

**Regulatory and/or Licencing Bodies**

- The Office of the National Rail Safety Regulator (ONRSR) is an independent body corporate established under the Rail Safety National Law to encourage and enforce safe rail operations, promote and improve national rail safety.<sup>i</sup>

**INDUSTRY DEVELOPMENTS AND WORKFORCE CHALLENGES:****1. Existing and anticipated supply and demand for skills:**

- COVID-19 has had significant implications on the ability for the rail sector to attract and retain skilled workers on current and future projects (i.e. the METRONET expansion program and the proposed boom gate removal on the Armadale line.<sup>ii</sup>) With very strict border controls in place to minimise the spread of the virus, infrastructure projects are faced with the challenge of planning and implementing work schedules with a heavily limited skills pool. They are unable to source interstate workers or from outside the country given the gravity of the pandemic.<sup>iii</sup>
- Construction of the \$46 million METRONET Bellevue rail car manufacturing facility commenced in March 2020 and will have close links to the Trade Training Centre to be run by North Metropolitan TAFE to provide apprenticeship and traineeship opportunities for the rail manufacturing, engineering and electrotechnology sectors. It should be noted that private providers still have an essential role to play in meeting the needs of industry.<sup>iv</sup>
- As at May 2020, Patronage on the rail passenger network was 1,576,985 compared to 5,725,154 for the same period in 2019.<sup>v</sup> Reduced patronage can be attributed to concerns regarding spread of COVID-19 since March and changes to operating schedules that followed. (Normal services have since resumed coinciding with the return to work and end of school holidays). As State-wide restrictions were eased, the service and maintenance of rail cars, track and other infrastructure has been ongoing throughout this period.<sup>vi</sup>
- Within the State, it is worth highlighting the breadth and depth of work that needs to be conducted. Regional rail projects such as the Eliwana and Iron Bridge projects associated with the mining sector are in just as much need for rail workers as those required to undertake metropolitan projects like the Bayswater Station upgrades. The demand for workers continues to grow with the need for greater agility and adaptability. The transferable skills that can be assigned to different projects expose vulnerabilities in the retention, sourcing and upskilling of new and existing talent pools.<sup>vii</sup>
- As digital integration continues to evolve within the rail space and expedited through events such as COVID-19, it is anticipated there will be a significant workforce and knowledge gaps in the future for skilled workers, as well as those in roles such as data management/storage/transfer, data analytics and telecommunications.<sup>viii</sup>
- The 2019-20 State budget includes \$4.2 billion that has been earmarked for transport and infrastructure projects. This includes six rail projects totalling 72 kilometres being planned for or already under construction as well as level crossing removal. Bearing in mind the forward estimates and projection of scheduled works likely to run concurrently, it is anticipated that there will be considerable demand and supply pressures on workers required to complete the work.<sup>ix</sup>
- New technology has created the need for different skills and mindsets. Older workers in particular, will require upskilling in how to apply technology.<sup>x</sup>

- Augmented and virtual reality has enabled a greater capacity to improve safety and training in the rail space through the use of simulators. Other areas with benefits gained from this technology include enhanced engineering design and the development of new infrastructure.<sup>xi</sup>
- As this Virtual Reality technology begins to be integrated and introduced within the rail sector the opportunities for pre-traineeships may increase. <sup>xii</sup>
- The use of big data and analytics will be used as a value-add service and these skills are likely to be obtained through upskilling.<sup>xiii</sup>
- Essential skills within the industry will be the need for adaptable skills sets and critical thinking. Situational awareness skills, the ability to perform under pressure, enterprise skills, problem solving and multitasking skills continue to be highly regarded by industry, particularly for Train Controller roles. Some of these skills are attained through a greater focus on STEM skills but also practical experience and exposure to the real work environment.<sup>xiv&xv</sup>
- Additional skills required will include: communication skills; virtual collaboration and social intelligence; managerial/leadership skills; design mindsets, critical thinking/problem solving and system thinking skills; learning agility/information literacy skills; intellectual autonomy and self-management skills; Language, Literacy and Numeracy (LLN) skills; technology and data analysis skills.<sup>xvi</sup>
- Industry knowledge of the rail sector is essential for the roles of Transport Engineer/Rail Engineer, however industry has indicated university graduates applying for these roles are not always equipped with sufficient industry knowledge or with the understanding of how to apply their qualifications in a rail environment.<sup>xvii</sup> Employers are offering mentorship and supervision for new employees to obtain this knowledge, however, this is creating longer lead times for new employees to operate without supervision.<sup>xviii</sup>
- Rail Engineers are not yet addressed in the VET sector, however, there is the potential for a suitable VET qualification to be developed which could address this knowledge gap.<sup>xix</sup>
- Industry has a growing need for skills sets to be developed (ie infrastructure, signal technicians and electrical). Currently there are no existing skill sets being taught for technical rail systems.<sup>xx</sup>
- Industry has identified that the following occupations will have a supply or demand issue in the next four years:
  - **Signal Engineers/Signal Technicians** – As this role has primarily been filled through overseas recruitment. Significant challenges are being faced by industry to fill such roles<sup>xxi</sup>
  - **Rail Trainers and Assessors** – in addition to a limited number of RTOs in WA that provide Rail training, there is also a shortage of Rail Trainers. In some instances, Trainers and Assessors are taken from in house and provided with training to be developed into these roles. Some organisations have reported it taking a minimum of three and a half years to find a competent Trainer in Perway welding. The Passenger Rail Industry is now reporting an extreme shortage as experienced Trainers and Assessors are absorbed back into the broader rail industry due to a limited supply of workers available in WA.
  - **Transport Engineer** – in some fields this occupation is also in shortage. Currently, Industry is bringing in experienced Tech engineers to train teams (i.e. Hitachi).
  - **Railway Track workers** – organizations are continuing to experience issues in recruiting skilled and experienced track works across track inspection, training and welding streams, with high competition between rail freight industry for workers. Perway welders are in demand with a long lead time to train and develop people to the required specialist levels (i.e. five years). Some specialist skills are being eroded as new technology is introduced and the opportunity to develop experience and specialist skills is no longer available to them.
  - **Train controller** – this occupation is in high demand. This occupation requires long hours, (12-hour shifts) with a high level of responsibility and autonomy. Typically, training for core skills can be achieved within months; with a training period of 12 to 18 months needed to fully develop the skills and experience required for Train Controllers to operate independently.

- **Protection Officers** – this occupation is in demand and is vital to organisations to ensure tracks are useable.
- **Train Planners and Schedulers** – this occupation is critical to organisations. Where possible candidates can be taken from Train Control positions as they have some understanding of train maintenance and other factors to be successful in the role. However, there is still a long lead time for individuals (i.e. three plus months) to become competent and independent in the role.

## 2. Emerging international, national or State training issues impacting your industry

- Similar to other industries, big data is playing an ever increasing role in shaping the future of rail transport. When used in conjunction with applications such as Advanced Train Management Systems (ATMS), new and specialised skills are being developed which requires upskilling of existing workers.<sup>xxii</sup>
- The growing need for digital literacy that goes beyond basic computer skills is fast becoming the new standard. Incorporating these skills is vital to being able to adapt, adopt, analyze and interact with several platforms that are not limited to the internet of things, cloud computing and artificial intelligence.<sup>xxiii</sup>
- Medical re-testing, particularly for Train Controller and Train Drivers, is now becoming more frequent as companies have reported a greater occurrence of medical issues affecting the ageing workforce. This has a flow on effect with workers compensation and return to work issues affecting organisations.<sup>xxiv</sup>
- The Rail Industry Reference Committee (IRC) will be reviewing and developing scope of works which include but are not limited to: Train and Rail Vehicle Coordination, Rail Yard Coordination, Rail Track Protection, and Rail Rolling Stock Maintainer.<sup>xxv</sup>
- In Victoria, the Engineering Pathways Industry Cadetship (EPIC) program is an initiative aimed at recruiting qualified engineers from refugee or asylum seeker backgrounds and assisting them with starting a career in major transport infrastructure projects.<sup>xxvi</sup>

## 3. Strategic directions, policies and priorities for industry

- A national approach is being investigated by the Australian Rail Association on how to bridge knowledge and training gaps, review training techniques and recruitment and retention challenges.<sup>xxvii</sup>
- Organisations are increasingly using subcontractors to meet staffing requirements. This arrangement can make it difficult for contracting companies to maintain workforce levels outside of tenders/projects with staff moving between contracts/projects.<sup>xxviii</sup>
- Consideration has been undertaken by industry stakeholders on how best to utilise the skills of ex-service personnel. Elements such as working well under pressure and other transferable cross sectoral skills are looked at favourably by employers for those wanting to transition into a different sector.<sup>xxix</sup>
- As well as initiatives and policies and procedures specific to individual organisations, the rail industry is exploring job redesign and re-evaluating recruitment strategies to make previously labour intensive roles attractive to women.
- The rail industry has also established several key strategies to diversify its workforce, and continues to promote discussions on gender diversity, and the challenges and issues surrounding this topic, regularly at forums.<sup>xxx</sup>

<sup>i</sup> ONSR Available [<https://www.onrsr.com.au/about-onrsr> ]

<sup>ii</sup> <https://www.mediastatements.wa.gov.au/Pages/McGowan/2020/06/Bye-bye-boom-gates-transformational-plan-released-for-Armadale-Line.aspx>

<sup>iii</sup> Industry consultation 2020

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v	Public Transport Authority
vi	Industry consultation 2020
vii	Industry consultation 2020
viii	Australian Industry Standards Rail Industry Skills Forecast 2020.
ix	Western Australia State Budget 2019-20 Accessed from: <a href="https://www.ourstatebudget.wa.gov.au/2019-20/fact-sheets//transport.pdf">https://www.ourstatebudget.wa.gov.au/2019-20/fact-sheets//transport.pdf</a> 10.07.19
x	Industry Consultation 2020
xi	BIS Oxford Economics, Australian Railways Association Skills Capability Study Skills Crisis: A call to action, November 2018
xii	Industry Consultation 2019
xiii	Industry Consultation 2019
xiv	Industry Consultation; and Australian Rail Association Deep Dive Skills Workshop 24 July 2018
xv	Industry Consultation 2019
xvi	Industry Consultation: Australian Industry Standards, Rail Industry 2018 Key Findings Discussion Paper
xvii	Industry Consultation 2019
xviii	Industry Consultation 2019
xix	Industry Consultation 2019
xx	Australian Industry Standards, Rail Industry Reference committee Skills Forecast 2020
xxi	Industry Consultation 2020
xxii	Industry Consultation 2019
xxiii	Industry Consultation 2020
xxiv	Industry Consultation 2019
xxv	Australian Industry Standards, Rail Industry Skills Forecast 2020
xxvi	Rail Academy Victoria EPIC program
xxvii	Industry Consultation
xxviii	Industry Consultation 2020
xxix	Industry Consultation 2020
xxx	Industry Consultation 2019