

TRANSPORT & LOGISTICS

Sector Overview



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. (AIS 2017).

Industry Overview

The transport and logistics industry is an enabling industry, delivering vital goods and services throughout Queensland. Employing over half a million people across its major subsectors - road transport, logistics, warehousing, and stevedoring; the industry has an estimated annual revenue of more than \$96 billion¹.

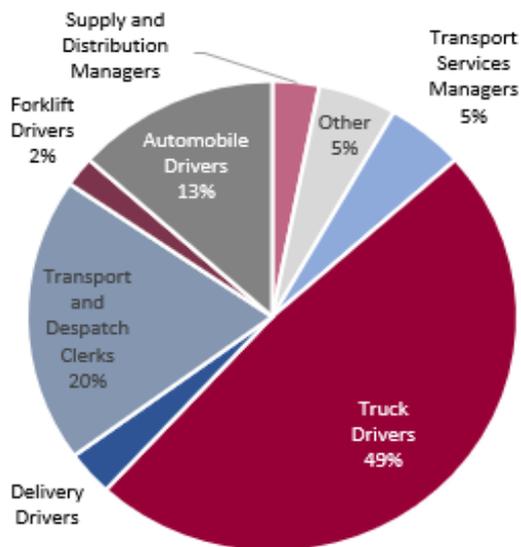
Key Metrics (Australia)

Revenue (\$b)	96.65B
Profit (\$b)	39.95B
Average Wage (\$)	\$66,712
Employment Growth to 2023 (%)	3.3%
Workforce in QLD	80,180
No. of Businesses	84,635
Enterprises in QLD	33,623
Composition (Small/ Med/ Lrg)	99% Small

Source: AIS Skills Forecast 2018 – Transport and Logistics | Australian Bureau of Statistics (2017) 2016 Census – Employment, Income and Education. Australian Government.

Workforce Composition – Transport and Logistics

The composition of the Queensland transport and logistics workforce is largely represented by road transport drivers followed by automobile drivers, then consecutively couriers / postal drivers, bus / coach drivers and store persons².



Source: ABS Data

Demographics - Transport

Average age	47.8 years
Demographics	8 per cent female 92 per cent male
Distribution	69 per cent of QLD workforce is in South East Queensland.

Source: 2011 and 2016 ABS Census.

Demographics - Logistics

Average age	42.9 years
Demographics	22 per cent female 78 per cent male
Distribution	80 per cent of QLD workforce is in South East Queensland.

Source: 2011 and 2016 ABS Census.

¹ AIS Skills Forecast 2018 – Transport & Logistics

² AIS Skills Forecast 2018 – Transport & Logistics

Projected Employment & Skills Growth

The forecasted skill priorities and employment trends have been informed by international, national and state-based trends, stakeholder engagement and industry consultation.

Road Freight

The National Transport Commission estimate there are 42,000 operators in road freight transport across Australia; from single-truck operators to large multi-national corporations³. Of these, approximately 70 per cent only have one truck in their fleet and approximately 24 per cent have two to four trucks⁴.

Nationally of the estimated 216, 800 drivers 57.7 per cent are employed in the Transport, Postal and Warehousing sector while 42.3 per cent are considered to be fulfilling an ancillary role in industry sectors of only Wholesale Trade, Manufacturing, Construction, Retail Trade, Electricity / Gas, Water / Waste, Mining, Accommodation / Food Services, Public Administration / Safety (these industries employ 80 per cent of all truck / delivery drivers performing an ancillary role)⁵.

While road competes with rail in moving bulk commodities over long distances, road freight is the primary option for delivering time-sensitive, perishable commodities, consumer goods and construction material⁶.

75 per cent of non-bulk domestic freight is carried on roads. Truck traffic is predicted to increase by 50 per cent by 2030.

In the sector, employment is expected to grow, however limited by operator consolidation, the ability to attract new entrants and the retirement of its

³ Who Moves What Where - Freight and Passenger Transport in Australia

⁴ Who Moves What Where - Freight and Passenger Transport in Australia

⁵ Department of Employment 2015

⁶ Who Moves What Where - Freight and Passenger Transport in Australia

⁷ Who Moves What Where - Freight and Passenger Transport in Australia

ageing workforce. These factors are cited as the cause of the current skill shortages across industry and they are predicted to continue to impact future industry capacity⁷.

With the spate of recent road accidents, dialogue about driver skills and training has been at the forefront of industry news. Austroads recently published a *Review of the National Heavy Vehicle Driver Competency Framework*. Specifically, the review suggests an approach recognising competency instead of the current 'time served' license progression. It also highlights the informal apprenticeship of learning to drive 'on the farm' and that these pathways into the industry are no longer available, resulting in late entry into the industry⁸.

4.8 per cent of truck drivers are aged 20 to 24 compared to 10.8 per cent average across all occupations.⁹

Recently the Australian Trucking Association highlighted the Austroads review and that current heavy rigid training unit (TLILIC2016) failed to address six out of the ten safety risks it identifies¹⁰:

SAFETY RISK AREA	COVERED IN HEAVY RIGID LICENSING UNIT
Physical health	✗
Manual handling	✗
Managing fatigue	✗
Maintaining resilience	✗
Managing in-cab distractions	✗
Loading / unloading	● PART
Descending steep grades	● PART
Towing trailers	✗
Managing sudden stops	● PART
On-road manoeuvres	● PART

⁸ <https://m.bigrigs.com.au/news/report-exposes-licence-flaws/3440993/>

⁹ <https://m.bigrigs.com.au/news/report-exposes-licence-flaws/3440993/>

¹⁰ <http://www.truck.net.au/media/media-releases/truck-driver-licensing-its-insult-and-must-be-fixed>

Under the banner of Road Freight, there are a number of sub-sectors:

Waste Management

A sub-sector of road freight, waste management is currently facing challenges with the newly introduced ban in January 2018 where China is no longer accepting the import of recyclable goods from Australia¹¹. This combined with ongoing issues around co-mingling recyclables has led to some local councils announcing they will be sending recycled materials directly to landfill¹², however the outcome of how recycling will be managed across the state is still being decided with a range of new initiatives being announced, including levies and strategic plans for the state¹³.

The recommendations in the report *Transforming Queensland's Recycling and Waste Industry*¹⁴ supports the new waste levy which the Queensland Government announced will apply from Quarter 1 2019. Supported by the Waste Recycling Industry Association of Queensland (WRIQ)¹⁵ it is expected that the flow on impact of the levy will stimulate jobs in resource recovery and recycling.

A 2009 Access Economics report indicates that every 10,000 tonnes of landfill waste supports 2.8 full time jobs... where 10,000 tonnes of recycled waste supports 9.2 jobs¹⁶.

Furniture Removal

Over the next five years, demand for industry services is expected to increase in line with the property market¹⁷. With low barriers to entry, there has been an increase of the do-it-yourself removal services or 'local two-guys-and-a-truck operations'. As technology and consumer buying behaviours have changed, moving services via apps are starting to move into the market. Airtasker is already in operation in Queensland with other US players including Dolly,

Wagon, Buddytruk, Burro and Bellhops¹⁸ that could end up on our shores.

Buddytruk looks almost identical to Uber¹⁹

Like all road transport operators, costs fluctuate with fuel prices and growing compliance and regulatory costs, however furniture removalists are perhaps better positioned to pass this onto the customer.

Unique in that they are subject to consumer law, the furniture removal industry has specific training requirements. This is a challenge when the workforce composition is part-time and casual due to the seasonality of service demand.

Livestock

Specific to Queensland, the Livestock Loading Scheme was recently under review and if changed would have significantly impacted the industry. The decision to maintain the scheme was welcomed by AgForce, the Livestock and Rural Transport Association of Queensland, trailer manufacturers, trucking companies and other trucking bodies²⁰. Another critical factor and of upmost consideration for this sector is the welfare of their animal cargo. The Australian Animal Welfare Standards and Guidelines for the Land Transport of Livestock²¹ are regulated into law by State and Territory governments. Training and additional support maybe required by the workforce to comply with any changes to regulations in the future.

To support the industry, CSIRO has developed of a set of decision support tools for livestock producers and governments to help identify the transport pathways for livestock²².

As these systems and data matures, there will be a requirement for digital upskilling across the industry across northern Australia²³.

¹¹ <https://www.mnn.com/lifestyle/recycling/blogs/soon-cant-ship-recycling-china-thats-problem>

¹² Seven News June 2018

¹³ <http://mobile.abc.net.au/news/2018-04-15/australia-tossing-up-circular-approach-to-its-waste/9657342>

¹⁴ <https://www.qld.gov.au/environment/assets/documents/pollution/management/waste/transforming-qlds-recycling-waste-industry-directions-paper.pdf>

¹⁵ <https://www.nwric.com.au/a-queensland-waste-strategy-can-support-jobs-and-the-environment/>

¹⁶ www.qld.gov.au/environment/assets/documents/pollution/management/waste/transforming-qlds-recycling-waste-industry-directions-paper.pdf

¹⁷

<https://www.benzinga.com/pressreleases/12/06/p2692268/removalists-in-australia-industry-market-research-report-now-updated-by>

¹⁸ <https://www.ozy.com/fast-forward/the-race-to-disrupt-the-moving-industry/61189>

¹⁹ <https://www.ozy.com/fast-forward/the-race-to-disrupt-the-moving-industry/61189>

²⁰ <https://agforceqld.org.au/index.php?tgtPage=news&id=view,550>

²¹ <http://www.animalwelfarestandards.net.au/land-transport/>

²² <https://www.csiro.au/en/Research/LWF/Areas/Landscape-management/Livestock-logistics>

²³ LRTAQ Conference, June 2018.

Passenger Transport

In Queensland, bus services are delivered by a combination of government-owned and operated fleets and private bus companies²⁴.

It is estimated that more than 3,000 bus companies are operating across Australia²⁵.

These services provide critical links for communities in towns and regions, and include school, tour and charter services²⁶. While there is an expected increase in workforce demand, large industry players dominate this sector, controlling large tenders and capital city routes²⁷. Queensland has customer-built networks across the Northern and South East Busways, creating dedicated and efficient transport networks for commuters.

There are more than 50,000 people employed in the Australian bus industry. This includes employees in bus and coach operations, the Australian bus manufacturing sector and parts and service suppliers to the industry²⁸.

There are a number of measures suggested in the *Moving People in Australia by 2030* strategy, aimed at reducing congestion in our cities²⁹. When these are implemented, there will be a flow on impact to the workforce capacity:

- staggering school hours
- increasing the span of operating hours and frequency of public transport services
- providing flexible work hours for all government employees.

The domestic passenger task increased 8 per cent in the 10 years to 2016 and is forecast to grow 19 per cent by 2026.

²⁴ [https://www.ntc.gov.au/Media/Reports/\(D62E6EFC-36C7-48B1-66A7-DDEF3B04CCAE\).pdf](https://www.ntc.gov.au/Media/Reports/(D62E6EFC-36C7-48B1-66A7-DDEF3B04CCAE).pdf)

²⁵ OzeBus

²⁶ [https://www.ntc.gov.au/Media/Reports/\(D62E6EFC-36C7-48B1-66A7-DDEF3B04CCAE\).pdf](https://www.ntc.gov.au/Media/Reports/(D62E6EFC-36C7-48B1-66A7-DDEF3B04CCAE).pdf)

²⁷ Who Moves What Where - Freight and Passenger Transport in Australia

²⁸ Bus Industry Confederation, 2010

²⁹ <http://bic.asn.au/solutions-for-moving-people/moving-australia-2030>

Personalised Transport

The Queensland government has legalised ridesharing applications such as Uber, Lyft and GoCatch providing competition to the existing duopoly that existed between Yellow Cabs and Black and White Cabs.

This trend has allowed non-employing operators into the market boosting industry growth. However, since mid-March 2018 Cabcharge shares surged by 40 per cent, attributed to restructuring driven by the disruption of intense competition from Uber and Taxify; as well as heavy investment into a new app and marketing campaigns to a younger audience.

The outcome for Cabcharge resulted in a \$515M increase in fares processing, further buoyed by a backlash from consumers around Uber surge pricing and rising concerns around passenger safety³⁰.

The market share for urban public transport in Australia comprises rail (61.7 per cent), bus (33.6 per cent), tram (4.3 per cent) and ferry (0.8 per cent)³¹.

While the market share for public transport remains in growth, personalised transport and on-demand services are expected to continue to disrupt the industry.

Courier and Postal Services

With online shopping and e-commerce continuing to increase, so does the demand for courier and postal services.

e-Commerce and parcel delivery are growing faster than ever, innovative delivery solutions have appeared such as parcel lockers and pick up points (e.g. Officeworks as well as Post Offices and courier outlets)³².

Australia's appetite for online shopping continues to grow – purchases were up 11.5 per cent in 2017 compared to 2016³³.

³⁰ Comsec report, Seven news, June 2018

³¹ [https://www.ntc.gov.au/Media/Reports/\(D62E6EFC-36C7-48B1-66A7-DDEF3B04CCAE\).pdf](https://www.ntc.gov.au/Media/Reports/(D62E6EFC-36C7-48B1-66A7-DDEF3B04CCAE).pdf)

³² <https://www.ipc.be/en/newsroom/in-the-spotlight/innovation/innovation-trends>

The literal buzz around drone delivery aside, Australia Post continues to play an import role as an employer across rural and regional Australia.

Australia Post delivers 80 per cent of all parcels received across Australia. It has a network of 16,100 motorbikes, vans and trucks that includes the StarTrack delivery service it acquired in 2012 and put on an extra 2,000 workers in its parcel processing facilities to help meet demand in December 2017³⁴.

Although the restructure of Australia Post has seen outlet closures in some areas, the recent announcement of 'Shipster' broadens the offering from the declining traditional mail and looks to improve the financial strength of the Australia Post business³⁵.

Shipster is a subscription-based "free" shipping service that went national in November 2017. Joining Shipster provides delivery services for any customer ordering over \$25 from one of the listed retailers; for a flat monthly fee of \$6.95³⁶. Retailers currently signed up include:

- Myer
- Harvey Norman
- Domayne
- Booktopia
- Target
- Lorna Jane
- Chemist Warehouse
- Cotton On
- Surfstitch.

Ready to move are the big fleets like DHL and FedEx, as well as start-ups such as Zoom2U, Sendle and Shippit who are primed to compete in the growing market³⁷.

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<https://acquire.startrack.com.au/pdf/Inside%20Australian%20Online%20Shopping%202017.pdf>

³⁵ <https://mckellinstitute.org.au/app/uploads/The-McKell-Institute-Digital-Post-March-2015.pdf>

³⁶ <https://mckellinstitute.org.au/app/uploads/The-McKell-Institute-Digital-Post-March-2015.pdf>

Logistics & Warehousing

In dollar terms the whole industry represents 8.6 per cent of Australia's GDP and adds more than \$135 billion to the economy and employs 1.2 million people³⁸.

According to Supply Chain & Logistics Association of Australia (SCLAA):

Over 409,000 businesses are small – medium businesses (with 1 – 200 employees) and almost all have supply chain / logistics functions.

The forecasted increase in freight demand will cascade throughout the supply chain, subsequently increasing the number of warehouses and intermodal facilities.

Technology is already changing the way logistics and warehouses are operating, with voice active forklift operators common in large distribution centres. However, as consumers are expecting not only on time delivery but also more detail about the origin, ingredients and the product's overall supply chain movement³⁹; labelling standards and administrative tasks will need to be streamlined.

Similarly, pinpointing products during the whole-of-journey from depot to doorstep is now viable with data depositories like blockchain arming industry with more easily accessible data⁴⁰.

The Australia Logistics Council will provide a number of key industry priorities to improve supply chain efficiency and safety as an input into the National Freight and Supply Chain Strategy, leading up to its expected release in November 2018.

³⁷ <https://mckellinstitute.org.au/app/uploads/The-McKell-Institute-Digital-Post-March-2015.pdf>

³⁸ <https://sclaa.com.au/>

³⁹ ALC Supply Chain Technology Summit 2018

⁴⁰ ALC Supply Chain Technology Summit 2018

Emerging Industry Disruption Influences

Ageing Workforce

The Australian transport and logistics industry faces a rapidly ageing workforce with an average age of 47 years⁴¹. A large proportion of employees are set to retire in the next years, creating a massive gap in the workforce. The aging labour force contributes to the prediction of critical skills shortages in an industry already faced with attraction and retention challenges⁴². Succession planning is more important than ever, and industry faces challenges attracting and retaining young people to enter the industry⁴³.

Service Demand

Containerised import-export trade across Queensland sustains the road freight and stevedore sectors in regional areas.

Freight transport workforce will increase by 14.1 per cent over the next five years. Similarly, the passenger transport workforce is expected to grow by 2.2 per cent over the same time⁴⁴.

In the *Queensland Tourism and Transport Strategy*⁴⁵ it notes Queensland being positioned to capitalise on major growth opportunities from Asia – China, Japan, Taiwan, and India. The personalised and passenger transport sectors are directly related to the tourism industry therefore can be more seasonal and workforce numbers fluctuate with tourism trends and the performance of the Australian dollar.

By 2030: 1 in 5 Australians will be aged over 60 and three times more people aged over 85... public transport planning will need to accommodate the change in mobility and increased reliance on taxi, bus and rail services⁴⁶.

Technology

Digital disruption is occurring across all facets of road transport and warehousing. The industry is undergoing a significant digital transformation, with many regulatory, government and operator services transitioning to online systems and process (e.g. The National Heavy Vehicle Regulator – Heavy Vehicle Permits are now via an online portal).

In-cab technologies are being used increasingly to improving safety, with wearable fatigue devices and lane departure warning systems already available in the sector. Training and competency in using these devices as well as interpreting the data outputs will be ongoing as the technologies evolve.

Autonomous vehicles are in use in Australia, predominately in mining however recent trials for CBD bus services have been conducted. Within the next ten years it is expected that semi-autonomous vehicle technology will be introduced⁴⁷ however this may be offset by the fleet purchasing cycles and lease turnover timeframes⁴⁸. This will be disruptive for the capacity and capability of the workforce.

⁴¹ VOLVO – Professional Truck Driver Shortage

⁴² Australian Government, Department of Infrastructure and Regional Development, Trends: Infrastructure and Transport and 2030, Published 2014.

⁴³ AIS Transport and Logistics IRC Skills Forecast 2017

⁴⁴ AIS Skills Forecast 2018 – Transport and Logistics

⁴⁵

<https://cabinet.qld.gov.au/documents/2017/Jan/TTS/Attachments/DraftStrategy.PDF>

⁴⁶ Moving Australia

⁴⁷ National Roads and Motorists' Association (2017) The future of car ownership. Sydney, NSW.

⁴⁸ ATA Conference, May 2018

Others technology impacts worth noting include:

- Fare collection technologies
- Order and delivery tracking
- Efficiencies in route data and mapping tools
- Blockchain technology building trust in supply chains and providing data to operators and consumers⁴⁹;

Lastly, drone technology has the ability to disrupt the last mile delivery issues with pharmacy and fast food drone delivery trials already being held in Australia.

Telematics and Maintenance

GPS monitoring and the use of telematics will provide guidance for fatigue management, electronic work diaries and fleet maintenance schedules. This has resulted in the development of a new scheduling qualification which will have a focus on the use of data and outputs from devices and platforms to better manage workforce and fleet allocation.

Environment

Increasing environmental concerns will see future uptake of vehicles using alternative fuel sources. This will have training implications for general vehicle maintenance in courier and passenger transport sectors. Electrification and autonomous driving will reshape the way people and goods move over the coming decades⁵⁰.

In the future, factors of importance across all sectors will be:

- sustainability
- fuel economy
- reporting
- waste management and reduction.

Safety and Regulation

Federal, state and local governments play a central role in the long-term planning, provision and management of transport networks, as well as providing access for heavy vehicle movements⁵¹. Additionally, due to the dangerous nature of the work with controlling large and complex vehicles, work in the industry is regulated to ensure safety⁵². In the coming year, a number of key legislative changes are about to be released such as the Chain of Responsibility and Electronic Work Diaries⁵³. These, along with existing regulations around fatigue, impact the whole-of-industry and significant stakeholder and awareness campaigns are being held to support their rollout. Having been planned for some time, the flow on of these regulatory changes are already captured in the forward program of work for training product development. However, the challenge is keeping up with the pace of change and how quickly the registered training organisations are able to include these updated regulations in their courseware.

For autonomous vehicles, the current regulations are not keeping up with the investment, research and development in this area⁵⁴.

⁴⁹ ALC Supply Chain Technology Summit Communique May 2018

⁵⁰ <http://www.iottransportsummit.com.au/content/day-one>

⁵¹ <https://infrastructure.gov.au/transport/freight/index.aspx>

⁵² IBISWorld industry Report I4610 Road Freight Transport in Australia, 2017

⁵³ National Heavy Vehicle Regulator

⁵⁴ AIS Skills Forecast 2018 – Transport & Logistics

Regional Considerations

Infrastructure projects in regional locations create a significant number of jobs in the development phase as well as ongoing job roles year-on-year. As such, these projects will shape the future skills and training needs based on direct and indirect job creation and continuing service demand.

Brisbane

The South West Industrial Gateway (SWIG) is a major manufacturing, logistics and residential area, strategically located with connections to the Ipswich Motorway, Logan Motorway and Centenary Highway, and access to both the Queensland and interstate rail lines at Acacia Ridge. The area spans the suburbs of Rocklea, Coopers Plains, Acacia Ridge, Archerfield, Oxley, Darra, Richlands and Wacol.

Strategically located at the mouth of the Brisbane River and close to the CBD, the Australia TradeCoast (ATC) is Australia's fastest growing and largest trade hub, comprising of the Brisbane Domestic and International Airport and the Port of Brisbane. Over the next 20 years, the ATC is expected to generate 25 per cent of Brisbane's export growth and 9 per cent of jobs growth.

The Bruce Highway is Queensland's major north-south freight and commuter corridor, connecting coastal population centres from Brisbane to Cairns. It is also a vital part of the National Land Transport Network providing linkages for west-east freight networks connecting a significant resource sector, and inland agriculture production areas to 11 coastal ports, and is a major tourism route⁵⁵.

Port of Brisbane Pty Ltd is undertaking a \$110 million project to upgrade Port Drive and the local road network to increase the safety and efficiency of port roads to meet the needs of industry and customers as trade grows. The project commenced construction in 2016 and is expected to be completed mid-2018⁵⁶. *Connecting SEQ 2031*⁵⁷ outlines the plan for a 'rail revolution' and this will create a shift in public transport planning, investment and usage patterns.

⁵⁵ <https://www.tmr.qld.gov.au/Projects/Featured-projects/About-the-Bruce-Highway-Upgrade-Program/Bruce-Highway-projects-and-packages#safetypackage>

⁵⁶ <https://www.portbris.com.au/Major-Projects/Port-Drive-Upgrade/>

Under Connecting SEQ 2031 targets, by 2031 there will be:

190 per cent increase in daily rail boardings

500,000 additional daily rail boardings

265 per cent increase in km travelled by rail

250 per cent increase in daily bus boardings

940,000 additional daily bus boardings

Gold Coast and Logan - Beaudesert

Over the 10 years to 2021, the Gold Coast region is projected to have the largest amount of growth (133,800 people) of any local government area in Queensland⁵⁸. Logan and Beaudesert are also growth areas, with City of Logan in the centre of the rapidly growing South-East Queensland region and uniquely placed at the centre of a major transport corridor.

Logan has access to three major arterial road networks (the M1, Gateway and Logan Motorway). Development sites are available in the suburbs adjoining the Logan Motorway. Future upgrades to the major transport infrastructure interchange on Wembley Road and the Logan Motorway will bolster productivity for transport and logistic companies operating in the Logan region, in particular; distribution centres, service industries including fuel and repairs, transport depots and warehouse facilities. Freight on the Gold Coast is almost 100 per cent reliant on the road network.

The Logan Motorway Enhancement Project will see work undertaken on sections of the Logan and Gateway Extension motorways, including improving key congestion hot spots (Logan Motorway / Beaudesert Road / Mt Lindesay Highway interchange and the Logan Motorway / Wembley Road interchange) and constructing new south-facing on and off-ramps on the Gateway Extension Motorway at Compton Road. The works will allow for a range of improvements to the motorways and surrounding roads to improve driver safety, reduce travel times, relieve local traffic congestion, and enhance

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https://www.tmr.qld.gov.au/~media/Projects/C/Connecting%20SEQ%202031/final/connecting_seq2031_Part_C_Part_01.pdf

⁵⁸ <http://www.qgso.qld.gov.au/products/reports/qld-govt-pop-proj-lga/qld-govt-pop-proj-lga-2011-edn.pdf>

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connectivity with other major road networks. They will also unlock the economic potential of the Logan region as well as the business/freight hubs in Brisbane's west and north. It will deliver a safer and more efficient motorway network by relieving local traffic congestion, reducing travel times, and enhancing connectivity with other major road networks.

Ipswich

The City of Ipswich is the industrial and logistics centre for a significant agricultural area. Ipswich has long been a major processing centre for meat, poultry, fine foods, beverages, smallgoods and packaged food. The city plans to establish itself as a major production and distribution centre to both national and international food markets.

Ipswich is the nexus between six of the state's largest and busiest roads and has toll-free access to the Warrego and Cunningham highways.

The Ipswich Motorway is being upgraded between Granary Road, Rocklea and Oxley Road, Oxley. Benefits of the project include improved traffic flow and reduced congestion creating more reliable, consistent travel times, improved safety, flood immunity and enhanced local connectivity for all road users, pedestrians and cyclists with new service road connectors reducing the need for local trips on the motorway. Stage 1 includes upgrading the motorway from 4 to 6 lanes, higher and more bridges, service road connections and new traffic signals.

There is a proposal to upgrade the Cunningham Highway between Yamanto and Amberley⁵⁹. The concept plan seeks to support the additional traffic expected to come from the ongoing expansion of the RAAF Airbase at Amberley and the proposed Ebenezer Regional Industry Area. The project will include realigning the highway, upgrading intersections, changing access and construction of an overpass and new service road.

Ipswich is developing its inner city and by the end of 2020 aims to have a 'Smart City Centre'.

Inland Rail

The Inland Rail project is a once-in-a-generation project connecting regional Australia to domestic and international markets, providing a national freight

network between Melbourne and Brisbane via regional Victoria, New South Wales and Queensland. It's the largest freight rail infrastructure project in Australia and is expected to be operational in 2024-2025.

Two million tonnes of agricultural freight are expected to switch from road to rail, with a total of 8.9 million tonnes of agricultural freight more efficiently diverted to Inland Rail. The project will reduce costs for inter-capital freight travelling between Melbourne and Brisbane by \$10 per tonne and offer a transit time between those capital cities of less than 24 hours⁶⁰.

Plans for increasing the use of rail infrastructure and an inland rail system linking to Melbourne and Brisbane, may assist in the management of the increasing freight task⁶¹.

Sunshine Coast, Moreton Bay and Wide Bay

The Sunshine Coast Council is working towards the delivery of light rail on the Sunshine Coast by 2025, subject to approval and funding. Current work is focussed on getting a better understanding of the costings and developing a planning strategy for the coastal corridor, which will feed into the feasibility and business case for the light rail project. The provision of light rail has the potential to create of almost 9000 jobs during construction and operation and injecting an estimated \$3.6 billion of benefits back into the economy⁶².

The Sunshine Coast is just over one hour by national highway from a major international seaport and airport in Brisbane, providing excellent access to freight and export gateways. Regional agribusinesses are well placed to capitalise on the advantages that will arise from tariff reductions under the China-Australia Free Trade agreement.

Under the Bruce Highway Upgrade, works in the region include upgrading the Bruce to 6-lanes between Caloundra Road and the Sunshine Motorway to deliver critical safety benefits to motorists, improve efficiency, reduce traffic congestion and ensure the highway can cater for future traffic growth. The speed limit will be returned to 110km/hr⁶³. Works will also

⁵⁹ <https://www.tmr.qld.gov.au/Projects/Name/C/Cunningham-Highway-Amberley-Intersection-Upgrade>

⁶⁰ <https://inlandrail.artc.com.au/benefits>

⁶¹ Qld Moving Freight

⁶² <https://www.sunshinecoast.qld.gov.au/Council/Planning-and-Projects/Major-Regional-Projects/Sunshine-Coast-Light-Rail-Project>

⁶³ <https://www.tmr.qld.gov.au/Projects/Name/B/Bruce-Highway-Caloundra-Road-to-Sunshine-Motorway-upgrade>

be undertaken as part of the Bruce Highway Managed Motorway Project⁶⁴ on the section southbound between the Gateway Motorway and Caboolture to optimise the performance of the highway to maximise its existing capacity during peak periods. The project aims to manage traffic flow entering the highway at key congestion points to help delay the onset of congestion, reduce 'stop-start' travel, improve travel-time reliability, and enhance safety for merging traffic.

The recently completed Deep Creek Bridge Replacement project saw a new two-lane concrete deck unit—designed to accommodate heavy vehicles to the current Australian loading standards. Benefits include improved access to market for the citrus and livestock producers, flood resilience and road user safety⁶⁵.

Toowoomba and Darling Downs – Maranoa

Toowoomba has recently become the service centre for Coal Seam Gas projects located in the nearby Surat Basin, defining the region as an emerging resource and energy hub. Mining, construction, manufacturing, health care and transport are all large employers in the region.

Across the region, population and industry growth and increasing numbers of non-resident workforce movements are some of the factors putting pressure on the region's roads. There is a growing demand on the infrastructure that supports the freight movement of agricultural and resource products towards the coast, and the inwards logistics supporting the resources sector in particular.

The Toowoomba Second Range Crossing is a 41km-long bypass route running from the Warrego Highway at Helidon Spa in the east to the Gore Highway at Athol in the west, via Charlton. This alternative crossing of the Toowoomba Range for all classes of heavy and super heavy vehicles will improve freight efficiency and driver safety, relieve pressure on Toowoomba's roads, and enhance liveability for the city's residents. It will be a toll road. The project is expected to bring \$2.4 billion over 30 years of economic and productivity gain for business and industry to Toowoomba⁶⁶. When completed, the

crossing will significantly increase the movement of freight along the national road network.

The InterLink SQ precinct is being constructed 13 kilometres west of Toowoomba, at the junction of three major highways, the Gore, Warrego and New England, with connectivity to the Toowoomba Second Range Crossing. It will offer an intermodal terminal and rail service to the Port of Brisbane for producers and businesses. The development includes two components, The InterLink Industrial Park, and the InterLink Global Logistics Centre. Fully developed, InterLinkSQ is expected to be a billion-dollar project within 20 years, creating more than 1500 jobs and helping to establish new businesses in the region⁶⁷.

The 796km Warrego Highway is Queensland's principal east-west route, connecting people and freight from Charleville to the Ipswich Motorway and into Brisbane. Improvements under the Warrego Highway Upgrade Program are essential to the region's economic growth and will benefit the agriculture, resources and tourism industries. There are 15 projects being delivered between Toowoomba and Miles⁶⁸.

Central Queensland (Fitzroy)

The Rockhampton Ring Road (Plan and Preserve) Project will provide a western link of the Bruce Highway to the west of Rockhampton, with key linkages into the city at the Capricorn Highway, Ridgeland Road, Alexandra Street and Yaamba Road (Rockhampton-Yeppoon Road).

The project will deliver a defined corridor to cater for a parallel road and rail corridor to help address growing traffic volumes and move heavy freight and high traffic volumes off suburban Rockhampton streets, making them safer for all users. The Rockhampton Ring Road is the key piece of road infrastructure to provide long-term solutions for Bruce Highway flooding, impacts on freight, road and rail transport in and around the city of Rockhampton. It is due for completion in late 2019⁶⁹.

⁶⁴ <https://www.tmr.qld.gov.au/Projects/Name/B/Bruce-Highway-Managed-Motorway-Project>

⁶⁵ <http://statedevelopment.qld.gov.au/index.php/regional-development/regional-economic-development/building-our-regions/royalties-resource-producing-communities/1328-deep-creek-bridge-replacement>

⁶⁶ <https://www.tmr.qld.gov.au/Projects/Name/T/Toowoomba-Second-Range-Crossing.aspx>

⁶⁷ <https://www.interlinksq.com.au/about>

⁶⁸ <https://www.tmr.qld.gov.au/Projects/Featured-projects/Warrego-Highway-Upgrade-Program>

⁶⁹ <https://www.tmr.qld.gov.au/Projects/Name/R/Rockhampton-Ring-Road>

Mackay – Isaac - Whitsunday

Mackay has historically experienced strong population growth contributing to significant congestion and safety issues on the road network. By 2031, it is anticipated that the population of the Mackay area will increase by over 32 000 people⁷⁰. Without road infrastructure development, the volume of traffic on local roads would exceed capacity, compromising safety. In addition, imports at Mackay Port could double and the number of fuel trucks on the road will have doubled to service expansion of the Bowen Basin.

The Mackay Ring Road project will be completed in 2 stages, Stage 1—Stockroute Road roundabout to Bald Hill Road, Stage 2—Bruce Highway north of Mackay to Harbour Road and the Mackay Port. Mackay has historically experienced strong population growth contributing to significant congestion and safety issues on the road network. The Mackay Ring Road will reduce heavy vehicle traffic through Mackay and provide an improved link from the south to the northern suburbs.

Townsville

The Burdekin River Bridge Project will ensure an efficient and safe road network is maintained for motorists, transport operators and agricultural industry. The bridge is located on the Bruce Highway between the townships of Home Hill and Ayr. It is a significant link in the national road network and is the only rail link between North and South Queensland.

The proposed Townsville Eastern Access Rail Corridor project of an 8km rail freight line would connect the North Coast rail line directly into the Port of Townsville through the Townsville State Development Area via a path parallel to the Port Access Road. Infrastructure constraints and inefficiencies limit the existing rail network into the Port of Townsville, impacting the ability of freight to be moved through

the port. The project would create capacity for the growing tonnage demand on the critical Mt Isa rail system that provides a link between the mines in the North West Queensland Minerals Province and the Port⁷¹.

Cairns

Four stages make up the Cairns Southern Access Corridor project as part of the Bruce Highway Upgrade Program. The works will deliver a total transport solution and long-term improvements to traffic flow and road safety through reducing congestion, reducing highway travel time and improving road access. The Cairns Bruce Highway Upgrade is the result of a planning study that investigated long term, multi-modal transport planning options to address the impacts of urban growth, congestion and traffic accidents. Stage one was completed in April 2014.

Queensland - Outback

The Barcaldine South Upgrade⁷² is located on the Landsborough Highway between Barcaldine and Blackall. The project will see improved freight efficiency for users along the Landsborough Highway. Works include widening and strengthening the highway and installation of drainage structures. The project is expected to be completed mid-2018, weather permitting.

The Cape York Peninsula Critical Infrastructure Upgrade is taking place on the Peninsula Developmental Road, Endeavour Valley Road through to Hope Vale involving remote Aboriginal Local Government Authorities until June 2019. The project will see improved access to Cape York for freight, tourists and communities, improved safety, reduced ongoing road maintenance costs, improved community infrastructure, and employment, training and business development opportunities for Indigenous and non-Indigenous people⁷³.

⁷⁰ <https://www.tmr.qld.gov.au/mackayringroad>

⁷¹ <https://www.tmr.qld.gov.au/Projects/Name/T/Townsville-Eastern-Access-Rail-Corridor>

⁷² <https://www.tmr.qld.gov.au/Projects/Name/B/Barcaldine-South-Upgrade>

⁷³ <https://www.tmr.qld.gov.au/Projects/Name/C/Cape-York-Region-Package-Peninsula-Developmental-Road>

Supply & Demand SWOT Analysis of Labour & Skills Supply

STRENGTHS

- Strong Tourism industry sustains passenger transport in regional areas
- Growing import-export industry supports containerised road freight operators
- Planned investment in Ports Infrastructure will enable diversification of exports and additional direct to Asia operations will see growth in regional ports as well as Port of Brisbane

WEAKNESSES

- Competition for skilled labour within Australia and from other sectors
- Higher-level skill needs are emerging related to new technology
- Digital skills capability of key segments of the workforce
- Workforce ageing at a faster rate than other industries
- Ability to attract young people to the industry due to licensing requirements and industry image

OPPORTUNITIES

- Automation is having an impact on the structure of work and skill requirements
- Improving the sustainability of supply chain operations and the traceability of goods in transit⁷⁴
- Industry will become more dynamic with the combination of blockchain and internet of things, to determine routes, fleet, loading times and slots⁷⁵
- Reduced activity in the mining and resource industries has seen the return of some of the skilled drivers

THREATS

- High rates of retirement as workers opt out of learning new technologies
- Automation sees a shift of the workforce to mid-management tiers
- Retirement of the ageing workforce in these industries will create a skills gap if industry does not address training, development and succession planning for existing staff
- The lack of available training assessors in regional locations
- new and changing regulations, which can vary by State / Territory

⁷⁴ AIS Skills Forecast 2018 – Transport & Logistics

⁷⁵ <https://www.ferrierhodgson.com/au/-/media/ferrier/files/documents/publications/transport-and-logistics/2017/lookout-here-comes-the-future.pdf>

Known & Emerging Future Job Roles

Transport & Logistics Job Shortages

The Australian Industry Standards identified the following in-demand job roles⁷⁶:

1. Truck Drivers
2. Educators, Trainers and Assessors
3. Supervisors / Managers
4. Warehousing Staff (expanded)
5. Forklift Drivers

In the main, industry feedback supported this view and highlighted a number of additional roles considered as potential future job shortages⁷⁷:

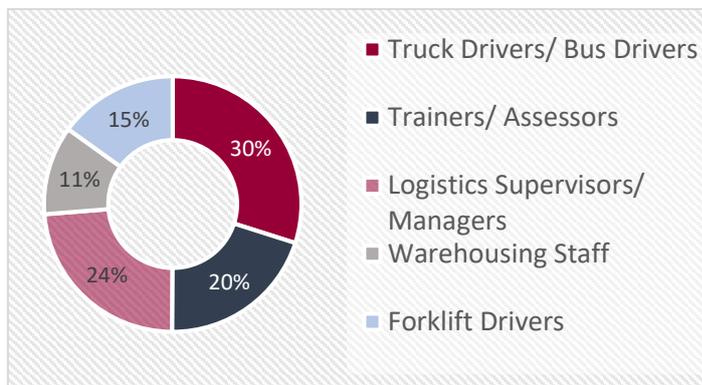
- Front end loader operators
- Mechanics, welders, auto electricians
- Livestock handlers / drovers
- Yard staff i.e. wash staff / future drivers
- Sheep carters
- Transport technology analysts / schedulers
- permit officers
- OHS officers, compliance
- IT - data analysts (telematics data)
- Tyre fitters
- Pallet controllers
- Packers / sorters
- Auto electricians for buses
- Operational staff

Industry Identified Training Preference

JOB ROLE	ACCREDITED VET FULL QUALIFICATION	ACCREDITED SKILL SET	PRIVATE TRAINING
1. Truck Drivers	19.35%	20.43%	29.03%
2. Educators, Trainers and Assessors	42.11%	31.58%	10.53%
3. Supervisors / Managers	28.3%	28.3%	37.74%
4. Warehousing Staff (expanded)	32.26%	25.81%	3.48%
5. Forklift Drivers	27.03%	32.43%	32.43%

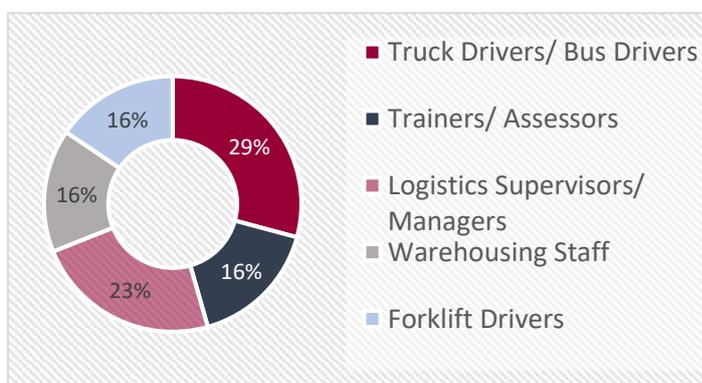
⁷⁶ AIS Skills Forecast 2018 – Transport and Logistics

Industry Identified Current Job Shortages



Source: T&L Future Ready Industry Survey Responses

Industry Identified Future Job Shortages



Source: T&L Future Ready Industry Survey Responses

⁷⁷ T&L Future Ready Industry Survey Responses

Known & Emerging Future Skill Priorities

Transport & Logistics Skill Shortages

The Australian Industry Standards identified the following skill priorities⁷⁸:

1. Compliance
2. Drivers
3. WHS
4. Technical
5. Adaptability

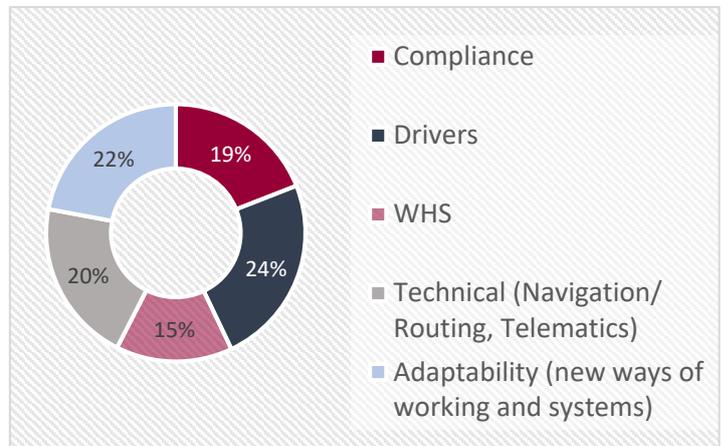
Industry supported this view with shifting priorities given to each when considering shortages currently being experienced or those likely to be experienced in the future. Additional comments around skills include:

- Chain of Responsibility
- Communication
- Work ethics
- Mechanical common knowledge
- Common sense
- Experienced prime mover drivers
- Specific load restraint training for specific freight task
- Increased training on technology
- Data analytics data transfer
- Diagnostics
- Workflow planning
- Road train, side tippers In cab equipment e.g. MT Data, DSS
- Interpersonal skills / customer service
- Language, Literacy and Numeracy
- Leadership
- Refresher training or verification of competency

Industry Identified Training Preference

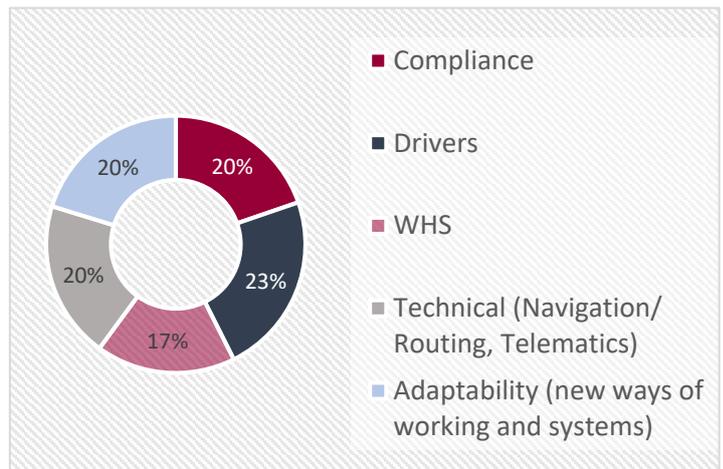
SKILLS	ACCREDITED VET FULL QUALIFICATION	ACCREDITED SKILL SET	PRIVATE TRAINING
1. Compliance	40.35%	26.32%	19.30%
2. Drivers	19.23%	29.49%	39.74%
3. WHS	45.45%	25%	13.64%
4. Technical	33.96%	24.53%	22.64%
5. Adaptability	27.08%	22.92%	27.08%

Industry Identified Current Skill Shortages



Source: T&L Future Ready Industry Survey Responses

Industry Identified Future Skill Shortages



Source: T&L Future Ready Industry Survey Responses

⁷⁸ AIS Skills Forecast 2017 – Transport & Logistics

TRANSPORT & LOGISTICS

Research by the Australian Government Department of Jobs and Small Business, Job Outlook website also highlights there is reliance on driver roles, expanding on the most common – truck, bus & coach and freight / furniture⁷⁹.

This snapshot is helpful in calling out opportunities and possible strategies to attract new workforce pools, for example increased female participation or offering part-time/ flexible working arrangements to improve gender ratios.

Truck Drivers	Bus & Coach Drivers	Freight & Furniture Handlers
Fast Facts	Fast Facts	Fast Facts
 Avg. Weekly Pay ⓘ \$1,300 Before Tax	 Avg. Weekly Pay ⓘ \$1,151 Before Tax	 Avg. Weekly Pay ⓘ \$1,329 Before Tax
 Future Growth ⓘ strong	 Future Growth ⓘ stable	 Future Growth ⓘ moderate
 Skill Level ⓘ Certificate II or III	 Skill Level ⓘ Certificate II or III	 Skill Level ⓘ High School or Certificate I
 Employment Size ⓘ 184,200	 Employment Size ⓘ 41,100	 Employment Size ⓘ 17,100
 Unemployment ⓘ average	 Unemployment ⓘ below average	 Unemployment ⓘ above average
 Male Share 96.1%	 Male Share 86.1%	 Male Share 95.0%
 Female Share 3.9%	 Female Share 13.9%	 Female Share 5.0%
 Full-Time Share ⓘ 90.8%	 Full-Time Share ⓘ 57.2%	 Full-Time Share ⓘ 64.0%

Source: Australian Government - Job Outlook ⁸⁰

⁷⁹ <https://joboutlook.gov.au/Career.aspx?industry=l>

⁸⁰ <https://joboutlook.gov.au/Career.aspx?industry=l>

Training & Skilling Strategies

Accredited Training

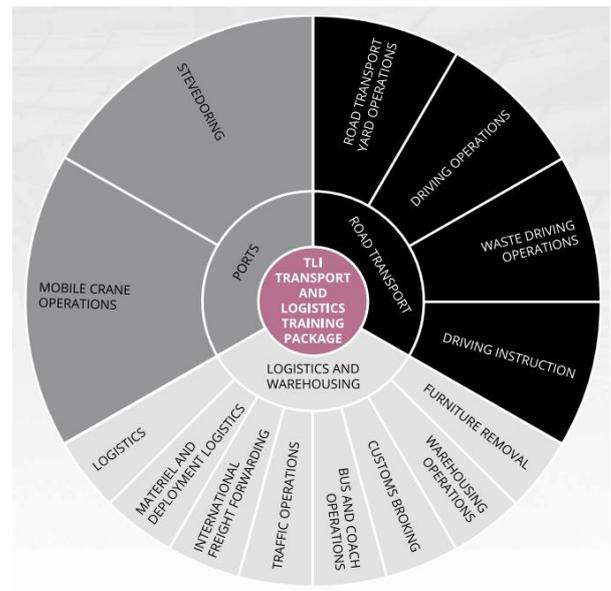
The TLI Transport and Logistics Training Package provides the only nationally recognised Vocational Education and Training (VET) qualification⁸¹.

Qualifications	36
Skill Sets	38
Units of competency	464

Source: AIS – Transport & Logistics Industry 2018 Key Findings

This package includes the qualifications for the following occupations:

- 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, bus and coach operations
- customs broking.



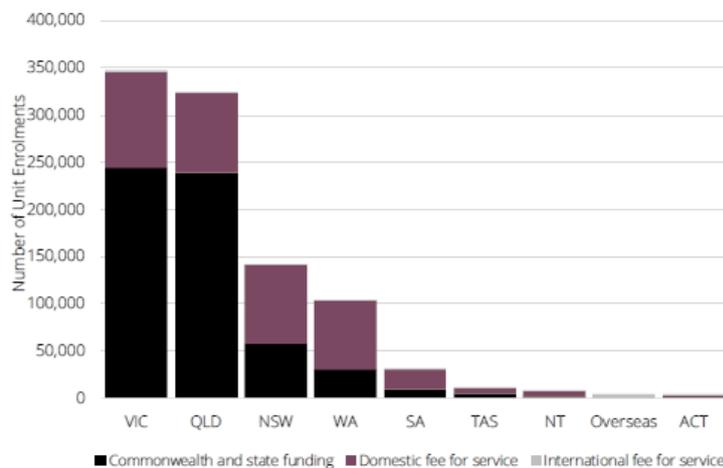
Source: AIS Transport & Logistics IRC Skill Forecast 2017

Training Enrolments

Significant decline in training numbers over the three years to 2016 are attributed to the changes in the funding models applied to the qualification⁸².

The majority of industry surveyed highlighted the need to attract young people into the industry⁸³.

UNIT ENROLMENT COUNT BY STATE AND FUNDING TYPE 2014, 2015 AND 2016 AVERAGE



Government funding for Transport and Logistics Units in Queensland and Victoria is almost identical, despite the differences in population size.

⁸¹ Australian Industry Standards – Transport & Logistics Industry 2018 Key Findings Discussion Paper

⁸² AIS Future Skills 2018 - Transport

⁸³ T&L FUTURE READY SURVEY

TRANSPORT & LOGISTICS

TLI Transport & Logistics Training Package

Certificates

Certificate I in Warehousing Operations Certificate I in Logistics
Certificate I in Transport and Logistics (Pathways)
Certificate II in Logistics
Certificate II in Stevedoring Certificate II in Driving Operations Certificate II in Furniture Removal
Certificate II in Road Transport Yard Operations (Freight Handler) Certificate II in Warehousing Operations
Certificate III in International Freight Forwarding (Operator) Certificate III in Mobile Crane Operations
Certificate III in Stevedoring
Certificate III in Waste Driving Operations Certificate III in Logistics
Certificate III in Furniture Removal Certificate III in Warehousing Operations Certificate III in Driving Operations
Certificate IV in Stevedoring Operations
Certificate IV in Materiel Logistics
Certificate IV in International Freight Forwarding (Senior Operator) Certificate IV in Warehousing Operations
Certificate IV in Transport and Logistics (Road Transport - Heavy Vehicle Driving Instruction) Certificate IV in Driving Operations
Certificate IV in Transport and Logistics (Road Transport - Car Driving Instruction)
Certificate IV in Logistics
Certificate IV in Mobile Crane Operations
Certificate IV in Transport and Logistics (Road Transport - Motorcycle Riding Instruction) Certificate IV in Traffic Operations

Diploma - Advanced Diploma

Diploma of Logistics
Diploma of Deployment Logistics Diploma of Materiel Logistics
Diploma of International Freight Forwarding Diploma of Bus and Coach Operations Diploma of Customs Broking
Advanced Diploma of Deployment Logistics Advanced Diploma of Materiel Logistics

The Vocational Education and Training (VET) sector and training package development has undergone considerable changes to improve its relevance and responsiveness to the changing industry needs.

The 2018-22 schedule of work for training package development concentrates on capturing the regulations and technology changes in units, skills sets and qualifications⁸⁴.

Ongoing agility in the training package development will be needed to meet the future workforce needs and some measures to achieve this include review of package design and an increase in skill sets, with the aim of improved workforce mobility.

Industry's Feedback on Accredited Training⁸⁵

"Training doesn't equal job ready"

"Allow MC licence for younger drivers"

"Get people in under 25 years of age to drive body trucks to gain entry level skills, not in a classroom"

"On-line short courses for transport business owners. WHS, chain of responsibility, risk assessment"

"Experience is more valuable than accredited training unless a certain skill set is required by law to do the job. Offering 'on the job' training must be the priority"

"More improved options/incentives for employers to take on newly licenced drivers/ inexperienced"

"Make a truck driver's licence accredited and certified (similar to master builders - a truck drivers "ticket")"

The TLI Training Package is in scope for
491 RTOs in QLD

⁸⁵ T&L FUTURE READY SURVEY

Accredited Training feedback continued⁸⁶

- Load restraint needs to be within the licence
- Prefer accredited skill set to reduce staff being out of the workplace for as long
- Accredited qualifications 'aren't cutting it'. General Carrying needs hands on training - 2-year Training Course like an apprenticeship
- Forklift should come with truck licence
- Drivers need hands on and adequate skills in handling livestock at various loading / unloading facilities (farm, feedlot, saleyards, abattoirs), hands-on training re animal welfare, paperwork knowledge (NVD, NHD, log book, business documents), driver training with various vehicle types (body truck and dog trailers, b-doubles, road trains), general maintenance skill set, technology training and communication skills.

Non-Accredited Training⁸⁷

Technology is ever-changing and technology-based skills for specific industries will drive training needs for the future. These may be better delivered by specialists or the provider of the technology platform themselves.

- People management skills
- On road experience and buddy driver training more valuable than a skill set
- Digital literacy
- Working knowledge of how to use in vehicle technology
- Safety management / regulatory / compliance training
- The emphasis for staff to be multi-skilled has been highlighted across industries
- Flexibility in delivery.

Most of the industry surveyed use a hybrid of training initiatives that are tailored for their workforce⁸⁸.

Private and In-house

Survey respondents indicated that 'inconsistencies with training quality' and 'poorly skilled trainers' as reasons for considering a private training as an option.

⁸⁶ T&L FUTURE READY SURVEY

⁸⁷ T&L FUTURE READY SURVEY

⁸⁸ T&L FUTURE READY SURVEY

⁸⁹ T&L FUTURE READY SURVEY

⁹⁰ <https://www.qta.com.au/page-18193>

⁹¹ <https://www.wodongatafe.edu.au/news-and-events/Post/4195/DECA-future-focus-on-post-licence-driver-excellence-programs>

"A lot of companies have been burnt by tick and flick training schemes... employees being signed off for RPL with the trainer not understanding the work required. VET needs to be meaningful and current"⁸⁹.

Emerging Training Trends / Suggestions

- Shorter course durations preferred and more flexibility in skill sets.
- Driver trainee program & engaging with schools at Yr 12 level
- QTA/DAIMLER Emerging Leaders Scholarship⁹⁰
- DECA post-licence driver training provider⁹¹
- Superior Heavy Vehicle Licensing Program for women⁹²
- TruckSafe accreditation⁹³
- Australia Post workforce profile (gender, ATSI, CALD, PWD) at 30 June 2014⁹⁴
 - 95.3% permanent
 - 71.6% employed full time.
 - 23% culturally and diverse groups CALD
 - 6.9% while people with disabilities PWD

Other Government Initiatives

Australian Government Initiative Digital Business Kits (DBK) would be good for transport and logistics⁹⁵.

Industry's Commitment to Diversity⁹⁶

Overall, the majority of industry will consider applicants from any workforce pool as long as they are willing to work and physically able to perform the role.

- Job networks - diversity and inclusion initiatives
- School to work programs (GenR8)
- Yourtown, Back to Work, Internships, GenR8
- Women Take the Wheel – QTA/ QBIC
- We state 'Retired drivers are encouraged to apply'.

⁹² <https://www.wodongatafe.edu.au/news-and-events/Post/4985/First-Superior-Heavy-Vehicle-Licensing-SHVL-Program-for-women-to-be-delivered-by-Wodonga-TAFE-s-Transport-Division-DECA>

⁹³ <https://www.trucksafe.com.au/accreditation/what-is-trucksafe-accreditation/>

⁹⁴ Digital Post: Business transformation and the future sustainability of Australia Post | MCKELL INSTITUTE 2015

⁹⁵ <https://www.business.gov.au/Info/Plan-and-Start/Templates-and-tools/Digital-Business-Kits>

⁹⁶ T&L FUTURE READY SURVEY