

INDUSTRY OUTLOOK

2021

TRANSPORT AND LOGISTICS

INDUSTRY REFERENCE COMMITTEE



ABOUT THIS INDUSTRY OUTLOOK

The Industry Reference Committee (IRC) Industry Outlooks focus on the prioritisation of the skill needs of the industry sectors each IRC has responsibility for. The Transport and Logistics IRC Industry Outlook identifies the priority skill needs of the Transport and Logistics industry following a stakeholder consultation and research process conducted by Australian Industry Standards (AIS) on behalf of the IRC.

The document is deliberately brief, it does not seek to identify every issue within every sector. It is a snapshot of a continually evolving story that is intended to alert and inform a wide audience and enhance the industry's capacity to act.

IRCs are required to consult broadly with stakeholders to ensure a whole-of-industry view about the opportunities and challenges for the workforce and the Training Package review work necessary to meet industry needs.

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FROM THE CHAIR

The Transport and Logistics industry employs more than 530,000 Australians across its major subsectors of road transport, logistics, warehousing, and stevedoring. During 2020 the industry earned an estimated \$101.51 billion and contributed \$39.91 billion to Australia's GDP. While these are impressive figures, it was the impact of the COVID-19 pandemic and the necessity of maintaining the Australian supply chain that highlighted how important the Transport and Logistics sector is to the economy and to every household.

The pandemic has caused serious disruptions to Australian supply chains. Whilst there has been an unprecedented demand for certain products and services, delivery was impacted by strict lockdowns and border closures in several states. The Transport and Logistics sector continues to play a significant role in mitigating the disruptions and providing a seamless flow of goods. Workers have had to work longer and harder to keep the supply chain flowing. COVID-19 expedited the digitalisation of businesses and increased the demand for e-commerce which exerted enormous pressure on the sector. The Australian Transport and Logistics sector has had to adapt and respond to the unanticipated impacts by increasing implementation of digital innovations such as blockchain, Internet of Things, and data analytics to improve operations and save costs.

Digital technologies offer enormous benefits to make the Australian economy competitive. The realisation of these opportunities requires the development of workforce skills to enable the operation of these technologies and the transfer of those skills across different occupational categories and sectors. Digital skills continue to gain momentum as technology and data are embedded into the job functions of many occupations. Warehouse workers, truck drivers and supply chain workers are all using different levels of technology and automated machinery in workplaces that are becoming more digitalised. With growing digitalisation, workers must also develop cybersecurity skills to protect Australian enterprises from the growing global threat of cyber attack.

Following consultation with stakeholders, the IRC has proposed several projects to review and develop the required skills and knowledge in response to recent changes. The IRC is reviewing the Diploma of Customs Broking to align skills with blockchain and data analytics technology. The IRC is also reviewing several qualifications in deployment and materiel logistics to enhance workforce mobility across the sector, especially for defence and logistics support personnel. Several qualifications in mobile crane operations, and driving instruction are being reviewed to accommodate new technologies and enable mobility of vehicle instructors across multiple driver training categories.

The IRC will continue to monitor the industry landscape and review and update qualifications to ensure a resilient and agile workforce that can adapt to continual challenges and requirements.



Mark McKenzie

Transport and Logistics IRC Chair

This IRC Industry Outlook was endorsed by the Transport and Logistics IRC on 7 June 2021.



The Transport and Logistics sector continues to play a significant role in mitigating the disruptions and providing a seamless flow of goods.



TRANSPORT AND LOGISTICS INDUSTRY REFERENCE COMMITTEE

The Transport and Logistics Industry Reference Committee provides the formal conduit for the Transport and Logistics industry in gathering information from the sector – including challenges, opportunities, trends, and skills requirements for training via the Vocational Education and Training (VET) system.

The Transport and Logistics Industry Reference Committee comprises industry leaders and experts who work to ensure skills standards and qualifications are developed to meet the needs of industry, now and into the future. This work involves engaging with broader industry stakeholders to ensure that skills standards keep pace with changing industry needs, technology innovations and regulatory requirements. The IRC also ensures that qualifications are responsive and support the portability of skills.

TRAINING PACKAGE

The IRC oversees nationally endorsed qualifications, referred to as the *Transport and Logistics Training Package*. The TLI Transport and Logistics Training Package provides the only nationally recognised Vocational Education and Training (VET) qualifications for occupations involved in warehousing and logistics operations; driving operations; stevedoring; yard operations freight handler; furniture removals; international freight forwarding; mobile crane operations; waste driving operations; driving instruction for car; heavy vehicle and motorcycles; materiel and deployment logistics; traffic operations; bus and coach operations; and customs broking.

The TLI Transport and Logistics Training Package comprises 57 qualifications, 115 Skill Sets and 736 Units of Competency and associated Assessment Requirements covering these sectors.

TRANSPORT AND LOGISTICS IRC MEMBERS

Chair: **Mark McKenzie**
Australasian Convenience and Petroleum Marketers Association (ACAPMA)

Deputy: **Cathi Payne**
Payne Haulage

Mark Williams
BORAL

Greg Lipscombe
Linfox Logistics

Jack Boutros
Transport Workers Union

Justin Timmins
Maritime Union of Australia (MUA)

Julie Russell
Australian Trucking Association (ATA)

Karen Bow
Australian Logistics Council (ALC)

Lindsay Eisemann
Origin Energy

Lynda Douglas
Department of Defence

Matt Threlkeld
BusNSW

Peter Anderson
Victorian Transport Association (VTA)



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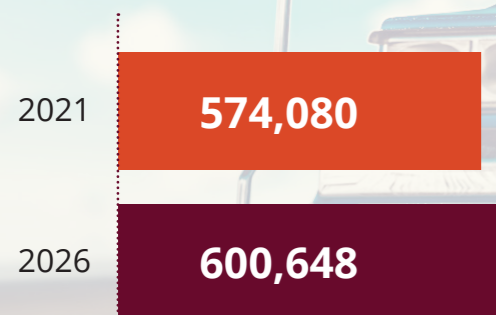


TRANSPORT AND LOGISTICS INDUSTRY OVERVIEW

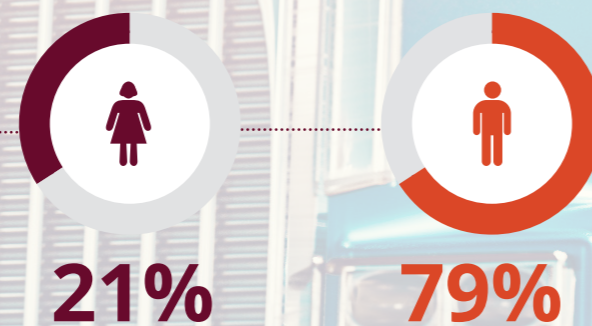
The industry employs over 574,000 people across its major subsectors:

- road transport;
- logistics;
- warehousing; and
- stevedoring.

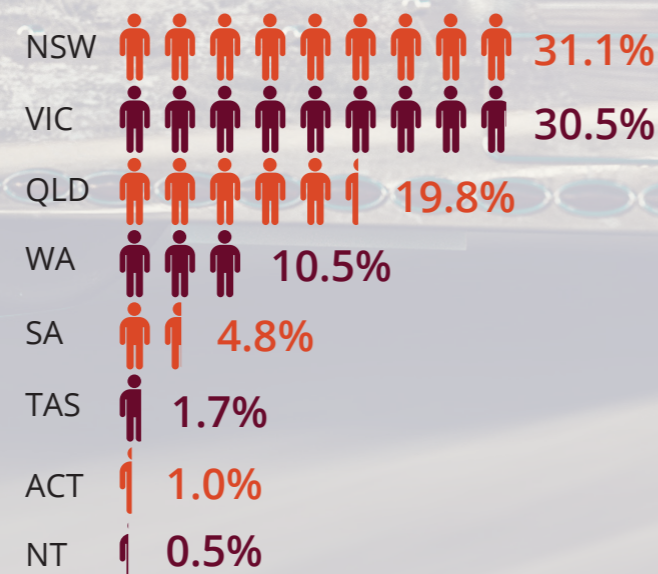
Current and Projected Workforce Size



Gender Distribution



Workforce Size by State



736
Units of Competency



57
Qualifications



115
Skill Sets

693
Registered Training Organisations

Ageing Rate
2.2X
faster than all industries



45.6
Average Age

Industry Value



Business Composition

184,055
Small Businesses

1992
Medium Businesses

184
Large Businesses



186,231
Total Number of Enterprises

INDUSTRY FAST FACTS

224.2B

tonne kilometres of freight moved by road in 2019–20

\$28.5B

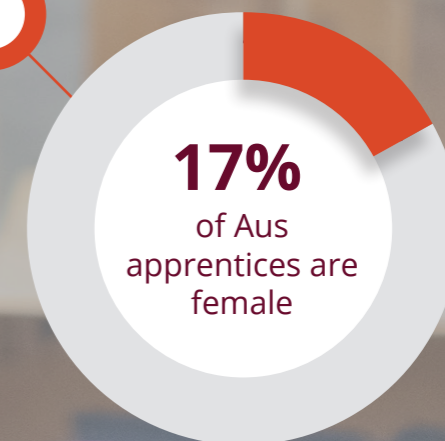
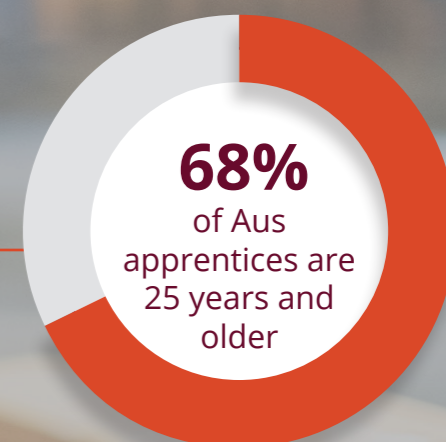
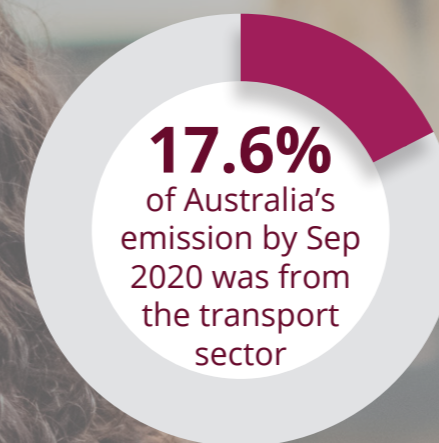
was spent on roads by governments in 2018–19

877,651Km

Australia's total road length in 2018

9M

households shopped online in 2020



IRC RESPONSE TO SKILLS NEEDS

Transport and Logistics Industry Trends

COVID-19 and Supply Chain

The pandemic has caused significant disruptions to supply chains across the world. The rollout of the vaccination program will also be a further challenge to the supply chain sector. The global supply chain has been significantly affected by the pandemic and strict lockdown measures in many countries. There are unprecedented demands for critical products, and the industry has encountered mail and parcel delivery delays and shortages of products. The industry is diversifying supply chain through innovations such as AI, IoT, blockchain, and data analytics to ensure the resilience of supply chain. Omni-channel logistics is also growing as customers use multiple channels for their shopping, expecting more information, faster delivery, and personalised experience. Anticipatory logistics allows retailers to predict orders based on previous customer behaviour.

Workforce Impact

The introduction of new technologies will require the development of digital skills for procurement and scheduling professionals. It is anticipated Australian transport and logistic enterprises will use blockchain for financial reconciliation, tracking goods and services and supply chain reporting.

The IRC Response

- The IRC is proposing to review the Diploma of Customs Broking to align licensed customs brokers' skills and knowledge requirements with blockchain and data analytics to enhance the resilience of the supply chain.
- The IRC is proposing to review Certificate IV, Diploma and Advanced Diploma in Materiel Logistics; Diploma and Advanced Diploma of Deployment Logistics, and associated units. This project will facilitate a more aligned career pathway for Defence and integrated logistics support personnel, enhancing workforce mobility across the sector.
- The IRC is currently reviewing and amalgamating qualifications in Logistics and Warehouse Operations at the Certificate I and IV levels to address current and future skills needs of entry-level workers and team leaders/supervisors respectively. These changes enable flexible career pathways and workforce mobility across multiple sectors of the Transport and Logistics industry.

Transport and Logistics Industry Trends

Automation and Autonomous Vehicle technology

Largely due to COVID-19, e-commerce has rapidly increased in Australia, putting more pressure on the transport and logistics sectors. Robotics and Automated Guided Vehicles (AGVs) are being used in warehouses to perform tasks more efficiently, leading to reduced operational costs. It is projected there will be four million commercial robots in warehouses across the world in the next five years. Many of Australian ports' stevedore operations, including stacking cranes, are already automated. Autonomous Vehicles (AVs) technology is also gaining momentum in Australia, with trials already underway in Canberra, Sydney, Darwin, and Perth.

Workforce Impact

Automation will require the development of workplace skills for the operation of semi-autonomous and autonomous machines, as well as working in robotic warehouses. The key challenge during the transition period will be to upskill existing operators within the supply chain to minimise workplace displacement thereby creating greater opportunity to realise significant productivity benefits for industry.

The IRC Response

- The IRC is currently reviewing Cert I in Logistics and the Cert I in Warehousing Operations. The IRC is reviewing and amalgamating the three Certificate IVs in Logistics and Warehousing qualifications, and the associated Units of Competency to streamline vocational outcomes. This enables the operators to gain the necessary new skills and knowledge to operate the incorporated technologies.
- As part of previous stevedoring and supply chain projects, the IRC streamlined skills and knowledge requirements related to automation through the development of new units such as: Prepare and monitor automated operations; Coordinate terminal/wharf equipment operations; and Move materials mechanically using automated equipment.

Transport and Logistics Industry Trends

New Technologies and Safety

New technologies are transforming driving operations. Autonomous Vehicles (AVs) technology is gaining momentum in Australia. Vehicles are being equipped with devices, sensors and cameras which generate huge volumes of data. There are trials of fatigue management technologies which can send warnings to drivers. Transport Certification Australia has released a protocol which sets interoperability requirements for heavy vehicles with different telematics and fatigue management technologies.

NSW has started transitioning its bus fleet to Zero Emission technology by implementing electric buses. By 2030, the state's entire bus fleet will transition to Zero Emission technology.

Workforce Impact

The workforce needs to have the capacity to operate heavy vehicles safely and professionally and be skilled in the use of new technologies related to driving operations. Transport companies need to cross utilise technologies within vehicles to support a safer work environment whilst on the road or loading /unloading, e.g. through driver behaviour monitoring technologies; real time observations and roadside troubleshooting; and the use of drones to support complex moves.

Driving zero emission buses is different to driving diesel buses and requires specialised training to ensure that the benefits of zero emission buses are fully realised. Driver's training and skill can have a substantial effect on a zero emission bus performance.

Transport and Logistics Industry Trends

Mobile Cranes

Crane technologies and operations have undergone significant changes to improve efficiency and safety. Operators need to perform duties in compliance with regulatory requirements.

Workforce Impact

The workforce needs to have the capacity to operate mobile cranes safely and professionally and be skilled in the use of technologies related to crane operations.

The IRC Response

- The IRC is proposing to review Certificate III and IV in Mobile Crane Operations to align the qualifications with current industry practices and regulatory requirements. The review will update imported units.

The IRC Response

- The IRC is proposing to review and amalgamate the three Certificate IV qualifications in Transport and Logistics, Road Transport - Car Driving Instruction; Heavy Vehicle Driving Instruction; and Motorcycle Riding Instruction. This project will facilitate a more aligned pathway for driver trainers and enable mobility of vehicle instructors across multiple driver training sectors.
- The IRC is currently reviewing four qualifications, 87 Units of Competency and developing two new Units of Competency related to driving operations. The review will address technology advancements in the road transport sector and enhance the professionalism and safety levels of Australian heavy vehicle drivers.

Transport and Logistics Industry Trends

Digital Skills

Historically, the industry workforce comprises people who are skilled in transport and warehouse operations, both of which have inherent high manual skill needs. Many of these skills are likely to be reshaped by digitalisation.

Workforce Impact

Growth in the use of digital technologies in the transport and logistic sector will require the development of digital skills across the entire transport and logistics workforce - albeit to different degrees. The Transport industry will need to consider the demand for dedicated resources for supporting digital systems and networks (in the backend) as well as educating the existing workforce, including drivers, at the front end.



The IRC Response

- The IRC will refer to various Digital Transformation reports to inform its thinking and better understand the need to modify Skill Sets/qualifications and address digital skills and knowledge where relevant.

Transport and Logistics Industry Trends

Industry-Specific Cyber Security

The rapid transition of companies to the virtual world and digital technologies, expedited by [COVID-19](#), has highlighted the importance of preparedness for [cybersecurity](#). In the last year, over 59,000 cybercrimes have been reported in [Australia](#), equal to one cybercrime every ten minutes. Investment in the development of strategies and digital skills to combat cyber threats is integral to business continuity and an enabler of digital transformation. The Australian government has made significant [investments](#) to develop a skilled workforce with technical and cyber security skills in partnership with industry. The development of cybersecurity [skills](#) can also encourage workers to be more engaged with other digital technologies, benefitting both organisations and the Australian economy.

Workforce Impact

The increasing digitalisation of supply chain operations (and business communications in general) means that the Transport and Logistics industry will need to progressively develop the workforce skills need to:

- minimise the risk of cyber attacks, and
- reinstate digital businesses systems as quickly as possible in the event of a cybersecurity incident – including compliance with regulatory requirements.



The IRC Response

- The IRC will monitor the Skill Sets developed by other IRCs and the work of the new Digital Skills Organisation (SO) pilot. Any suitable identified Skills Sets will be contextualised for use in the Transport and Logistics Training Package to develop workforce skills.



Transport and Logistics Industry Trends

Mental Health and Fatigue

The issue of **mental health** in the T&L industry has become more prominent recently. COVID-19 has put more pressure on the logistic sector where workers have had to work longer and harder to keep the supply chain flowing. The industry and its workforce are cognisant of the need to comply with health and safety issues regarding COVID-19. Improving workers' mental health can assist reduce the rate of incidents on the road or in warehouses. There have been **initiatives** implemented to raise awareness and improve the lives of workers across the whole sector.

Workforce Impact

The industry needs to continue its focus on mental health issues and raising awareness of its workforce. Cohesive and standard policies and regulations are needed across all sectors in the industry to effectively mitigate the risks associated with mental health.

The IRC Response

- The IRC will consider the Cross-Sector Mental Health and Organisational Disruption Skill Set currently being developed by the Business Services IRC.

Transport and Logistics Industry Trends

Labour Shortages and Ageing Workforce

The average age of the transportation workforce is 45 years old, which is higher than other major industries. The Transport and Logistics industry may encounter a potential workforce supply crisis within the next 10 to 15 years when older workers retire.

Workforce Impact

The Transport & Logistics industry is competing with more high profile or fashionable industries (e.g. IT) for workforce talent. This competition is occurring against a backdrop of an ageing workforce where the average age of a truck driver is 47. This challenge is further exacerbated by the near-term introduction of technology into the workplace which will require sourcing of skilled workers.

The IRC Response

- The IRC will conduct regular targeted stakeholder consultation / engagement to identify and respond to this issue.
- The IRC will monitor industry attraction and retention programs for guidance or direction.
- The IRC will focus on Skill Set development proposition to support reduction in workforce adjustment costs.



Transport and Logistics Industry Trends

Naval Shipbuilding: Integrated Logistics

In line with its objective of building a strong, sustainable and innovative Australian naval shipbuilding industry, the Australian Government is investing in developing the skills and knowledge base of the industry to build the sustainable workforce required and prepare for the subsequent workforce growth.



Workforce Impact

There is industry demand for enhanced technical skills across Integrated Logistics Support (ILS) for the Naval Shipbuilding and Transport and Logistics industries, as well as providing for a greater understanding of how it relates to current Defence operational practices.



The IRC Response

- The Transport and logistics Industry Reference Committee (IRC), on behalf of the Naval Shipbuilding IRC, lead the project to develop seven new Integrated Logistics Support (ILS) Units of Competency and three Skills Sets to meet the requirements of the naval shipbuilding industry. These materials in the Transport and Logistics Training Package (Release 9.0) have been approved by the AISC for referral to the Skills Ministers for endorsement.



KEEPING INDUSTRY ENGAGED

Industry plays a key role in the identification of skills needs and the development of skills standards. An industry-led Vocational Education and Training (VET) system brings together industry and the VET sector with the joint goal of growing the capability and agility of Australia's workforce in line with industry's current and emerging skill needs.

With the advent of the double disruption of COVID-19 and accelerating digital transformation, there is an even greater need to ensure we have a workforce with the right skills at the right time. The Australian economic recovery and our global competitiveness will be underpinned by a strong and responsive vocational education and training system.

Fundamental to a strong and responsive vocational education and training system is engagement with industry stakeholders. A strong industry voice and its leadership of the VET system will be central to ensuring that we leave no worker behind in the journey ahead.

The VET system plays a significant role in ensuring enterprises have a highly skilled workforce, with opportunities to upskill and reskill existing workers, as well as prepare new entrants for the world of work. Industry leadership and engagement will ensure training to meet the needs of employers, provide better job outcomes, and equip workers with transferrable skills to increase their mobility and broaden their career paths.

The industry can support the Transport and Logistics IRC to collect evidence-based data through a range of intelligence gathering methods and engagement activities to ensure advice and decision making is informed, accurate, and reflective of industry needs.



ABOUT AUSTRALIAN INDUSTRY STANDARDS

Australian Industry Standards (AIS) provides high-quality, professional secretariat services to the Transport and Logistics IRC in our role as a Skills Service Organisation. AIS provide services to eleven allocated IRCs which cover Aviation, Corrections, Gas, Electricity Supply (Generation and Transmission, Distribution and Rail), Electrotechnology, Maritime, Public Safety (including Police, Fire and Emergency Services, Defence), Rail, Transport and Logistics, and Water industries. AIS supports these important industry sectors using our in-house capability and capacity in technical writing, quality assurance, project management and industry engagement in the production of Training Packages.

AIS was established in early 2016, 20 years after its predecessor the Transport and Logistics Industry Skills Council (TLISC) was established in 1996. More information about AIS can be found at <http://www.australianindustrystandards.org.au>

- We support industry growth and productivity through our modern innovative approach to establishing skills standards.
- We provide high-quality, professional secretariat services to help our allocated industry reference committees develop the skills that industry needs.
- We partner with industry to shape the workforce of the future.



Visit our Engagement Hub on our website – www.australianindustrystandards.org.au



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