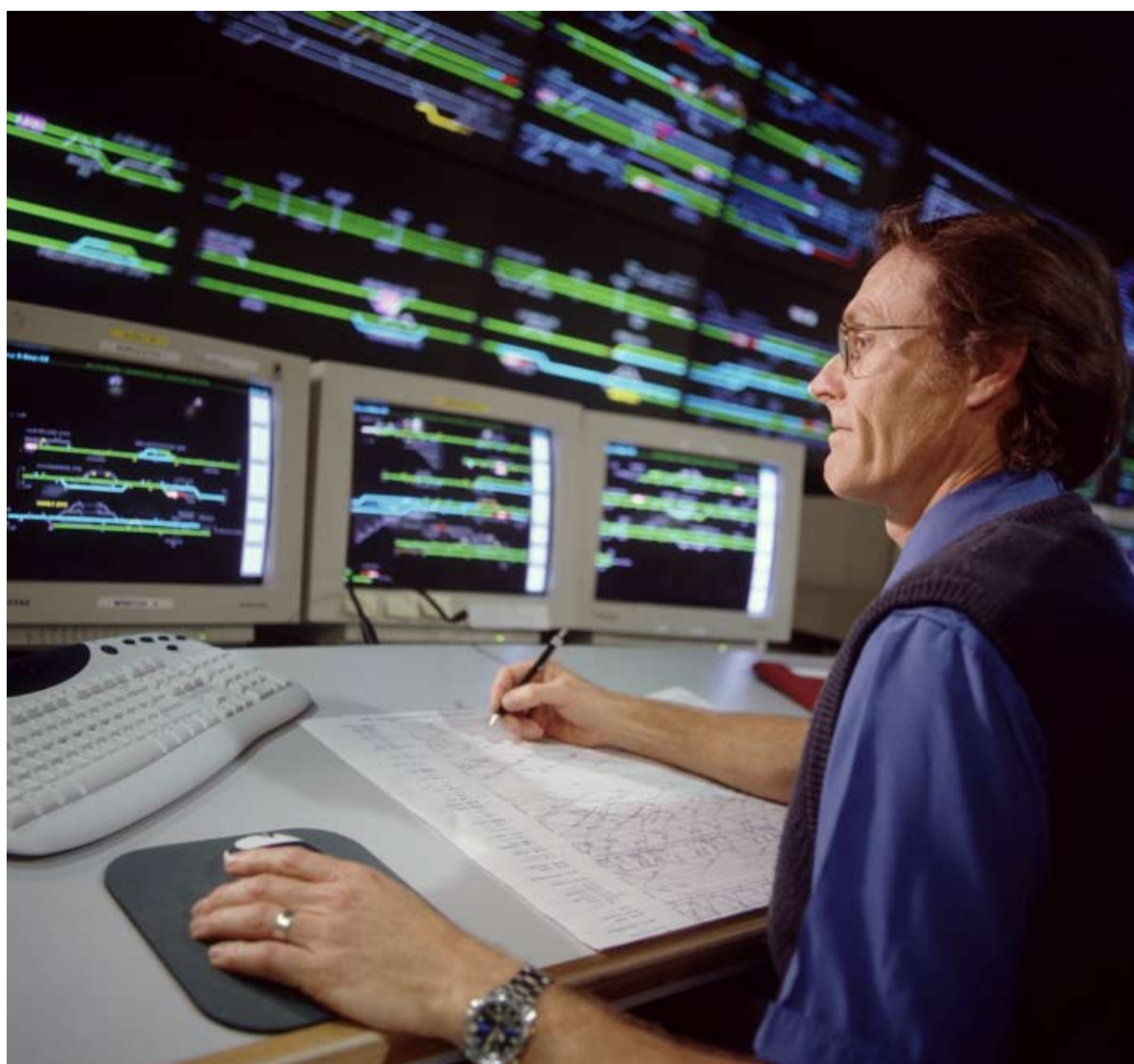
- Clarify the future labour and skill needs of the industry including:
 - The number and types of existing and expected vacancies in areas already experiencing critical shortages
 - Variations between regions and sectors of the industry
 - Number of new entrants required in the industry
 - Potential for increasing the skills of existing employees
 - Gender mix and
 - Retention and turnover rates
- Establish base line industry level Human Resource benchmarking to drive progression towards employers of choice
- Develop a draft guide to best-practice partnerships with training providers and identify new innovative funding models and delivery arrangements to support such practices
- Assess the use of National Qualifications and Recognition of Prior Learning for new and existing employees.

To assess the elements involving competencies and training systems a Case Study approach was adopted on the occupational groups of:

- Signal Electricians/Signal Technicians
- Train Drivers
- Transit Officers/Authorised Officers

Industry Consultations and Engagement

The process of engaging companies and gathering data involved a series of forums in NSW, Victoria, Queensland, Western Australia and New Zealand; workshops with training specialists; and a series of interviews with industry and employers..



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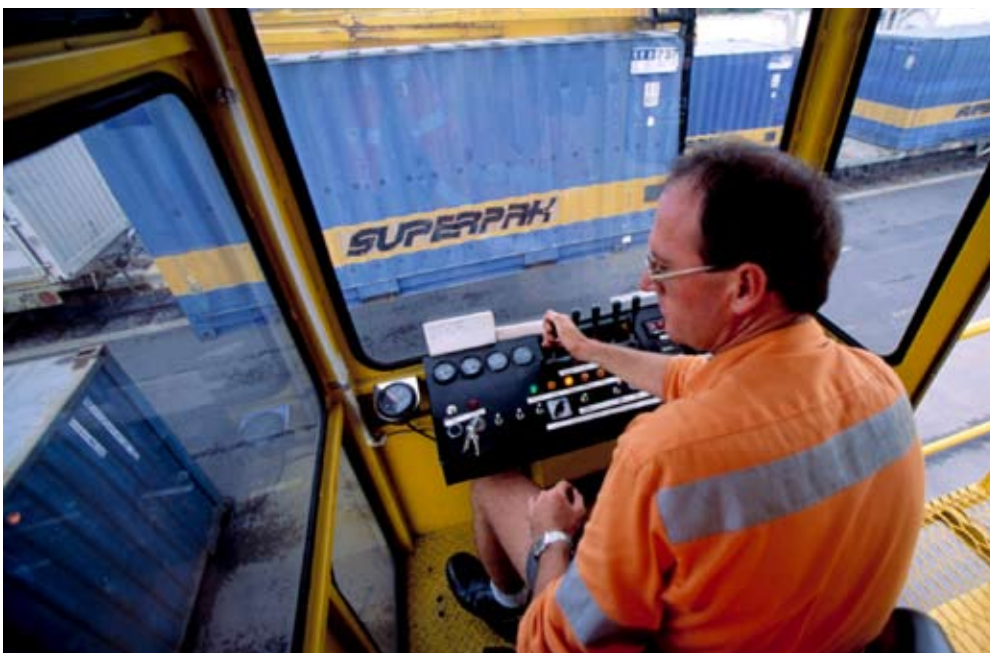


Report Summary

This is a summary report on a number of initiatives undertaken across the Australian and New Zealand rail industry over the period from 2006 to 2008. With the election of a new Australian Government and their commitment to improving the role of the Industry Skills Councils and creating almost half a million training places, it is an ideal time for the Rail Industry to step up and ensure that it makes the most of this new reality. This report has been structured to deliver important information to stakeholders with a vested interest in the people issues that exist within the industry. The report presents a framework comprising:

- Key Findings provides a snapshot of issues raised through extensive consultations and labour market analysis and projections. These findings describe a future labour supply for the industry that is very different from anything seen before. Importantly, the report found an immature training culture within the rail industry that needs to grow and change in order to support the challenges ahead.
- Key Workforce Risks to the Rail Industry if action is not taken are:
 - Workforce planning data suggests the industry has a need to increase the workforce in the next two to five years, which will be challenging;
 - A limited industry approach to skills development restricts its effectiveness to meet workforce requirements;
 - The future of the rail industry requires a major cultural change;
 - Loss of industry and technical knowledge will occur;
 - Workforce shortages in regional and remote areas are especially challenging; and
 - Industry success in addressing the above workforce risks will hinge on stakeholder buy-in.
- Strategic Recommendations with a comprehensive set of actions for stakeholders to draw from there are nine strategic recommendations proposed.

This framework is offered to the broader rail industry by the Australasian Railway Association in order to facilitate continued industry growth and prosperity.



Summary of Key Findings

These findings are a snapshot of the issues raised through extensive consultations and labour market analysis and forecasts.

- The shape of the future rail industry labour market is unlike anything which has been experienced before. To meet demand and cover age retirement companies involved will need to access:
 - 250-340 engineers every year for the next five years, of a sample size of 1800 engineering staff this equates to almost 100 per cent turnover
 - 500-700 trades people every year for the next five years of a sample size of 7400 trade staff; and
 - 420-700 operations staff every year for the next five years of a sample size of 9100 people
- Immature reporting systems measuring performance in people management made it difficult to create a robust and substantive Human Resource Benchmarking base line.
- A relatively small number of Registered Training Organisations (RTOs), especially in the area of public providers operating on a national basis, with the capability to assist rail organisations train staff.
- There is a need to implement proactive initiatives that will drive more flexible working arrangements and higher levels of diversity in the workplace, for example, increasing the number of women in the workforce.
- There is a need to develop training delivery resources available to the industry. Industry would benefit from sharing the cost of developing generic training resources.
- Due to age retirement there is a requirement to develop skilled trainers to meet the future needs of the industry.
- If companies develop agreed opinions on relevant topics this will improve consultations with Industry Skills Councils and lead to industry driven changes to areas such as training packages, skill sets and qualifications.
- Lack of flexibility with traineeship periods, and reluctance among the majority of Case Study participants to utilise traineeships.



ARA Allocation of Actions

Company Level Actions

Companies will need to find new ways of managing the work function; the data captured through this project suggests future labour supply will not be sufficient to meet the demand of growth and age retirement. The challenge for managers is to be able to improve the engagement of existing people and re-engineer the current work practices to ensure maximum efficiency. The view of attraction and retention will need to be taken through the lens of a marketing focus and custom and practices of today and yesterday will need genuine review and reinvention.

- **Establish a high performance culture**, incorporating performance based rewards as a brand element within the industry and market this brand to the internal and external labour markets to attract and retain high performing workers and maximise productivity within the current workforce.
- **Investigate strategies** to improve employee engagement within the industry, through a range of strategies including employees, via their managers and companies as a whole, to maximise retention and productivity.
- **Create cultural change** at company and industry-wide levels (e.g. via communication, involvement/participation) to ensure openness to change (not resistant) to create the long-term sustainability of the industry.
- **Introduce knowledge transfer** processes (such as mentoring, informal knowledge sharing sessions, formal knowledge capture database, alumni program) to ensure knowledge held by current, experienced workers is not lost and is transferred to those new to the industry.
- **Encourage retention** (and recruitment where possible) of experienced staff to support knowledge transfer strategies (i.e. maintain above baseline FTE in the short term to ensure longer term supply of competent workers).
- **Reintroduce** formal graduate and cadet programs, including an industry rotation system, to provide more opportunities for engineering graduates (and other key professions where appropriate) to be exposed to the career opportunities available.
- **Identify** current industry workers, who possess the skill set and aptitude for fast track development into engineering and trade roles where shortages are present; and establish bridging skill development programs (via Registered Training Organisations and universities) to enable their progression.
- **Establish** an innovative program to increase the number of trainers for the rail industry including sharing of resources between rail organisations and Registered Training Organisations.
- **Rail organisations** to conduct targeted, open reviews of current work practices and job design to identify opportunities to make jobs more attractive and efficient (e.g. identify where unskilled or semi-skilled work is being completed by highly skilled staff).
- **Identify and investigate** opportunities for innovation in work practices and future technology investments to reduce the future workforce requirement (which will be challenging to fill) and enable workforce resources to be focussed on high value work.
- **Implement** flexible working arrangements (e.g. part time work, flexible working hours, telecommuting) to assist the industry to attract and retain segments of the labour market (e.g. women, workers approaching retirement) who do not find full time, traditional working hours attractive.
- **Establish processes** to recognise prior learning and experience within the current workforce to recognise their skill sets.

Industry Level Actions

Due to the scale of the issues on labour supply presented through this data and the strength of competition for talent from other industries it becomes obvious that rail companies will need to collaborate in order to manage the risks imposed by these labour market analysis and forecasts. Currently years of neglect and delayed infrastructure investments are the major cause of supply chain bottlenecks, however this data suggest that within the next 2 to 5 years labour supply could be the major cause of future bottlenecks.

- **Create an externally focussed** benchmarking culture around people practices to drive industry performance of objective measures to ensure long-term sustainability of the industry.
- **Promote rail** as an industry of choice to ensure potential workers (e.g. engineers, trades, women, younger workers/students) are aware of the real opportunities and roles available (e.g. high tech, innovative and clean working environment).
- **Clearly define the Employment Value Proposition (EVP)** for the industry and promote this to targeted labour market segments to mitigate the shortages identified in Risk 1.
- **Utilise current employees as “ambassadors”** for the industry, to share their positive rail experiences
- **Increase the number** of apprentices and graduates by developing a process to allow smaller companies to recruit more apprentices and engineering graduates as many larger employers are currently at maximum apprentice capacity (i.e. apprentice supervisors cannot take on any more apprentices).
- **Promote strategies** (e.g. flexible working options, career paths, project opportunities) to radically increase the number of women, indigenous and youth attracted to and retained by the industry.
- **Sponsor formal awards** and/or conferences to attract and retain new workers and reward those taking an innovative approach to the challenges facing the industry.
- **Investigate strategies** (e.g. rotational work, use of migrants, support services) to attract workers to regional and remote work locations.
- **Scope how an alliance** (across companies) could work to import (and train where required) workers from overseas.
- **Scope the role** an industry group of training specialist/managers can play in better engaging government and training providers to ensure understanding of the priorities that deliver efficient skills development processes to companies.
- **Develop a fast track**, tailored apprenticeship program (e.g. 2-3 years in length) to quickly bring more tradespeople into the industry which maintains quality outcomes and agreed industry standards.
- **Establish more efficient** and effective apprenticeship management arrangements by utilising currently available managers/supervisors (including retirees) to enable greater throughput of apprentices.
- **Scope the role an industry** sponsored labour hire company should play to ensure an adequate workforce supply is available and possesses the required skill set.
- **Develop a new model for traineeships** within the industry and pilot their implementation to more effectively recruit and develop entry level workers at a low cost due to government sponsorship of this initiative.
- **Increase rail industry share** of public/government funds available for skill development across a range of programs and packages, including RPL, additional training places and training product development activity.

- **Establish an online skills development** resource portal to provide a means of posting and obtaining information regarding resources and development activity.
- **Develop national** standards and apply to skill development (i.e. develop common and industry supported national standards for key qualifications and occupations).
- **Develop and implement** a formal communication and engagement strategy to support the above strategies, to ensure key stakeholders (e.g. government, employees, unions, senior and middle management managers) are aware of the risks posed by the human capital issues identified.
- **Establish a Rail Industry Skills Reference Group** which will consider and develop agreed positions on training packages and other skills development matters.

Government Level Recommendations

Due to a number of issues government at all levels require efficient and reliable rail services to support the effective movement of both people and freight. With public concerns growing over the cost of capital city congestion, levels of green house gas emissions and the escalating hazard of more and larger trucks on our highways, efficient rail is required more than ever to provide a viable solution to government.

- **Investigate university student preferences/trends** to understand reasons for low percentage of students studying engineering (6%), low graduation rate of commencing students (50%) and low market share of graduates coming into rail. Once a clearer picture of student preferences is obtained, the industry can work to influence these views through educational marketing strategies, possibly in partnership with other industries, to promote engineering as an attractive career and build a larger pool of graduates to cover growth in the industry as well as forecast losses from those currently working in rail due to retirement (as discussed in Risks 1 and 4).
- **Increase the presence of rail** as a component of undergraduate engineering course content in partnership with universities. This strategy aims to build engineering graduates' knowledge of the rail industry to increase their interest in working in the industry (addressing Risk 1) and also improving their starting knowledge base to reduce the lead time to competency (Risk 4). This approach has been successfully implemented in a number of other industries such as aerospace and resources.
- **Government to improve access** to overseas workers (e.g. through additions to or clarification of rail roles on the Migration Occupations in Demand list, extension of the permanent resident status age limit from 45 to 55 years of age, alternatives which are easier to access than the 457 visas).
- **Align rail regulations** and licensing across all relevant training packages.



Key Workforce Risks to the Rail Industry

The data projections from this project identified a number of risks facing the rail industry which if left unattended could have serious implications on the industry's ability to deliver its objectives. These estimates are now considered to be very conservative and therefore the skills gaps stated in this report are likely to be greater than what is listed. The six risks rated most highly are listed below and have been categorised to reflect their impact and likelihood of occurring.

Risk	Risk Description	Details of Risk
1	Workforce planning data suggests the industry has a requirement to increase the workforce in the next two to five years, which will be challenging to fill	<ul style="list-style-type: none"> • Engineers are in short supply and are hard to attract to the industry. <ul style="list-style-type: none"> • Graduate Engineers: Numbers are reducing and interest in rail as a career is low. • Experienced Rail Engineers: External supply is shrinking. • Trades are in short supply and are hard to attract and train to rail standards. • Qualified/Experienced Trades are in short supply externally and there is high competition from other sectors. • Trade New starters are hard to attract to the rail industry. • Operations are in short supply and are hard to train consistently to rail standards. • Women are not attracted to rail, new recruits are not retained, but are a major labour pool which needs to be accessed. • Youth are not attracted to rail, new recruits are not retained, but are a major labour pool which needs to be accessed. • Current shortages are based on conservative estimates which may be understated.
2	Limited industry approach to skills development restricts its effectiveness to meet workforce requirements	<ul style="list-style-type: none"> • Fragmented regulations makes consistent skill development hard to implement. • State Variability in regulations limits the transferability of skills/people. • Rail organisations do not work together to develop industry-wide approaches, positions and training products. • There is not a nationally consistent industry approach to skill development, which creates inefficiencies and skill gaps. • Investment in formal skills development has not resulted in an effective ROI. • Lack of access to government funded skills development activities.

Risk	Risk Description	Details of Risk
3	The future of the rail industry requires a major cultural change	<ul style="list-style-type: none"> Leadership role in change - Leadership in the industry will be essential to change the industry for the future. Employees participating in change -The current culture within rail will restrict the industry’s ability to successfully address these workforce risks.
4	Loss of industry and technical knowledge is likely to occur as a result of retirement and resignation	<ul style="list-style-type: none"> Ageing workforce will soon retire, taking their knowledge and skills with them New recruits coming into the industry have a long lead time to develop rail-specific knowledge and skills Historic lack of implementation of flexible work practices to retain older workers and attract new recruits Growth in the industry also means that even if all current knowledge was retained there would not be sufficient available for industry needs
5	Workforce shortages in regional and remote areas will be even more challenging to fill	<ul style="list-style-type: none"> Lack of services makes regional/remote roles in rail unattractive compared to other industry opportunities High competition for limited labour supply Limited access to skilled migrants
6	Industry success in addressing the above workforce risks will hinge on stakeholder buy-in	<ul style="list-style-type: none"> All stakeholders must buy-in to the urgency of these workforce risks in order to ensure action occurs. Stakeholders include: Senior and middle management, employees, unions – employee representatives, government – Ministers and Senior Executives, industry bodies, training and third party service providers
<p>Legend: Red = Significant impact, highly likely to occur; Orange = impact, likely to occur; Yellow = Some impact, likely to occur</p>		



Strategic Recommendations

A comprehensive framework of recommendations is presented for consideration in order for all parties to work together and independently to address the risks identified in this report. Successfully addressing the risks will require action at a number of levels in the industry. These recommendations have been colour coded to reflect the lead responsibility for ease of referencing and include:

- **Organisation specific:** Some strategies are best implemented at the individual organisation level; however learning and success stories should be shared across the industry through the ARA
- **Industry wide:** To ensure a consistent approach where appropriate. To maximise effectiveness a number of strategies would ideally be implemented industry wide, facilitated by the ARA
- **Government:** A number of strategies require a change in government regulation, policy or funding. The ARA is well positioned to liaise with the appropriate government bodies.

Strategies for addressing these risks for the industry's consideration can be grouped into nine broad themes:

- **Strategy 1:** Position the culture of rail for the future
- **Strategy 2:** Increase the pool of workers attracted to the industry
- **Strategy 3:** Retain experienced staff and the knowledge they hold
- **Strategy 4:** Establish more effective migration arrangements
- **Strategy 5:** Build new employment and training pathways (through skills development and recruiting more people)
- **Strategy 6:** Introduce more flexible and innovative work practices
- **Strategy 7:** Ensure a consistent industry approach to skills development
- **Strategy 8:** Collect valid workforce planning information
- **Strategy 9:** Conduct regular stakeholder communication regarding workforce risks and strategies



Strategy 1: Position the culture of rail as an attractive work environment for the future

The future success of the industry hinges on having competent workers available to support its growth (Risk 1). Sufficient workers are unlikely to be available unless the culture of rail changes (Risk 3).

Position the culture of rail for the future
Create an externally focussed benchmarking culture around people practices to drive industry performance of objective measures to ensure long-term sustainability of the industry.
Establish a high performance culture, incorporating performance based rewards as a brand element within the industry and market this brand to the internal and external labour markets to attract and retain high performing workers and maximise productivity within the current workforce.
Investigate strategies to improve employee engagement within the industry, through a range of strategies including employees, via their managers and companies as a whole, to maximise retention and productivity.
Create cultural change at company and industry-wide levels (e.g. via communication, involvement/participation) to ensure openness to change (not resistant) to create the long-term sustainability of the industry.

Strategy 2: Increase the pool of workers attracted to the industry

The shortages identified by the workforce planning process (Risk 1) suggest the need for strategies to increase the pool of workers who believe the rail industry would be a good place to work. The below strategies aim to: reduce the shortages by increasing the number of engineering graduates and tradespeople interested in working in rail, increase rail’s ability to attract women and younger workers to the industry and publicly recognise and support new workers in the industry.

Increase the pool of workers attracted to the industry
<p>Investigate university student preferences/trends to understand reasons for low percentage of students studying engineering (6%), low graduation rate of commencing students (50%) and low market share of graduates coming into rail.</p> <ul style="list-style-type: none"> Once a clearer picture of student preferences is obtained, the industry can work to influence these views through educational marketing strategies, possibly in partnership with other industries, to promote engineering as an attractive career and build a larger pool of graduates to cover growth in the industry as well as forecast losses from those currently working in rail due to retirement (as discussed in Risks 1 and 4).

Increase the pool of workers attracted to the industry

Promote rail as an industry of choice to ensure potential workers (e.g. engineers, trades, women, younger workers/students) are aware of the real opportunities and roles available (e.g. high tech, innovative and clean working environment).

- In order to increase the pool of workers the rail industry needs to clearly define the Employment Value Proposition (EVP) for the industry and promote this to targeted labour market segments to mitigate the shortages identified in Risk 1.
- Utilise current employees as “ambassadors” for the industry, to share their positive rail experiences.

Increase the presence of rail as a component of undergraduate engineering course content in partnership with universities.

- This strategy aims to build engineering graduates’ knowledge of the rail industry to increase their interest in working in the industry (addressing Risk 1) and also improving their starting knowledge base to reduce the lead time to competency (Risk 4). This approach has been successfully implemented in a number of other industries such as aerospace and resources.

Increase the number of apprentices and graduates by developing a process to allow smaller companies to recruit more apprentices and engineering graduates as many larger employers are currently at maximum apprentice capacity (i.e. apprentice supervisors cannot take on any more apprentices).

- This strategy aims to increase the general pool of trained workers available to industry by encouraging all rail organisations to take on more entry level staff and support their skill development.

Promote strategies (e.g. flexible working options, career paths, project opportunities) to radically increase the number of women, indigenous and youth attracted to and retained by the industry.

Sponsor formal awards and/or conferences to attract and retain new workers and reward those taking an innovative approach to the challenges facing the industry.

Investigate strategies (e.g. rotational work, use of migrants, support services) to attract workers to regional and remote work locations.



Strategy 3: Retain experienced staff and the knowledge they hold

The potential loss of current experienced workers through retirement identified by the workforce planning process (Risk 4) suggests the need for strategies to retain experienced staff and the industry and technical knowledge they hold. The two strategies discussed below aim to ensure the knowledge held by experienced workers is transferred to new starters in the industry and that sufficient experienced workers are retained to enable this knowledge transfer process. Informal knowledge transfer processes also provide an alternative strategy to skill development, mitigating Risk 2.

Retain experienced staff and the knowledge they hold

Introduce knowledge transfer processes (such as mentoring, informal knowledge sharing sessions, formal knowledge capture database, alumni program) to ensure knowledge held by current, experienced workers is not lost and is transferred to those new to the industry.

Encourage retention (and recruitment where possible) of experienced staff to support knowledge transfer strategies (i.e. maintain above baseline FTE in the short term to ensure longer term supply of competent workers).

Strategy 4: Establish more effective migration arrangements

Immigration of skilled workers from countries outside Australia and New Zealand creates an alternative pool of qualified workers to mitigate the risk posed by the predicted workforce shortages within the industry (Risk 1).

Establish more effective migration arrangements

Lobby government to improve access to overseas workers (e.g. through additions to or clarification of rail roles on the Migration Occupations in Demand list, extension of the permanent resident status age limit from 45 to 55 years of age, alternatives which are easier to access than the 457 visas).

Scope how an alliance (across companies) could work to import (and train where required) workers from overseas.



Strategy 5: Build new employment and training pathways (through skills development and recruiting more people)

The lack of a consistent approach to skills development within the industry (Risk 2) currently limits the effective utilisation of current workers, as well as its ability to cost-effectively develop new entrants to rail to fill gaps identified by the workforce planning process (Risk 1), particularly those associated with retiring experienced workers (Risk 4).

Build new employment and training pathways (through skills development and recruiting more people)
<p>Scope the role an industry group of training specialist/managers can play in better engaging government and training providers to ensure understanding the issues and priorities that deliver efficient skills development processes to companies.</p>
<p>Develop a fast track, tailored apprenticeship program (e.g. 2-3 years in length) to quickly bring more tradespeople into the industry which maintains quality outcomes and agreed industry standards.</p>
<p>Establish more efficient and effective apprenticeship management arrangements by utilising currently available managers/supervisors (including retirees) to enable greater throughput of apprentices.</p>
<p>Reintroduce formal graduate and cadet programs, including an industry rotation system, to provide more opportunities for engineering graduates (and other key professions where appropriate) to be exposed to the career opportunities available.</p>
<p>Identify current industry workers, who possess the skill set and aptitude for fast track development into engineering and trade roles where shortages are present; and establish bridging skill development programs (via Registered Training Organisations and universities) to enable their progression.</p>
<p>Scope the role an industry sponsored labour hire company should play to ensure an adequate workforce supply is available and possesses the required skill set.</p>
<p>Develop a new model for traineeships within the industry and pilot their implementation to more effectively recruit and develop entry level workers at a low cost due to government sponsorship of this initiative</p>
<p>Increase industry share of public/government funds available for skill development across a range of programs and packages, including RPL, additional training places and training product development activity.</p>
<p>Establish an online skills development resource portal to provide a means of posting and obtaining information regarding resources and development activity.</p>
<p>Establish an innovative program to increase the number of trainers for the rail industry including sharing of resources between rail organisations and Registered Training Organisations.</p>

Strategy 6: Introduce more flexible and innovative work practices

To attract more workers to the industry to fill projected workforce gaps (Risk 1), a more flexible range of work practices need to be available across the industry to meet the requirements of the available labour market. The industry currently under-utilises two segments of the labour market, women and younger workers, who are both likely to find flexible, innovative work practices attractive. Additionally, current employees approaching retirement are likely to find more flexible work practices attractive (Risk 4). These practices can only be implemented successfully if the culture of rail accepts the need for them (Risk 3).

Introduce more flexible and innovative work practices
<p>Rail organisations to conduct targeted, open reviews of current work practices and job design to identify opportunities to make jobs more attractive and efficient (e.g. identify where unskilled or semi-skilled work is being completed by highly skilled staff).</p>
<p>Identify and investigate opportunities for innovation in work practices and future technology investments to reduce the future workforce requirement (which will be challenging to fill) and enable workforce resources to be focussed on high value work.</p>
<p>Implement flexible working arrangements (e.g. part time work, flexible working hours, telecommuting) to assist the industry to attract and retain segments of the labour market (e.g. women, workers approaching retirement) who do not find full time, traditional working hours attractive.</p>

Strategy 7: Ensure a consistent industry approach to skills development

A consistent approach to skills development will maximise worker transferability across rail organisations and state boundaries (Risk 1) and should also result in more cost-effective skill development for the industry (Risk 4).

Ensure consistent industry approach to skills development
<p>Develop national standards and apply to skill development (i.e. develop common and industry supported national standards for key qualifications and occupations).</p>
<p>Align rail regulations and licensing across all relevant training packages.</p>
<p>Establish processes to recognise prior learning and experience within the current workforce to recognise their skill sets.</p>

Strategy 8: Collect valid workforce planning information

In order to ensure stakeholder buy-in (Risk 6) to the risks facing the industry it is important to have valid, accurate information. This can be achieved if the individual organisations and the industry as a whole conduct regular workforce planning processes to clarify and validate the data presented in this report.

Collect valid workforce planning information
Industry to adopt regular workforce planning and HR benchmarking processes to ensure strategies are based on valid, current information (e.g. likely investment in rail) and provide quality information to guide industry decision making.
Rail organisations to conduct regular workforce planning processes to provide accurate information to industry data gathering processes, building on the Job Role Framework.
Ensure opportunities to share resources between organisations in the supply chain are identified through the sharing of strategic plans and workforce requirements. This will also allow organisations to plan for expected growth in other stages in the supply chain.

Strategy 9: Conduct regular stakeholder communication of workforce risks and strategies

Action to address the risks identified in this report will only occur if industry stakeholders accept them and work to implement the suggested strategies (Risk 6). Change management research suggests communication is a critical element of change acceptance. Therefore, two strategies are suggested to ensure regular communication with stakeholders takes place.

Conduct regular stakeholder communication of workforce risks and strategies
Develop and implement a formal communication and engagement strategy to support the above strategies, to ensure key stakeholders (e.g. government, employees, unions, senior and middle management managers) are aware of the risks posed by the human capital issues identified.
Establish a Rail Industry Skills Reference Group which will consider and develop agreed positions on training packages and other skills development matters.



Workforce Planning Information

Methodology

One aspect of the project was to undertake workforce planning and projections based on a common methodology to be utilised across a range of industries. This approach is based on a framework that focuses on the strategic requirements of the sector; the external impacts on business objectives; the resources needs to achieve business plans; and the need for human resource strategies and activity to be driven by the outcomes of these plans. The methodology is illustrated in Figure 1. The four steps, as applied to the project, are summarised below.

Figure 1: Workforce Planning Methodology



Job Role Framework

Workforce planning is a strategic business tool, and should be applied to maximise return on investment in the process. For this reason, it is important to focus on job roles that are a priority in terms of the workforce planning process. At an industry Forum held in July 2007 participants prioritised a number of jobs, based on their criticality to the industry, for inclusion in the project. While many jobs would be considered important, the criteria for assessing whether a job was critical included:

- Roles that require skills that the organisations have found difficult to source
- Roles that require skills that require a long time to develop or grow within the organisation
- Roles that are critical to the core business of the organisation and
- Roles that constitute a “critical mass” (i.e. are of large number) within the organisation.

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Job Families and Roles

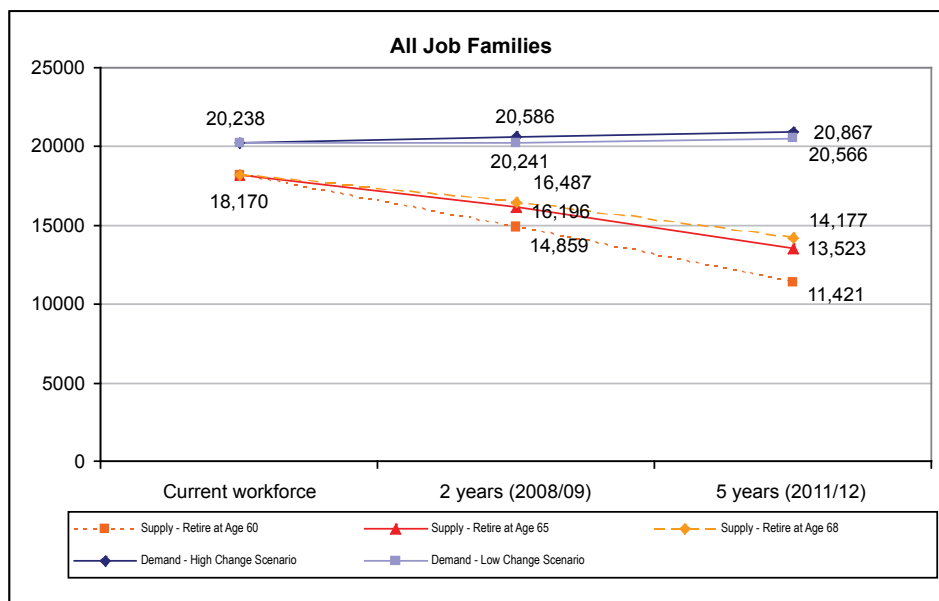
The critical job roles were identified as:	
Engineers	<ul style="list-style-type: none"> • Electrical and Signalling Engineers • Mechanical Engineers • Civil Engineers • Project Managers
Trades or Trade Equivalents	<ul style="list-style-type: none"> • Electricians • Signalling • Civil/Perway • Mechanical
Operations	<ul style="list-style-type: none"> • Drivers • Train / Network Controllers or Operators • Network Planners • Transit Officers
Professionals	<ul style="list-style-type: none"> • Surveyors • Commercial Contract Managers • Business and Policy Analysts

Supportive evidence

Workforce demand projections across the Engineers and Trades and Trade Equivalents job families suggests significant growth in workforce requirements in the next two (2008/09) to five years (2011/12) across both groups (see Figure 2). When these projections in workforce demand are compared to the likely available supply of labour (assuming current resignation rates continue and all retirements occur between ages 60 to 68 years), the likely workforce shortages are significant. Although demand forecasting was not conducted for the Operations and Professionals job families¹, supply forecasting alone suggests this workforce will also reduce significantly over the forecast time period. Approximately 40% of the rail industry workforce² is predicted to leave the industry over the next five years (see Figure 2). As a result significant shortages across most job families are anticipated. Given the current competition in the Australian labour market for a shrinking labour pool the rail industry is likely to find filling these shortages to be challenging.

1. The project Steering Committee considered that the Engineers and Trade and Trade Equivalent job families should be the focus of demand forecasting in this first iteration of workforce planning to reduce the data requirements imposed on participating organisations. The Operations and Professionals job families were not considered to be as challenging to implement strategies to address any workforce shortages identified. Future iterations of workforce planning for the industry would certainly benefit by conducting demand forecasting for all job families and roles considered. 2. Note: The project only considered roles identified as critical to the industry, therefore, not all job roles and associated employees have been incorporated into this figure. Estimates suggest the data analysed in this report represents approximately 30% of the entire industry.

Figure 2: Workforce demand and supply forecasts for all job families considered by project

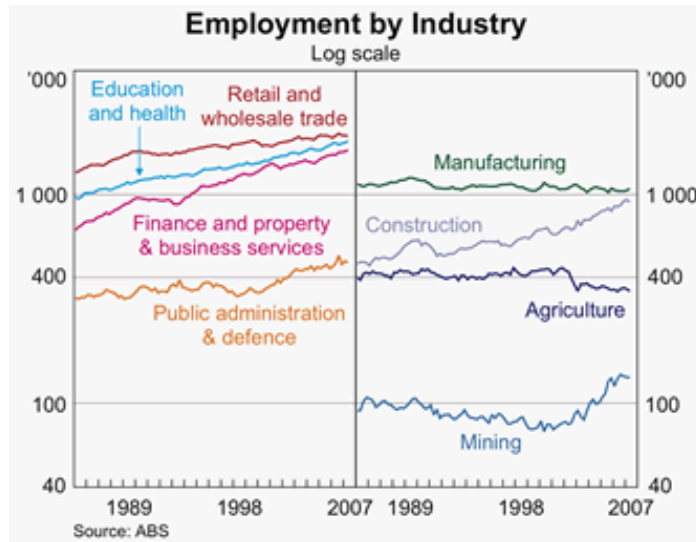


In total 11 organisations, employing approximately 35,500 employees across Australasia submitted data on the job families/roles identified (a total of 18,170 staff are currently employed by participating organisations in these roles) for inclusion in the project. For each scenario, organisations identified their anticipated workforce numbers growth (as a percentage) for the Engineering and Trades and Trade Equivalents job families and, where possible, job roles. For the Operations and Professionals job families, organisations were asked to enter current workforce numbers (FTE), vacancies and contractors. Although, future demand forecasting was not conducted for the Operations and Professionals job families and job roles, supply forecasts were calculated.

Not only is the rail sector facing staffing shortages, it is in direct competition for staff with similar industries such as Mining, Electricity, Water and Gas and Construction. On a national scale, one of the largest industry employers in Australia is the Construction Industry (see Figure 9). The mining industry is a major competitor for rail, employing staff in many similar job roles, and has been growing rapidly in recent years. It is predicted that the mining boom will result in a significant increase in positions over the next five years making competition for multi-industry job roles such as engineers, trades and professionals extremely high³. In comparison to mining, rail is often not able to compete in terms of remuneration, but may be able to compete in terms of work location, flexible work practices and training. The decrease in available workers, as discussed throughout this report, is particularly concerning for the rail industry as demand for workers will keep increasing per organisation and in industries with which the rail industry is competing.

3. Valuing Older Workers (2008) <http://www.valuingolderworkers.gov.au/Industry/transport.asp>

Figure 9: Industry Growth Rates (RBA, 2007)



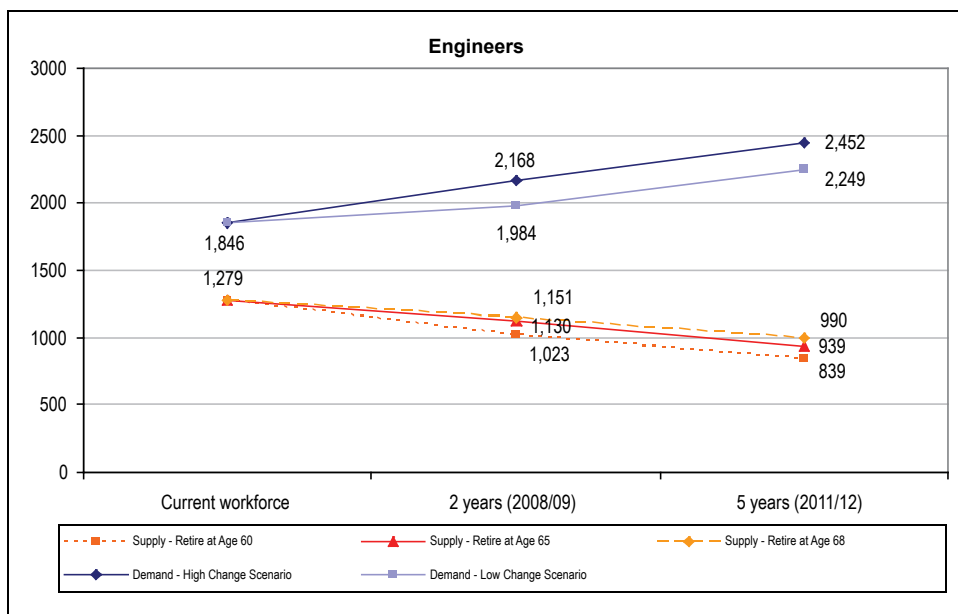
Specific Job Family Shortages

Engineers

Across the Engineers job family (incorporating four job roles), growth of between 22% and 33% in workforce demand was forecast by participating organisations under the two alternative scenarios, Low and High Change (see Figure 3). The increasing engineering requirement within the industry appears to be driven by scheduled maintenance and repair, in addition to major network upgrades and an increasing demand for services, across both passenger and freight. While these growth figures may seem large, many participants in the project, upon seeing these figures suggested that they could be viewed as conservative.

In addition to the demand growth projections, the current age profile of Engineers suggests up to 268 current workers could retire in the next 5 years, while current separation rates suggests a further 186 could leave for reasons other than retirement (see Figure 3). These reductions would result in a loss of up to 41% of the current workforce over the next five years.

Figure 3: Engineering Job Family Gap between Demand and Supply Forecast

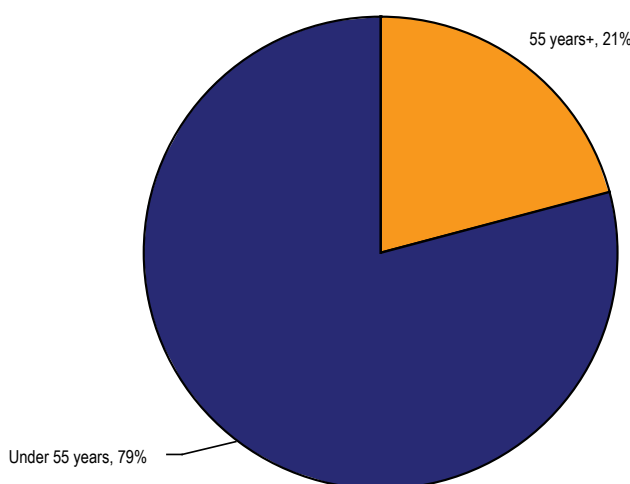


Engineers, particularly electrical and electronic and civil engineers are in high demand in places like the UK (see skillsshortage.com). For example, in the UK since 2002, a 45% decrease in national university enrolments in electrical and electronic engineering courses has occurred⁵. Combined with a national shortage, this paints a dire picture for Australian companies planning to source staff overseas.

Many of the engineers currently employed in rail are approaching retirement age (Figure 10), with 21% over the age of 55 years. Given the highly tenured nature of the majority of these employees, where 69% the workforce have five or more years tenure in their current organisation, and 50% have 10 or more years tenure, their impending retirement will deprive rail of significant sources of industry and technical knowledge (see Risk 4 for a more detailed discussion of the risks of knowledge loss).

Figure 10: Engineers approaching retirement age, ARA data

Engineers Approaching Retirement Age



Trades and Trade Equivalentents

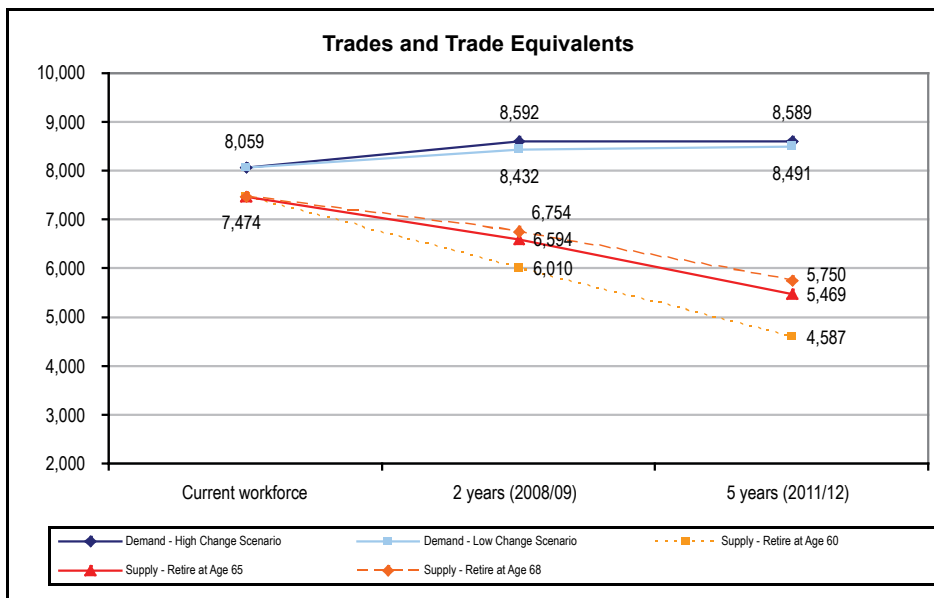
The Trades and Trade Equivalentents job family incorporates four critical trade roles: Electricians, Signalling tradespersons, Civil/Perway tradespersons, and Mechanical tradespersons. These trades are critical to both the maintenance and ongoing operation of the rail industry. Demand forecasts projected minimal growth in trade workforce requirements under both the High and Low Change Scenarios, with between 5-6% projected growth over the next five years as illustrated in Figure 4 below. This was a result of an ‘average’ between organisations that predicted decreased demand and those which predicted consistently low growth.

Alone, these demand projections may not pose a great risk to the industry; however, when coupled with the supply projections, issues around retention, knowledge management and the need to have a younger workforce to move through the ranks as current workers retire, a workforce shortage requiring action is forecast. Over the next five years, it is projected that 1,524 Trade and Trade Equivalentents will separate from organisations within the rail industry⁶. This is further exacerbated by up to 1,363 retirements in the same period, assuming people retire at 60 years of age. In combination, retirements and separations will reduce the workforce by approximately 40% over the next five years. It is also concerning to note that 18% of Trades and Trade Equivalentents are currently eligible for retirement, i.e. are 55 years or older, which will result in significant knowledge loss to the industry.

5. Reynolds (2007) UK Electronics graduate numbers plummet, <http://www.electronicweekly.com/Articles/2007/12/12/42790/uk-electronics-graduate-numbers-plummet.htm>.

6. Please note that this project did not differentiate separations from an individual organisation or from the industry overall.

Figure 4: Trades and Trade Equivalents Gap between Demand and Supply Forecasts



As a consequence of this significant decrease in supply of Trades and Trade Equivalents and the slight increase in demand, shortages are forecast of between 4,002 under the high change scenario, assuming workers don't retire until 60 years of age, and 2,741 under the low change scenario, assuming workers don't retire until 68 years of age (Figure 4).

Operations

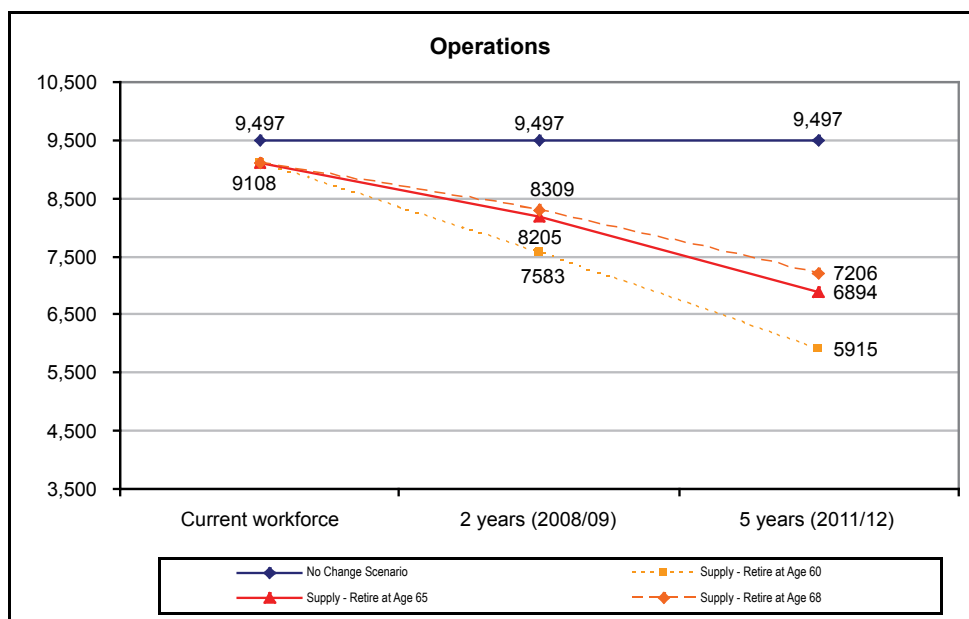
The Operations job family is the core of the industry, employing 50% of the workforce considered by the project. Four roles make up the Operations job family, incorporating Drivers, Train/Network Controllers or Operators, Network Planners and Transit Officers. Although industry members at the first project forum did not consider the industry currently faced shortages in this area, it was felt that these job roles should be considered given their central role in the industry.

Significant shortages in Operations have been identified through supply forecasting, however no demand forecasting was conducted as part of this project. In the next 5 years almost 20% of the current workforce is expected to separate from the industry, further impacted by another 20% (1413) in retirements (Figure 16).

The Operations future supply profile poses a significant risk to the industry, and these shortages could be more acute if growth projections due to factors such as increased market share of freight and passenger are realised. A 'steady state' forecast, i.e. maintaining current headcount in operations roles will in itself see a large shortage in the next five years – between 2,291, assuming people retire at 68 years of age, and 3,282, assuming people retire at 60 years of age (Figure 17).



Figure 17: Operations Gap Forecast



Skills and Training Case Study Information

To assess the elements involving competencies and training systems a Case Study approach was adopted on occupational groups as follows:

- Signal Electricians/Signal Technicians
- Train Drivers
- Transit Officers/Authorised Officers

There are a number of Industry Skills Councils relevant to the rail industry but the two main Industry Skills Councils responsible for the Training Packages used by these occupational groups and they are:

- Transport and Logistics Skills Council (TLISC)
- ElectroComms and EnergyUtilities (EE-OZ)

Industry Skills Council Consultation

During the course of the Case Studies it was apparent that there was an opportunity for companies to work together as an industry to formulate consistent opinions on relevant topics, thereby improving their input into the Industry Skills Council consultative process.

There was a strong view that the industry needed to create a Training Manager forum as the primary source of advice to all national government agencies and other bodies such as Industry Skills Councils. This strategy now takes on even greater priority and importance given the new role Industry Skills Councils have been given by the Australian Government.

Both Industry Skills Councils provide rail specific consultative forums. ElectroComms and EnergyUtilities provides National Technical Advisory Group forums and Transport and Logistics Industry Skill Council have Sector Group Committees, including one for rail. The ElectroComms and EnergyUtilities Rail National Technical Advisory Group consists of only three rail employers but the Industry Skills Council indicates that it would also welcome suggestions on broader representation. ElectroComms and EnergyUtilities indicated

that it would seek to engage ARA as a peak body for the industry both as an individual organisation and as an active member of the proposed new industry reference group.

Transport and Logistics Industry Skills consultative processes have high levels of flexibility and changes can be made to meet industry needs. Transport and Logistics Industry Skills is open to consultations with ARA on improved processes if they feel this is required. If the ARA were to act as an industry voice, Transport and Logistics Industry Skills have stated that they would still be obliged to consult with any rail organisation with different views from those presented by the ARA. The ARA may be helpful, however, in obtaining or coordinating the views of as wide as possible range of rail organisations.

Partnerships with Registered Training Organisations

Three of the six participants in the Case Studies are Registered Training Organisations. All of the Registered Training Organisation participants also use external Registered Training Organisations for specialist services, but, with one exception, this is a supplementation of the participant's services rather than a partnering arrangement. Nevertheless, the Case Studies provided several examples of partnering with public and private Registered Training Organisations which the participants regarded as successful.

The Registered Training Organisations assert that they have learned lessons about successful partnering. In their views they have developed a better understanding of their clients' needs over time and now work toward shared objectives. The Centre for Excellence in Rail Training has been involved with Public Transport Authority of WA for over three years. ElectroSkills has worked with Australian Rail Track Corporation since their operations extended into NSW over three years ago, and were involved with their predecessor in NSW for several years prior. Victoria University has been in partnership with Connex Melbourne since 2004. The Registered Training Organisations claim that they are more willing to give and take, and not treat the arrangements as strictly fee for service. They also claim they are providing value added services, through applying their expertise to advice on packaging of units and mapping of training to the units, as well as more routine training and assessment services. The partnering arrangements also provide scope for the rail organisations to provide hands on delivery under the Registered Training Organisation's banner. Two of the Registered Training Organisations claim that they have applied the lessons to other partnering arrangements outside the Case Studies.

The Registered Training Organisations say there are insufficient resources available. In fact, considerably fewer resources are available for rail than the road transport sector, for example, in the T&L sector. The average age of rail industry trainers is a concern to some and the shortage of skilled trainers is expected to become more acute. The Registered Training Organisations and industry need to consider ways to address training skills shortages. One participant suggested secondment arrangements between the Registered Training Organisation and rail organisations may be an option.

National Training Packages

The T&L Training Package is considered too broad and import rules are too restrictive. Consideration should be given to packaging based on core and elective units and more flexibility in importing units. It is also difficult to achieve changes to this package. ElectroSkills acknowledge the process of gaining accreditation for the Certificate IV Electrical – Rail Signalling was protracted as objections to certain aspects of the EE-OZ 06 Package resulted in delays to all components of it. The lack of industry resources is an issue, with considerable time and expense involved in developing delivery resources. Recognition of Prior Learning/ Recognition of Current Competence processes may be improved through more flexible delivery processes.

Recognition of Prior Learning (RPL)/ Recognition of Current Competence (RCC)

Although RPL/RCC processes were not in evidence across all Case Study participants and occupational categories, several examples of effective RPL/RCC processes were identified. The Case Study RPL programs, according to the participants, have all involved upskilling existing employees. The RPL process for the Case Study participants, involves all existing employees undergoing gap analysis and gap training leading to nationally recognised qualifications. Each of the participants identified value derived from the process in addressing skills gaps, especially where the gaps related to essential job skills. In the case of Drivers the processes involved national qualifications in the T&L Package at Certificate III or IV level. In the case of Transit Officers/Authorised Officers they led to national qualifications at Certificate III level in one case, and Certificate III in a Victorian qualification in another case. The RPL process for Signal Technicians/Electricians in the Case Studies led to nationally recognised qualifications at Certificate IV level.

Industry Use of Government Funding

This review found little evidence of the companies within the rail industry accessing and using the numerous levels of government funding available to support training. Through the consultations with companies and NCVET reports it became obvious that the rail industry is reducing their use of government funding to support training. A summary of the experience identified by Case Study participants was:

- The use of traineeships by participants was the exception.
- Where used there is frustration with the administrative and related processes.
- There is insufficient flexibility in traineeship periods.
- The administrative burden outweighs any benefits.
- The low utilisation is reflected in official figures concerning qualifications issued in the industry over the period 2002 – 2006. These figures showed a significant decline of numbers coming off an already low base.

There are some exceptions where participants were supported by the state regulator and/or had developed partnership arrangements with publicly funded providers.





**Further Information can be obtained from
The Australasian Railway Association
PO Box 4864 , KINGSTON ACT 2604
Ph: (02) 6270 4500 Fax: (02) 6273 5581
Email: ara@ara.net.au Web: www.ara.net.au**



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