Skills Audit of the Victorian Rail Industry

Summary Report Prepared for Higher Education and Skills Group by Business Group Australia

April 2012
Introduction

The efficient operation of the Victorian rail and tram industry is essential to the economic and social well-being of the state. While only a small number of the total Victorian workforce is employed in the rail industry, many more depend on the rail and tram network to transport them in a safe and timely manner each day. The metropolitan, regional and freight rail networks move passengers and goods on shared networks across the state. The infrastructure, equipment and systems that underpin the operation of these shared networks require access to a broad range of skilled employees.

The Victorian public transport system was subject to significant and far-reaching changes in the period from the early 1990s to the mid-2000s. The process to remove the delivery of services from the public to the private domain resulted in a significant reduction in workforce size. The structural and operational changes to the train and tram networks that occurred over an extended period also had an effect on the capacity and skills of the workforce.

Downsizing of the workforce occurred as a consequence of the restructure as the industry prepared for privatisation and the need to operate in a commercial environment. The significant changes in workforce size and structure had an impact on the skills development activities within the industry.

The need for a skilled workforce and concerns about the current and future availability of these skills prompted the Parliament of Victoria to initiate an inquiry into skill shortages in the rail industry.

The Committee’s report tabled on 5 May 2010 provided a range of recommendations developed to ensure the industry has the knowledge and skills necessary to sustain and further develop world class passenger and freight rail operations. Key recommendations in the report called for the undertaking of a comprehensive audit and analysis of the rail industry and the development of an industry-wide workforce development plan.

This report documents the details of the skills audit of the Victorian rail industry undertaken on behalf of Higher Education and Skills Group in collaboration with the Victorian Department of Transport (DOT) by Business Group Australia. The project activity was conducted between July 2011 and February 2012.

Workforce audit

The audit process was applied in two phases. Phase 1 required the collection and analysis of quantitative data to provide information on employment within the rail industry and to establish a position on critical skills. The Phase 1 activities also required the application of a qualitative research process to collect information directly from rail industry companies on issues related to workforce and skills development. Phase 2 required the completion of a detailed skills and training needs assessment for a critical occupation identified in the first phase of the project.

Quantitative workforce data was collected from Metro Trains, V/Line, Yarra Trams and VicTrack, the Victorian rail network’s four principal rail infrastructure managers, and from eight individual private sector companies providing a range of contracted services to the rail network. The project collected detailed data on over 6,800 rail industry employees from a total estimated workforce of between 9,900 and 10,400.

The quantitative data provided information on the age, gender, length of service, qualifications, training completions and work location of employees. In addition, some companies provided information on employee turnover, leave liability, vacancies and overtime allocations.
The qualitative information obtained from companies through a structured interview process allowed for the confirmation of assumptions derived from the analysis of the quantitative data and revealed a range of key skills and workforce development issues facing the industry.

The responsiveness, honesty and candour of the more than 60 rail industry representatives that participated in the interview process provided important background information and explanations about the rail industry workforce that added the context and depth to the raw data.

Workforce profile

The Victorian rail industry is required to provide services that satisfy policy and legislative requirements, meet community expectations and provide a platform for development, growth and continuous improvement. To deliver on these requirements, the rail industry must retain and develop its existing workforce and access appropriately skilled external labour in an environment where the demand for skilled labour often outstrips supply.

Population growth and continuing economic growth are the key drivers in transport demand. Planned infrastructure investment and system improvements will require increased engagement with specialist contracting companies who in turn will need access to a range of skilled occupations. The state’s investment in new trains and trams will require a significant investment from operating companies in existing worker training and the employment and training of additional operations and maintenance workers. Changes and upgrades to train control and train operations management systems will also require investment in existing worker training.

These rail industry improvement initiatives, accompanied by growth in rail patronage, will be implemented in the short to medium term when the sector will be experiencing the effects of significant numbers of experienced older workers exiting the workforce.

The effects of a shortage of labour at various levels, a reduction in specialised skills recruitment during the extended period of industry down-sizing and the reliance on existing skilled employees during this period have combined to produce a situation where the industry is ‘top heavy’ with older workers and overly reliant on the skills base of this experienced and long-serving group.

The company data and information collected has identified a permanent Victorian rail industry workforce of between 9,900 and 10,400 employees with a substantial number of additional workers employed indirectly in roles such as construction and supply chain activities.

Workforce age

The issue of an ageing workforce, the effects on productivity and efficiency resulting from the loss of skills and capabilities and the consequences for broader industry workforce development were raised in almost all of the interview sessions. The network operators reported that there would be a requirement to retain older employees in the workforce as a matter of necessity in the coming years. The retirement of large numbers of older workers will create skills and capability gaps that will be difficult to fill in the short to medium term through the recruitment and training of new workers only.

The average age of employees in the Victorian rail industry is 44.6 years. The largest age group within the industry is employees aged 50 to 54 years who constitute 16 per cent of the total. Over 38 per cent of all rail industry employees are aged 50 years or older.
The metropolitan rail network currently employs 920 people aged 55 years or older – almost 22 per cent of the total workforce. Over 33 per cent of key infrastructure and maintenance employees on the metropolitan tram network are aged 55 years or older and on the regional rail network more than 29 per cent of infrastructure and maintenance workers are aged 55 years or older.

The analysis of occupational data and the advice from the structured interview process has identified the following workforce age issues:

- The industry is reliant on the skills of a significant number of workers older than 50 years;
- Some critical occupational groups have an average age of over 50 years;
- There are few occupational areas with multiple employees where the average age is less than 45 years;
- A significant number of key operational, management and senior roles are filled by employees older than 60 years; and
- There are significant numbers of single role positions filled by employees older than 55 years.

Highlighted during the qualitative interviews was the critical importance of HR policies that support health and wellness of workers of all ages, particularly given the industry’s health check requirements for safety critical roles. Strategies that support the retention of skilled workers as they age, such as flexible work arrangements, job redesign and mentoring arrangements, were also highlighted.

Network operators are dependent on the services of contracting companies that provide a broad range of trade, technical and professional services, including engineering, to the operating companies. The contracting companies interviewed by the project advised that they do not face the same ageing workforce issues as the network operators.

This qualitative information is reinforced by the data sourced from the contracting companies. Only 6 per cent of the contracting company workforce is 55 years or older compared to 22 per cent of the broader rail workforce in this age grouping. More than 55 per cent of contracting company employees are 39 years or younger compared to 34 per cent of the general rail workforce.
Employees aged 30 to 34 years represent the largest age group in the contracting companies, making up nearly 18 per cent of the workforce. Figure 2 shows the age distribution within rail contractors.

Figure 2

[Bar chart showing age distribution of rail contractors]

Workforce length of service

Information collected from the three network operators suggests that in a range of occupations low levels of recruitment in the period from the early 1990s to the early 2000s has had an impact on organisational capacity.

Operating companies are now reliant on the expertise and experience of long serving employees while lacking employees with mid-level experience. They are attempting to build capacity through significant recruitment activity.

The metropolitan rail network workforce currently includes 44 per cent of workers with four years service or less. The employment of many of these workers is linked to the change in the network franchise arrangements. The data shows that recruitment activity has targeted critical occupations where there is an age imbalance that needs to be addressed.

The extent of recent recruitment efforts by the network operators may be seen in Figure 3. Figure 3 also highlights the prevalence of older workers in the workforce. 28 per cent of the metropolitan rail network workforce has 20 years or more service with 12 per cent of workers with 30 years or more service.

The length of service profile for the regional train network operator and the metropolitan tram network operator follow a pattern that is similar to the metropolitan train network figures. There are over 41 per cent of metropolitan tram network employees with service of four years or less, a small mid-level experience group comprising just 11 per cent of the workforce, over 35 per cent of workers with 20 years or more service and more than 16 per cent of workers with service of 30 years or more. Within the regional rail network there are more than 34 per cent of employees with four years service or less, a mid-level experienced group with 10 to 19 years service of just 6 per cent of the workforce, over 33 per cent of employees have been employed for 20 years or more and 20 per cent of workers with 30 years employment or more.
**Figure 3**

<table>
<thead>
<tr>
<th>Years of service</th>
<th>Percentage of workforce – metropolitan trains</th>
<th>Percentage of workforce – metropolitan trams</th>
<th>Percentage of workforce – regional trains</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 4</td>
<td>44</td>
<td>41.4</td>
<td>34.4</td>
</tr>
<tr>
<td>5 to 9</td>
<td>17.4</td>
<td>11</td>
<td>26.2</td>
</tr>
<tr>
<td>10 to 19</td>
<td>10.8</td>
<td>11.4</td>
<td>5.6</td>
</tr>
<tr>
<td>20 to 29</td>
<td>15.8</td>
<td>19.4</td>
<td>14</td>
</tr>
<tr>
<td>30 to 39</td>
<td>9.6</td>
<td>12.8</td>
<td>14</td>
</tr>
<tr>
<td>40 to 49</td>
<td>2.3</td>
<td>3.8</td>
<td>5.6</td>
</tr>
<tr>
<td>50 plus</td>
<td>0.1</td>
<td>0.2</td>
<td>0.2</td>
</tr>
</tbody>
</table>

It should be noted that the data analysed for the regional train and metropolitan tram networks does not cover all employees. However, consultation with both operating companies suggests that the length of service pattern shown in Figure 3 is consistent with the full workforce of both networks.

**Workforce gender**

The workforce profile of the Victorian rail industry is predominantly male. The data collected by the project shows that only 16 per cent of the network operator workforce and 18 per cent of the rail contracting workforce is female. Over 75 per cent of all female workers in the Victorian rail industry are employed in occupations classified as clerical, sales or service.

Female representation in the rail industry is still significantly below most other industries. The female workforce in all industries is over 45 per cent. In occupations such as electrical and engineering trades, plant and machine operators, controllers and signallers more than 90 per cent of all workers are male, with some occupations exclusively male.

**Workforce safety**

The project was advised during the industry consultation process that the explicit safety requirements of the rail industry have a significant impact on workforce development and influence the workforce profile. All new employees working in roles that require access to rail track or close proximity to rail track are required to complete formal training in a range of designated programs.

Industry representatives suggested during interview sessions that the safety critical nature of the industry and the routine requirement for health and fitness testing presented particular challenges for older workers and placed further pressures on workforce planning and development activities.

Rail industry companies operating in Victoria are required to comply with the provisions of the Victorian Rail Safety Act 2006. Companies are accredited under the Act as rail infrastructure managers, rolling stock operators and contractors and suppliers. The Act clearly defines the roles and responsibilities of organisations in rail industry activity and these definitions add a complexity and compliance requirement to workforce planning and development activity.
Rail companies accredited under the Act are required to ensure that rail safety workers are competent to carry out their work.

The accreditation process ensures that companies have the competence and capacity to manage the risks to safety associated with their specific rail operations. Companies are required to clearly demonstrate to the regulator that appropriate arrangements are in place for areas such as:

- Safety management systems;
- Risk management;
- Training and competence of rail safety workers;
- Safety interface agreements; and
- Emergency management.

From a workforce planning, development and training perspective the rail safety worker requirements within the Act clearly describe the level of compliance that must be maintained by the rail industry. The rail safety requirements also add another element to the workforce profile that must be measured and recorded. All employees regardless of their technical skills are required to complete further rail specific training to ensure safe working.

**Rail infrastructure projects**

Major rail infrastructure projects require access to general civil engineering and civil construction skills. The workforce on these infrastructure projects is trained in a range of engineering and construction skills across a broad spectrum of occupations. There is no specific rail industry involvement in the development of this skills base. The contractor workforce involved in rail infrastructure projects moves between industry and project type dependent on demand and tender success. There may be a shortage of skilled labour to support rail infrastructure projects if a large number of civil construction projects are underway at any given time.

The Victorian Government is investing in large-scale infrastructure projects that will significantly improve the operation of the passenger and freight rail networks and will require access to significant numbers of skilled workers. All of these projects have the capacity to draw on existing rail workers to fill specific technical roles. This remains a risk to the current workforce in rail operations and rail infrastructure as any employees moving from network operations to infrastructure projects will need to be replaced.

The contracting companies consulted by the project could not provide information or data about future skill needs in relation to major rail infrastructure projects, but all the companies consulted stated that an adequate supply of appropriately skilled and qualified labour will be fundamental in meeting the challenges of these expansion and improvement developments. The rail operations of the future will require the retention of the existing skills base and will also need to attract new, younger skilled workers who will be able to respond to changing work practices and technological challenges.

**Rail manufacturing**

Whilst the workforce development needs of the rail manufacturing sector were not included in the terms of reference for the project it was considered an important issue that required rail company input.

The project was advised that the existing directly employed train manufacturing workforce located in Dandenong and Ballarat will expand from 150 to 250 over the next six to nine months with large contracts currently under way and the possibility of at least some of the manufacturing activity in other states being re-located to Dandenong.
It was made clear to the project that ongoing work in relation to the workforce development needs of the rail industry must take account of the particular needs of the rail manufacturing sector.

**Critical occupations**

The project was required to identify occupational and skill areas that are critical to the safe and efficient operation of the rail industry that will require a specific focus in the short to medium term to ensure adequate supply. These occupations were directly identified by the rail industry companies consulted by the project.

Based on the advice received from the rail companies we have defined these critical occupations as those occupations where:

- there is a long training lead-in time required or the occupation requires the development of higher level, complex skills;
- there are significant numbers of older workers in the occupation who will need to be replaced upon retirement or strategies will need to be developed to support older worker retention;
- there are small numbers of employees in the occupation or it is a single position role and the current employees are older workers;
- there are a small number of employees in the occupation and there has been very limited recruitment into the occupation in recent times; and
- there is a requirement for significant up-skilling as a consequence of the introduction of new technology.

The project data shows that the current network operators are dealing with a workforce that is ‘top heavy’ with older, long serving employees and with skill gaps in the mid-level experience employee group.

Those critical rail industry occupations identified by the project that will require an ongoing, and in some cases an increased, recruitment and skills development activity are those where workforce age issues and gaps in mid-level experience are most obvious.

The critical occupations that will need to be addressed in the short to medium term by the industry are listed in Figure 4.
### Critical Rail Industry Occupations

<table>
<thead>
<tr>
<th>Occupations</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal maintenance technician</td>
<td>Dual qualified workers with a long training lead-in time. Recent efforts to increase numbers will need to be maintained.</td>
</tr>
<tr>
<td>Suburban train maintainer (electrical)</td>
<td>Workers with an electrical licence – new trains will result in increased demand for these skills.</td>
</tr>
<tr>
<td>Suburban train maintainer (mechanical)</td>
<td>Engineering trade qualified workers - new trains will result in increased demand for these skills.</td>
</tr>
<tr>
<td>Electricians – tram network</td>
<td>Workers with an electrical licence. Current age profile will require significant worker replacement in the near future.</td>
</tr>
<tr>
<td>Train drivers - metro</td>
<td>Current age profile of drivers will require significant worker replacement in the near future.</td>
</tr>
<tr>
<td>Train controllers</td>
<td>Age profile and the introduction of new accredited training will require significant training effort in the short term.</td>
</tr>
<tr>
<td>Tram service controllers</td>
<td>Current age profile of controllers will require significant worker replacement in the near future.</td>
</tr>
<tr>
<td>Overhead line workers</td>
<td>Age profile issues. Recent efforts to recruit new workers will need to be maintained.</td>
</tr>
<tr>
<td>Sub station technicians</td>
<td>Dual qualified workers with a long training lead-in time. Recent efforts to increase numbers will need to be maintained.</td>
</tr>
<tr>
<td>AC officers and DC officers</td>
<td>Require sub-station technician skills and extensive experience. Formal career pathways need to be established.</td>
</tr>
<tr>
<td>Track workers</td>
<td>Age profile issues. Recent efforts to recruit new workers will need to be maintained.</td>
</tr>
<tr>
<td>Electrical engineers</td>
<td>In demand professional area with suitable applicants in short supply. Substantial professional development required.</td>
</tr>
<tr>
<td>Signalling engineers</td>
<td>In demand professional area with suitable applicants in short supply. Substantial professional development required.</td>
</tr>
<tr>
<td>Project managers</td>
<td>In demand professional area with suitable applicants in short supply. Substantial professional development required.</td>
</tr>
</tbody>
</table>
Skill needs

The key issue for the industry in the period to 2020 will be the replacement of skilled workers as many of the existing employees retire from the workforce.

The Victorian rail industry will face labour demand and skill requirements in the period to 2020 that will largely be a consequence of the workforce age factors. There will be a need to replace large numbers of retiring workers – most of whom will possess specialised and specific rail skills that will be in short supply in the general labour market.

All the rail industry companies interviewed identified the lack of ‘specific rail industry expertise and experience’ as a problem in relation to current and future labour supply. The availability of skilled and experienced labour, particularly in key operational roles, is a current issue and will only worsen in the coming years.

Although the capacity of the rail industry to cope with emerging skill requirements caused by technological change is not in doubt, during the industry consultations the project was advised that many existing older workers are experiencing difficulties adapting to current technological change. The upgrade of rail signalling and communications systems and the change from analog to digital technology were provided as examples of the type of current technological advance that has presented challenges to existing older workers.

The project has identified other factors that are likely to contribute in the period to 2020 to the general skill needs of the rail industry. These include:

- the general economic climate and the competition from other industry sectors and other states for skilled labour
- the imbalance in the workforce age profile
- specific health and safety requirements in the industry
- attraction and retention issues associated with industry structure, image and culture
- the capacity of the education and training system to deliver the skills required in a timely and responsive manner.

Apprentices

The network operators have increased their apprenticeship, traineeship and other employment based training programs in recent years, but there are still occupational areas where these arrangements may be improved. Less than one per cent of the total rail industry workforce are employed in apprenticeship positions.

The project was advised that there are a number of factors contributing to the small number of apprenticeships being offered over the past 10 years. These include the lack of skills investment across the rail industry, a lack of suitable trade supervisors, access to good quality candidates and access to appropriate Registered Training Organisations with rail industry expertise.

The project was advised that there is negative public perception and a lack of awareness about rail industry jobs and career pathways that makes it difficult to attract people into entry level employment such as apprenticeships. There is a need for the industry to improve its career pathway arrangements as a way of retaining existing employees and attracting good quality applicants for new jobs.
Skills gap audit

A formal skills gap audit was undertaken for one occupation identified during the workforce audit as being critical to the safe and efficient operation of the industry. The signal maintenance technician role was identified as a suitable occupation to use as a case study for conducting a skills gap audit with broader relevance for the rail industry.

The purpose of a skills gap audit is to determine whether a company’s workforce development plans and training programs provide appropriate skill and knowledge development opportunities for employees to undertake their role competently. The process provides detailed information which can be used not only to create training and development plans but also for recruitment, succession planning and role redesign across the organisation or to help meet business requirements for a particular role or function.

The project team used an eight step process, as shown in Figure 5, to conduct the skills gap audit on the signal maintenance technician role within the metropolitan train network operator. Internal documentation and additional information was provided to the project by the company’s human resource team.

Figure 5

Skills Gap Audit Process

The audit found that employees with gaps in their mandated or required training were generally those currently employed as trainees or apprentices. As such the company has in place training plans that outline these requirements for individuals as per the regulations for apprenticeships and traineeships. The training matrix developed during the skills gap audit has provided an additional resource for the human resources team to further plan training and the necessary resources to assist with this.

Although the skills gap audit of signal maintenance technicians was restricted to the metropolitan rail network operator, the outcomes are just as relevant for other rail companies that employ signal maintenance technicians.
Training and workforce development

Currently there is no overarching strategy or structure for rail industry skills development and training activities in Victoria. Some training for operational staff is provided using nationally accredited programs while other operational areas utilise in-house, non-accredited training. With the exception of required rail safety training, some areas have no formal, structured training arrangements in place.

The three network operators each have in place separate internal skills and workforce development arrangements. Contracting companies work independently when dealing with skills and training matters. The project was advised that the level of cross-company collaboration when dealing with skill shortage and skill gap issues is poor.

As a relatively small niche training market, the rail industry in Victoria suffers from a severe shortage of specialised Registered Training Organisations (RTOs). Issues with accessing suitable external training providers and accredited training were raised by all the companies consulted. Those RTOs that deliver rail specific training advised the project that they are constrained by a shortage of experienced trainers available to develop and deliver training to the industry.

A number of public training institutes provide a range of training services to the rail industry. The project was advised that all of these providers have experienced difficulties attracting training staff with relevant rail industry skills and experience. The introduction of new rail industry qualifications will continue to put pressure on those training organisations servicing the rail industry. The project was advised that there is limited learning resource development expertise available to support the new rail qualifications in areas such as network control and signalling.

Given the growing importance of accredited vocational training to the industry and the problems RTOs currently face in recruiting suitable trainers with relevant rail industry expertise and experience, a coordinated industry approach to sourcing quality training arrangements should be considered.

A number of factors are currently impacting on the training and workforce development capacity of the industry that need to be addressed through a coordinated industry effort. These are:

- A shortage of training providers with expertise in the rail industry;
- A shortage of trainers with the right level of industry experience to deliver knowledgeable training;
- The difficulty of delivering practical training for complex roles due to a lack of simulated environments – much of the training required cannot be done on a ‘live’ system; and
- A lack of resources for training delivery contextualised to the Victorian network and mapped and aligned against accredited units of competence by the companies directly.
Higher education

There is limited scope and availability of programs for rail skills which require degree level or postgraduate qualifications.

The typical pathway for rail positions requiring a degree qualification is the completion of a generic engineering qualification in a range of disciplines that provide an appropriate entry position to the industry. Once employed, individuals may choose to pursue the limited rail specific postgraduate options available. However, the project was advised that there is an industry expectation that specialised rail engineering employees require a number of years after graduating before reaching the required proficiency.

Specialised university programs for rail industry engineers and other professional staff are not available from Victorian universities but are available under distance learning arrangements from Central Queensland University, Queensland University of Technology and the University of Wollongong.

Including contract and consulting positions, there is an estimated total of between 850 and 900 professional engineers across all disciplines working in the Victorian rail industry. For the most part, these employees manage their own learning and professional development supplemented in some companies by graduate programs developed within the organisation.

Given the advice provided to the project on the poor access and poor quality of rail-specific graduate and post-graduate engineering programs it would seem appropriate for the industry to consider a coordinated approach to sourcing quality higher education engineering services.

Rail Skills Centre

The Rail Skills Centre – Victoria is an industry training centre managed by VicTrack and funded by the Department of Transport. The centre is located in Newport and contains a number of portable administration and training buildings and external space for applied skills training for both the train and tram networks. The centre does not operate as a Registered Training Organisation (RTO), but is available for use by RTOs and rail companies.

There was a mixed response from both operators and contractors about the capacity of a Rail Skills Centre to provide a whole of industry training response to assist with shortage issues and skills gaps without the introduction of a strengthened industry leadership and coordination function supported by all key stakeholders, including operators, contractors and government.

Further development of the centre to provide training for apprentices, trainees and graduates was encouraged by all companies interviewed - in particular infrastructure managers, who indicated the need for simulated environments for these employees to gain skills and knowledge in a safe, realistic and functioning setting.

There is no doubt that the capacity of individual rail companies to deal with longer term skill shortage issues and more immediate skill gap problems would be enhanced through the establishment of a coordinated industry approach. Access to a common user facility such as the Rail Skills Centre should be part of this coordinated model.
Rail industry skills taskforce

One of the key issues facing the Victorian rail industry is the need to focus on a more collaborative and coordinated action plan. Future best practice in relation to skills and workforce development in the rail industry will be dependent on the capacity of the industry, particularly the network operators, to work collaboratively on skills development.

The rail industry currently lacks a single body to provide comprehensive advice regarding skills and training for the industry. While there are several groups operating in an advisory role, they only cover some segments of the Victorian rail industry while others have little or no representation on state policy issues. The rail industry therefore lacks a single and coherent voice when dealing with workforce planning and development matters.

There was a broad consensus among those organisations consulted by the project about the need for the Victorian rail industry to adopt a coordinated approach to training, recruitment, employee retention and the utilisation of existing workforce skills. There is also a need for more accurate workforce and skills data which will assist in the development of workforce plans. Without this, the rail industry is unlikely to have the necessary information to manage its labour and skills requirements to meet the current and projected demand.

To date, the Rail and Tram Infrastructure Industry Committee (RTIIC) has played a key role in identifying skill needs across rail and tram infrastructure and will continue to provide an important mechanism for cross-industry discussion on skills and workforce development in this area. However, the RTIIC’s coverage does not extend to the areas of operations and rolling stock, and therefore does not provide whole-of-industry coverage.

Senior-level support and commitment is needed from all industry stakeholders to drive the coordinated industry response required to deal with the sector’s current and emerging skill needs. The establishment of a Victorian Rail Industry Skills Taskforce, as detailed in Figure 6, would provide the strategic leadership required to direct collaborative efforts across the rail industry.

The Taskforce would take the lead on of the identification, planning and coordination of rail skills development through the development of a whole of industry workforce plan. It would ensure that current and emerging skill needs are identified at the state level and ensure appropriate levels of workforce development activity to meet these needs.

Figure 6

<table>
<thead>
<tr>
<th>Victorian rail industry skills taskforce structure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Department of Transport</strong></td>
</tr>
<tr>
<td>(Chair and Secretariat)</td>
</tr>
<tr>
<td>Higher Education and Skills Group</td>
</tr>
<tr>
<td>Metropolitan Rail Network Operator</td>
</tr>
<tr>
<td>Regional Rail Network Operator</td>
</tr>
<tr>
<td>Metropolitan Tram Network Operator</td>
</tr>
<tr>
<td>Nominated Rail Infrastructure Company</td>
</tr>
<tr>
<td>Nominated Rail Manufacturing Company</td>
</tr>
<tr>
<td>Nominated Rail Contracting Company</td>
</tr>
<tr>
<td>Nominated Rail Industry Association</td>
</tr>
<tr>
<td>Nominated Rail Industry Trade Union</td>
</tr>
</tbody>
</table>
In discussions with rail stakeholders about the formation of a Taskforce, the project sought advice on the structure, scope and scale of the arrangements. There was broad agreement that the proposed Taskforce should comprise executive level representatives from all parts of the rail industry. The involvement of senior and executive level staff from each company, industry association and trade union in the Taskforce is essential to the industry’s longer-term strategic direction with regard to skills and workforce development.

It was suggested that the Taskforce should be chaired and serviced by the Department of Transport, reflecting its leadership role in ensuring the Victorian rail industry is adequately represented in workforce planning and development. Higher Education and Skills Group would be represented as the key Victorian Government agency responsible for skills development and vocational training. Membership of the group should also allow for national industry input through the peak industry bodies, which would link the Taskforce to national developments.

It is proposed that the Taskforce operate for a period of three years, providing it with sufficient time to set a strategic agenda and develop an action plan for the industry. High-level strategic planning would be undertaken by the Taskforce, which may appoint various committees to undertake work as directed by them against agreed priorities.

The RTIIC, or a similar committee, would operate under the auspices of the Taskforce and play a key role in the delivering on the strategic agenda set by the Taskforce in relation to rail and tram infrastructure. Additional sub-committees would be established to meet the needs of the operations and rolling stock areas. The sub-committees could continue to manage activities once the Taskforce arrangements cease.

Proposed priorities for consideration by the Taskforce could be to:

- Develop an industry-wide Workforce Development Strategy (including manufacturing) projected across a ten year period;
- Establish strategies to meet industry skill needs and skills shortages as identified in the report;
- Establish an industry training program for rail and tram engineering professionals, including pilot programs with relevant higher education providers;
- Undertake discussions with RTOs to increase joint understanding of industry needs, expectations and delivery options and strategies;
- Develop a formal training approach for operations, rolling stock and non-trade infrastructure staff;
- Develop and implement an industry wide training strategy in priority areas to foster co-operation across the industry; and
- Establish an agreed plan for the Victorian Rail Skills Centre, including infrastructure investment and use.

There is a need to build a comprehensive, industry-wide model that will allow for the development of a workforce plan that includes best practice approaches to skills development. The work of the existing skills advisory bodies at the state and federal level, while commendable, will not deliver the high level and specific rail industry intervention required. The project has identified that there is broad support for the taskforce model and that the establishment of the taskforce offers the best opportunity to deal with the rail industry’s skills and workforce development issues.
Conclusion

The project has found that the low levels of recruitment in critical occupational areas in the 1990s and early 2000s has been a major contributing factor towards the current skills gap and skill shortage problems that are impacting on organisational capacity. Operating companies are reliant on the expertise and experience of long serving employees while attempting to build capacity through a significant investment in the recruitment of new employees.

Over 40 per cent of all workers employed by the three network operators have been employed for four years or less. Many of these workers are employed in critical maintenance and operations occupations. The large numbers of workers with low levels of rail industry experience are dependent for advice, guidance and support from a small group on employees with between 10 and 20 years rail experience and a much larger group of workers with more than 25 years rail industry employment.

Less than 10 per cent of current rail industry workers commenced their employment between 1992 and 2002. The low level of recruitment during this period has produced a situation where there are now low numbers of mid-level experienced employees in some critical occupations.

Although there are large numbers of workers aged 55 years and older, with a significant component of this group aged over 60 years, the high levels of recruitment in the past four years and the age of these new employees has resulted in a current average age across the industry of 44.6 years. Despite a reasonable average age there are areas of the industry where the age of the workers needs to be given serious consideration as part of a comprehensive workforce planning process.

The key issues for the network operators in the short to medium term will be the replacement of skills as many existing employees retire from the workforce and the requirement to ensure that there is sufficient mid-level experience and expertise to provide the workplace leadership needed to support the recently recruited and relatively inexperienced workforce.

The contracting company workforce required for major rail infrastructure and development projects is sourced from a broader civil engineering and contracting workforce that operates across a range of industry sectors. This infrastructure workforce is transient and moves between employers, projects and locations. However, the contracting workforce relies on the technical support and rail industry experience of professional and specialist employees from network operators and the public sector. Infrastructure projects require this combination of contracted labour and internal rail industry experience and expertise. Although the contracting companies utilise skills that are applicable across other industry infrastructure projects, the rail specialisation required means that this is an issue that requires appropriate consideration in the rail industry workforce development arrangements.

The project has identified 14 critical occupations that will require a continued effort to fill current skill gaps and a longer term plan for the alleviation of a future skill shortage in these occupations.

The industry requirement for a broad range of technical and professional skills is being hampered by limited vocational training and higher education options. In some skill areas the industry is limited to a single Registered Training Organisation (RTO) or is required to establish in-house training programs under auspicing arrangements with RTOs. The scarcity of experienced rail industry trainers is an issue that needs to be urgently addressed. Higher education options for post-graduate and continuing education are limited. There are no Victorian universities offering rail industry specific programs.
The Rail Skills Centre is struggling to keep up with the increasing demands on training and development services required by the industry. Either additional support should be provided to the Centre or an alternative management model put in place, such as the proposed Taskforce.

The project has found that the level of apprentice employment in the industry could be improved. It is true that in some occupations such as signal maintenance technicians there has been a recent increase in apprenticeship and trainee recruitment, but overall the level of apprentice employment across the industry as a percentage of overall employment in relevant occupations is low.

The establishment of a Rail Industry Skills Taskforce with executive level representation from across the industry offers the best model for the establishment of a coordinated and integrated approach to the industry’s skills and workforce development needs. Without the high level coordination available through a taskforce model it seems likely that the skill gap and skill shortage issues identified by the project will continue to hamper the efficient operation of the industry.