



AUSTRALIAN
INDUSTRY
STANDARDS

SKILLS FORECAST

ANNUAL UPDATE 2020

RAIL

RAIL IRC

Annual Update to Industry Skills Forecast and Proposed Schedule of Work 2020

IRC Skills Forecast and Proposed Schedule of Work (ISF) are required once every three years. In the intervening years SSOs will report on the research questions listed below.

SSOs can also include additional cases for change to training packages as necessary. This will require evidence on why additional proposal(s) should be considered during an intervening year between the full ISFs (see item 4).

It is important that SSOs work with IRCs and other relevant stakeholders to provide evidence demonstrating to the AISC the veracity of claims. Where possible, statistical data should be used as an evidential basis.

SECTION A

1. Inform the AISC of any new industry workforce, skills developments or trends to emerge since the submission of a full ISF.

Over the past 12 months advancements in technologies continue to evolve and emerge, resulting in significant skills related implications for the industry's workforce. Some of the most recent areas of change include:

New signalling and communication systems

Traditionally, the Rail industry has relied on track-side signals to visually notify train drivers whether it is safe to proceed along a track. Modern digital signalling systems or automatic train control safely removes the reliance on track-side signalling. These automated systems allow passenger and freight operators to increase the network capacity and improve customer service by reducing wait times for customers. Modern signalling systems also improve reliability by reducing the likelihood of signalling faults and therefore unplanned service disruptions, resulting in lower maintenance costs¹.

Signalling systems vary across different states in Australia. Therefore, it is vital to ensure interoperability across different systems. The industry has emphasised that the integration of traditional and newer signalling systems must account for the differences in the systems performance and operational practices². There is an increasing demand for signalling technicians with specialised skills for the new systems³.

The industry intends to adopt automated communication systems which enable effective communication flows between train control centres, operators and customer service personnel, to achieve the best possible customer interaction outcomes during disruption times⁴. New systems,

¹ Australasian Railway Association. (2018). ARA Submission to the standing Committee on Infrastructure, Transport and Cities on the Inquiry into Automated Mass Transit. ACT: Canberra.

² Australasian Railway Association. (2018). Smart Rail Route Map. ACT: Canberra.

³ Rail Express. (2019). "Specialised Skills Approach to Service Rail's Construction Boom." Rail Express. Issue 7.

⁴ Australasian Railway Association. (2018). Smart Rail Route Map. ACT: Canberra.

such as Communication Based Train Control (CBTC), can improve service availability and customer satisfaction⁵. Wireless delivery of rail critical communications has already been implemented by some rail operators to increase efficiency⁶.

As new technologies emerge, they bring a change in the demand for the skills required of the Rail workforce. Upskilling will be required to ensure the right skills are developed to meet flexible job demands and increase productivity.

Innovations in train and rail vehicle operations

Australia is following European rail models and implementing the European Train Control System (ETCS). Advanced Train and Management System (ATMS) is being developed which will improve rail network capacity, operational flexibility, train service availability, transit times, rail safety, and system reliability⁷.

Some rail networks in Australia have undertaken a digital integration project to replace trackside signalling with the latest ETCS and implement Automatic Train Operation (ATO) and Traffic Management System (TMS). These technologies can lead to more effective service management, improved energy consumption, and reduced costs⁸.

With the introduction of autonomous systems, the volume and complexity of information (i.e. data, train telematics diagnostics of vehicle health) will change the role of the remote operator significantly. Operators will require higher-order skills in data analytics⁹, problem-solving, and an understanding of autonomous systems.

In response to the rapid emergence of disruptive technologies, the industry has developed a Smart Rail Route Map which defines industry goals and focuses on key priorities related to digital technologies¹⁰. One major technology advancement is the integration of digital and physical railway systems. This includes new high capacity signalling systems for the new generation of digital train control; the move towards remote condition monitoring; and the increasing level of automated systems across customer service interaction, train control, traffic management, maintenance and system wide optimisation. The technological innovations of the industry are aimed at improving network operations, having smarter monitoring and asset management processes, and advanced safety, threat detection and intervention.¹¹

As these systems gain traction across the Rail industry, workers will require new skills in technology, remote operations, diagnostics, maintenance, and communications. The advent of these new systems and technologies will lead to changes in railway operations and the skills needed by current and future rail workers.

⁵ Rail Express. (2019). "Latest-Generation CBTC Driving Urban Rail Modernisation." Rail Express. Issue 6.

⁶ Varghese, S. (2017). Huawei Looking to Boost Intelligent Transport. IT Wire.

⁷ Australian Rail Track Corporation. (2019). "Advanced Train Management System (ATMS)." Retrieved from <https://www.artc.com.au/projects/atms/>

⁸ Ho, K. (2019). "More than Just Technology: How Digital Systems Will Transform Sydney's Railway." Retrieved from <https://infrastructuremagazine.com.au/2019/03/22/more-than-just-technology-how-digital-systems-will-transform-sydneys-railway/>

⁹ Australasian Railway Association. (2018). Australasian Railway Association Skills Capability Study: Skills Crisis, A Critical Call.

¹⁰ Australasian Railway Association. (2018). Smart Rail Route Map.

¹¹ Australasian Railway Association. (2017). A National Rail Industry Plan for The Benefit of Australia. Canberra, ACT.

Track and asset management

Condition-based maintenance involves measuring different parameters such as vibration and temperature to detect faults or anomalies in assets. Traditionally, maintenance is conducted when an issue occurs when rail vehicles are needed to be taken out of service or lines are closed down for repair, which can be costly and time consuming.¹²

Digital technologies enable the installation of sensors and electronics under train carriages or rail tracks which measure and record acceleration and vibration signals and transmit the data to platforms where they can be analysed and converted to actions. Digitalisations can streamline maintenance operations, leading to greater train availability and avoidance of unplanned stoppages.¹³ The collected data from sensors and smart devices allows operators to prioritise maintenance work and optimise operations through dynamic planning. This helps the industry to transition from preventive maintenance to predictive maintenance where assets are maintained and replaced when needed, not too early or too late.¹⁴

Other innovations include 'smart plastic' components, which can be implemented in trains to provide information in real time and predict failures in advance¹⁵. Apart from smart devices mounted on tracks,¹⁶ acoustic monitoring is another innovation in which the sounds of train axles on tracks are measured to reliably identify the presence of defects before they impact operations, resulting in cost reduction¹⁷.

A suitably trained and skilled workforce is required to effectively operate and maintain these new systems and technologies.

Improved customer service in a digital age

With the growing population, customer expectations are also changing. Customers expect flexibility, real-time travel information, omni-channel ticketing options, and transparency from their rail operators. Leveraging data and digital technologies can inform decision-making practices and help the industry to develop a deep understanding of customer behaviour and expectations¹⁸. New technologies will help the industry to increase performance, deliver rail services on-time, and improve productivity and the overall customer experience.

Customer service in an ever-increasing online environment is identified as a key focus area in the Rail industry¹⁹. Customer service skills are required in people management and interfacing between digital and real-world customers²⁰. The industry will need to plan and prepare the workforce for an ever-increasing demand for services by engaging with customers and maintaining clear and well-defined communication strategies in the new digital and technological age. Having the right skills to understand and meet these expectations is key to improved and efficient operations.

¹² Rail Express. (2019). "Rolling Railway Maintenance on a Digital Destination." Rail Express. Issue 5.

¹³ Ibid.

¹⁴ Rail Express. (2019). "Prevention to Prediction: The Future of Maintenance." Rail Express. Issue 6.

¹⁵ Rail Express. (2019). "Smart Plastics for Real-Time Monitoring of Rail Components." Rail Express. Issue 6.

¹⁶ Rail Express. (2019). "Smart Plastics for Real-Time Monitoring of Rail Components." Rail Express. Issue 6.

¹⁷ Rail Express. (2019). "Innovative Train Detection Solutions." Rail Express. Issue 9.

¹⁸ Pearce, C. (2019). "The Future of Train Control Systems: Reliability, Throughput and Passenger Experience." Rail Express. Retrieved from <https://www.railexpress.com.au/the-future-of-train-control-systems-reliability-throughput-and-passenger-experience/>

¹⁹ Australasian Railway Association. (2018). Smart Rail Route Map.

²⁰ Ibid.

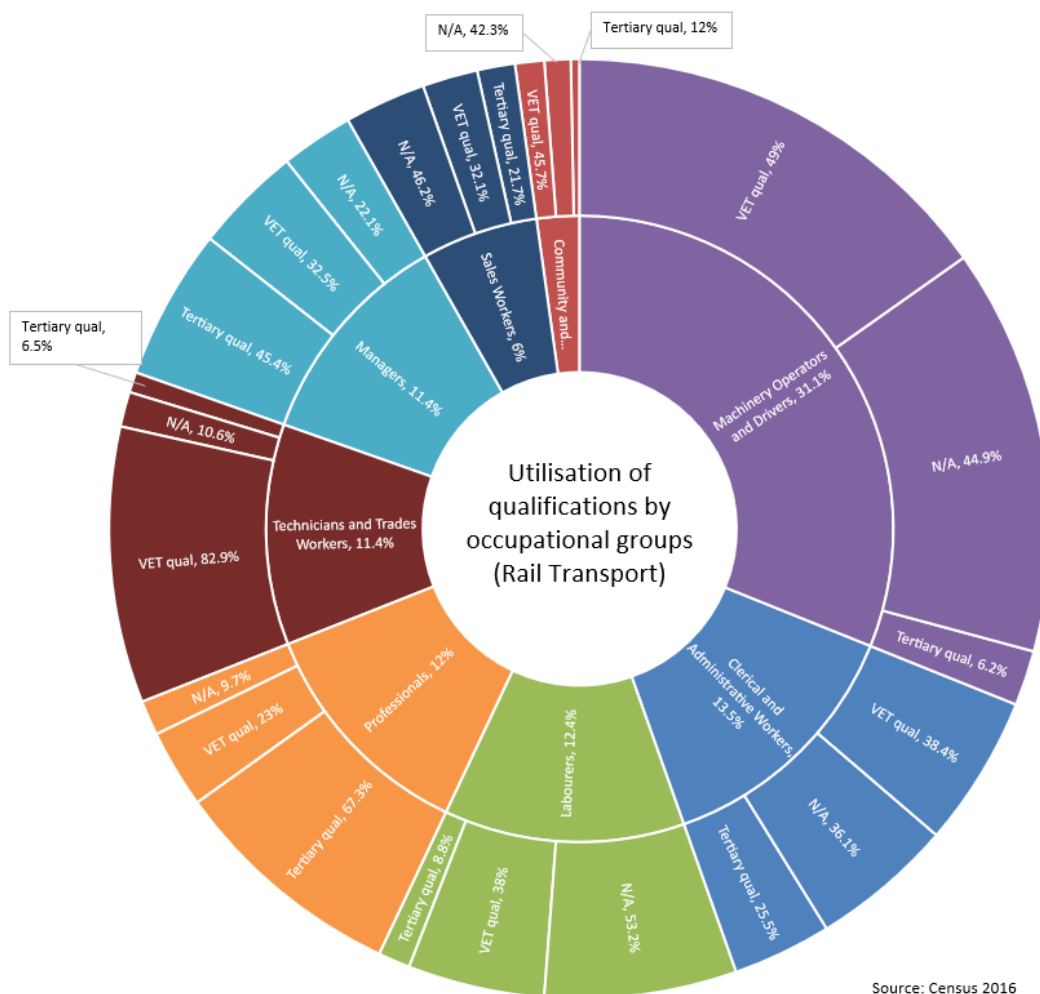
2. Qualification utilisation:

Identify circumstances in which employers:

- employ people with VET qualifications
- do not employ people with VET qualifications

Qualification utilisation by occupational group

Comprising nearly a third of the Rail industry (31.1%) the largest occupational group (see graphic below), Machinery Operators and Drivers, is primarily made up of Train and Tram Drivers. Just under half of the workers in this group have VET qualifications (49%) which is only a little more common than having no qualifications at all (44.9%). The next largest group, Clerical and Administrative Workers, have a similar profile with about the same number having VET qualifications as having no qualifications (38.4% | 36.1%). For Labourers, making up 12.4% of the workforce, the likelihood of having no qualifications (53.2%) is higher than having either a VET qualification (38%) or a tertiary qualification (8.8%). This group is largely comprised of Railway Track Workers and Railways Assistants. Making up about the same percentage of the Rail workforce (12%) are Professionals, primarily comprising various Engineers and Administrative Professionals. More than two thirds of this group (67.3%) hold tertiary qualifications with less than a quarter (23%) holding VET qualifications. Technicians and Trades Workers have the highest rates of VET qualifications (82.9%) in the Rail industry, and are primarily engaged as Electricians, Fitters and Welders in the industry. Making up the same proportion of the industry (11.4%) are Managers who are more likely to have a tertiary qualification (45.4%) than a VET qualification (32.5%). Ticket Sales Workers are more likely to hold a VET qualification (32.1%) than a tertiary qualification (21.7%) but less likely to hold no qualification (46.2%). The remaining group, Community and Personal Service Workers, comprises approximately 2% of the industry and is made up of Travel Attendants, Security Guards and Tourism Advisors. This group holds VET qualifications significantly more often than tertiary qualifications (45.7% | 12%) but only a little more often than holding no qualifications (42.3%).



3. Are employers using training outside the national system and if so, why?

Accredited course	2015	2016	2017	2018	Total
22335VIC - Certificate III in Public Transport Customer Service and Compliance	0	0	0	16	16

The Certificate III in Public Transport Customer Service and Compliance is the training course all Authorised Officers are required to complete before they are authorised by the Victorian Department of Transport. Since this is a State concern, the course is not available in the national system.

Rail operators also train outside of the national system when providing training for their staff on their internal Safety Management System and specific requirements for working safely in the rail corridor. Employee inductions is the other main training outside the system.

4. Identify qualifications with low and no enrolments. Provide reasons and evidence for the need to retain/delete these qualifications.

Zero enrolment Rail units (not in draft, last endorsement date 2015)

In 2020 / 2021 Projects

- TLIL3071 Control and coordinate local rail traffic movement
- TLIL3072 Operate signal panel or equipment
- TLIO3015 Maintain security of railway property and revenue
- TLIP2038 Conduct, balance and secure financial transactions
- TLIP2039 Ensure the confidentiality, privacy and security of customer information

To be reviewed with Train Driving Qualifications

- TLIB0117 Assist with preparation of a train prior to operation

In Skill Sets, the IRC will seek advice of stakeholders for pending deletion:

- TLIB3058 Maintain aerial signal/telecommunications lines and cables
- TLIC0073 Conduct tram/light rail track cleaning operations
- TLIC3039 Operate and monitor a monorail train
- TLIW0044 Weld rail on tram/light rail systems using submerged ARC welding process

In Qualifications the IRC will seek advice of stakeholders for the pending deletion of:

- TLIF5022 Develop and manage fitness for work policy and procedures
- TLIL5065 Roster train crews
- TLIL5069 Manage a rail yard or terminal
- TLIL5070 Manage rail freight operations
- TLIL5071 Manage rail passenger operations
- TLIL5072 Manage rail yard operations

Lack of rail RTOs with the in-house ability to deliver or assess these units:

- TLIF4105 Manage rail safety compliance
- TLIF4099 Develop an application for, or variation to, rail accreditation

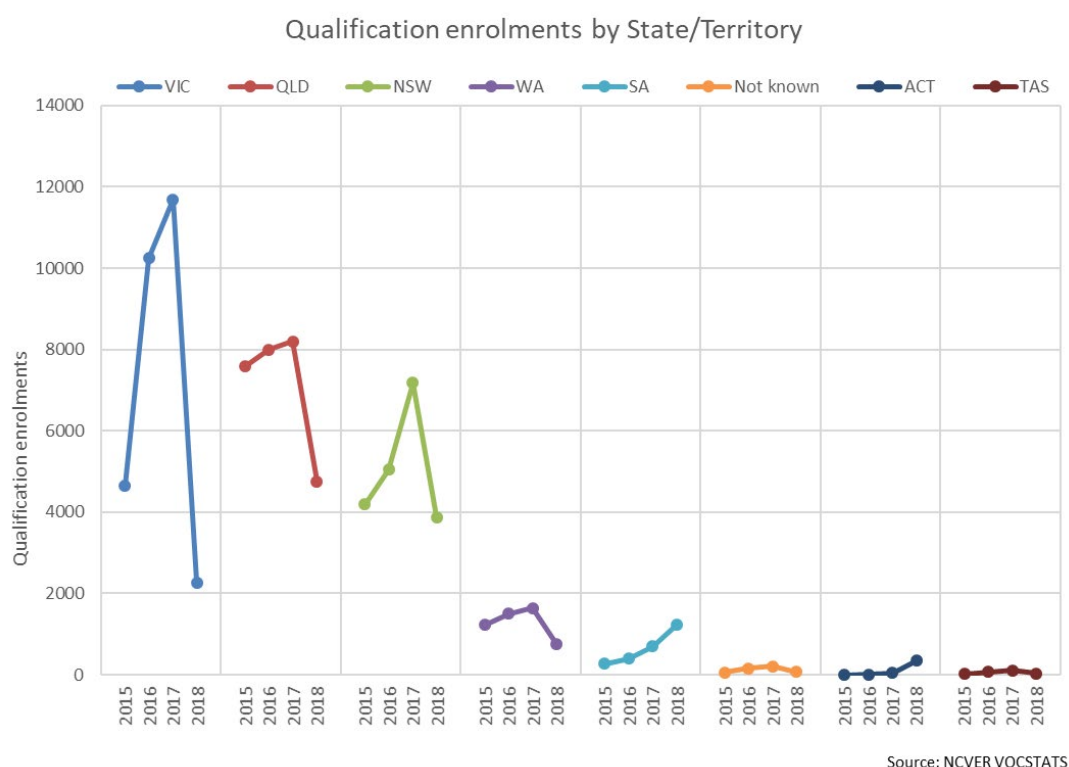
Of the 31 Rail Units of Competency with zero enrolments in the last four years, 13 are currently under review in Rail Infrastructure, Passenger Guard and Network Control projects. There are two Rail qualifications with zero enrolments in the last four years, TLI32918 Certificate III in Tram or Light Rail Infrastructure and TLI42715 Certificate IV in Tram/Light Rail Control. Both qualifications were reviewed in 2018 to improve their relevance to industry.

There are currently two rail qualifications with low enrolments that are identified, and the Certificate III in Rail Signalling is included in this Skills Forecast as a project to update and potentially merge into the Certificate III in Rail Yard Coordination and remove rail signalling from the national register. The Certificate IV in Rail Safety Management has low enrolments currently and was investigated with rail stakeholders to establish the appropriate action required. The outcome was that very few

RTOs have the in-house expertise to assess this qualification and the Certificate IV in Rail Safety Management and Rail Safety Investigation fell into this category also.

Qualification enrolments by state/territory

Rail enrolments (see graphic below) in the top four States declined sharply in 2018 following three years of sustained growth, particularly so in Victoria where enrolments dropped more than 80% since 2017. This was almost entirely due to a decline in Certificate II in Track Protection, which declined from 9,522 enrolments in 2017 to just 47 in 2018, a fall of 99.5%. The qual accounted for 81% of Rail enrolments in the State in 2017 but only 2.1% in 2018.



5. Reasons for non-completion of qualifications and skill sets (including micro-credentials). Where students complete qualifications or skill sets, what was the purpose of undertaking them (e.g. finding employment, upskilling)?

Data on reasons for non-completion are unfortunately not available at the qualification and Skill Set level in Total VET Activity (TVA) data. Our analysis relates to the study reason of students that passed, failed or withdrew from units of competency.

The top two reasons given for study are very dominant in the Rail unit enrolments, comprising 87.5% of known results. There are differences between the top two reasons however, with students who failed or withdrew more likely to select 'To get a job' (25.5%) than those who passed (9.9%). Conversely, 77.5% of those who selected 'It was a requirement of my job' passed the subject when only 62.4% of those who failed or withdrew from the Unit selected that reason. It can be inferred then that already having a job is a better predictor of subject success than seeking one.

Study reason	Passed	Failed	Withdrawn
It was a requirement of my job	39470	77	1147
To get a job	5049	63	439
Other reasons	2604	2	47
I wanted extra skills for my job	2148	15	25
To get a better job or promotion	693	3	69
For personal interest or self-development	548	0	7
To try a different career	214	0	65
To get into another course of study	115	0	3
To develop my existing business	60	0	0
To start my own business	6	0	0

6. Identify, where possible, opportunities for use of cross-sector units developed by the AISC.

The following endorsed Cross Sector units may be suitable for future use in Rail qualifications and Skill Sets, the Units of Competency below will be considered by the Rail project Technical Advisory Committee's (TAC) for inclusion where applicable. This will allow for the removal of superfluous Units of Competency from the Rail section of the TLI Training Package.

Cross Sector Units of Competency:

- BSBXCM301 - Engage in workplace communication
- BSBXCM401 - Apply communication strategies in the workplace
- BSBXCM501 - Lead communication in the workplace
- BSBXDB301 - Respond to the service needs of customers and clients with disability
- BSBXDB401 - Develop and implement recruitment processes that are inclusive of people with disability
- BSBXDB501 - Support staff members with disability in the workplace
- BSBXDB502 - Adapt organisations to enhance accessibility for people with disability
- BSBXTW301 - Work in a team
- BSBXTW401 - Lead and facilitate a team

7. If there are jobs that have experienced changes in skill requirements, provide evidence for these changes and their impact.

Technology and safety are the key drivers for rail training products revision and development. Technology, including autonomous rail vehicles, is increasing on the networks and changing many roles within the rail industry. Digitisation skills are a growing requirement in the industry which assists in the implementation of technology, network control, autonomous rail operations and removal of wayside signalling equipment.

8. Identify barriers to employers hiring apprentices and trainees. Are employers using alternative pathways/labour strategies to address these barriers?

Traineeships are used in the rail industry but not extensively. There is a great opportunity for operators to upskill their workforce by increasing the number of rail operators in traineeships. There are no traditional apprenticeships in the TLI (Rail) Training Package.

9. Other relevant activities.

Due to the occurrence of COVID-19, the IRC will be monitoring the impact to industry and making changes as required for the future. As it is currently a fluid situation and is changing daily, the scale and scope of change is yet to be determined.

SECTION B

STAKEHOLDER CONSULTATION

An extensive consultation process has been undertaken in the development of the Annual Update of the Skills Forecast and Proposed Schedule of Work.

Stakeholders involved in the consultation process

13 IRC Members

1071 AIS Rail specific components of the TLI Transport and Logistics Training Package subscribers

8 State Training Authorities

Ongoing Consultation

The AISC seeks to ensure SSOs undertake broad and meaningful (e.g. face-to-face) industry consultation, including rural, regional and remote stakeholders.

The Following table details the employers and businesses for each sector and state that Australian Industry Standards has met with as part of:

1. ongoing engagement and validation with industry and stakeholders
2. collection of industry intelligence
3. promotion of the VET system
4. cultivating and maintaining networks and partnerships with industry including engagement in rural and regional areas.

Entity Name	Sector	State	Rural/Regional/Remote (RRR)	Activity
Andrew Moller & Co	Rail	Multi-State		1,2,4
Australian Rail Track Corporation	Rail	National	Rural/Regional/Remote	State
Bloor Rail Pty	Rail		Rural/Regional	1,2,4
Bull Head Services Pty Limited	Rail	National	Rural/Regional/Remote	1,2,4
Canberra Metro Operations	Rail	State		1,2,3,4
Citytrain	Rail	Multi-State		1,2,4
Department of Planning, Transport and Infrastructure	Rail	National	Rural/Regional/Remote	1,2,4
Dept of Planning, Transport and Infrastructure SA Govt	Rail	State	Rural/Regional/Remote	1,2,3,4
Genesee & Wyoming	Rail	National	Rural/Regional/Remote	1,2,3,4
GM Rail Services	Rail	State	Rural/Regional/Remote	1,2,3,4
Go Train Industry Pty Ltd	Rail	Multi-State	Rural/Regional	1,2,4
Harsco RAIL	Rail	Multi-State	Rural/Regional/Remote	1,2,4
John Holland Rail	Rail	National	Rural/Regional/Remote	1,2,3,4
MATISA Australia Pty Ltd	Rail	National	Rural/Regional/Remote	1,2,4
Metro Trains Melbourne	Rail	State	Regional	1,2,4
North Metropolitan TAFE, WA	Rail	State	Rural/Regional/Remote	1,2,3,4
People Count Today	Rail	Multi-State	Regional	1,2,4
Queensland Rail	Rail	State	Rural/Regional/Remote	1,2,3,4
Rail, Tram and Bus Union	Rail	National	Rural/Regional/Remote	1,2,3,4

Entity Name	Sector	State	Rural/Regional/Remote (RRR)	Activity
Railtrain Pty Ltd	Rail	Multi-State	Rural/Regional	1,2,4
Riddell View Pty Ltd	Rail	State		1,2,4
Roy Hill	Rail	State	Rural/Regional/Remote	1,2,3,4
SCT Logistics	Rail	Multi-State	Rural/Regional/Remote	1,2,4
Southern Cross Rail Training	Rail	Multi-State	Rural/Regional/Remote	1,2,4
Supply Chain North (QR)	Rail	State	Rural/Regional/Remote	1,2,3,4
Supply Chain South (QR)	Rail	Multi-State	Rural/Regional/Remote	1,2,3,4
Sydney Trains, Asset Standards Authority	Rail	Multi-State		1,2,3,4
Sydney Trains	Rail	Multi-State		1,2,3,4
Transtasman Industry Training	Rail	Multi-State	Rural/Regional/Remote	1,2,4
Urban Rail Safety Pty Ltd	Rail	State		1,2,4
V/Line	Rail	State	Rural/Regional/Remote	1,2,3,4
Aben Technical Services	Rail	National	Rural/Regional	1,2,4

SECTION C

PROPOSED NEW WORK

2020-21

TRAIN AND RAIL VEHICLE OPERATIONS - REVIEW AND DEVELOPMENT

The IRC has proposed that the Certificate II in Shunting, Certificate III in Rail Driving, Terminal Train Driving and Certificate IV in Train Driving qualifications be reviewed to address the identified skills and knowledge gaps. The revision will update and align the qualifications with new and emerging technologies, including the pre- and post-operational requirements of a train driver in preparing an

autonomous or remotely operated trains for their journey. It will also include driver contingency skill requirements for taking over an autonomous or remotely operated train in the event of a malfunction.

RAIL YARD COORDINATION - REVIEW AND DEVELOPMENT

The Rail IRC has proposed a review of the Certificate III in Rail Yard Coordination. The revision will update and align the qualification with new and emerging technologies including advances made in rail signalling and autonomous and remotely operated rail vehicles. It will also integrate the Certificate III in Rail Signalling (TLI32615) and delete this qualification from the national register upon completion of the review. This revision will also provide greater transferability of skills between various sectors of the Industry.

RAIL TRACK PROTECTION - REVIEW AND DEVELOPMENT

Industry and the Rail IRC have proposed a review of the Certificate II and III in Track Protection. This will address the move away from lookouts, flag, hand, or light signals to automated protection devices or audible warning devices providing increased safety and productivity gains for the industry. Rail transport operators are now using these rail qualifications as pathways for participants to progress into more technical job roles as Rail Infrastructure projects continue to increase throughout Australia's rail networks.

RAIL CUSTOMER SERVICE - REVIEW AND DEVELOPMENT

The IRC has proposed a review of the Certificate II and III in Rail Customer Service. With an increase in passenger service needs, there is a growing requirement to have customer service operators able to provide the service that meets passengers' expectations. Exceptional customer service is critical to business success.

Recent innovations have focused on automating several customer service functions, however the human element is critical in the overall customer experience, so companies are placing a significant focus on training staff to increase their customer satisfaction levels.

RAIL ROLLING STOCK MAINTAINER – DEVELOPMENT

The Rail IRC has proposed to develop a Certificate in Rail Rolling Stock Maintainer due to the increased need by rail transport operator to develop in-house basic maintenance capabilities for rail rollingstock and preventative maintenance. In the past, rail maintenance has relied on traditional trades for qualified persons to perform these tasks, but with plug-and-play technologies and the need to specialise in the rail sector, it is becoming difficult to recruit competent operators. With rail operators experiencing a skill shortage of in-house maintenance capability, rail network owners need to address this issue to create a suitable rail rolling stock maintainer pathway.

2021-22

RAIL SAFETY MANAGEMENT AND RAIL SAFETY INVESTIGATION REVIEW AND DEVELOPMENT

The Rail IRC has proposed a review and merging of the Certificate IV in Rail Safety Management and Certificate IV in Rail Investigation. With incident management a critical issue for rail transport operators and the need to develop in house capability for the management of rail safety (prevention) and in the case of an incident, investigation capability. With the training providers skill

shortage of in-house assessment capability, rail network owners need to review these qualifications and determine if they can be streamed and common skills and knowledge identified to create a suitable prevention and investigation pathway.

2022-24

TLI (RAIL) TRANSPORT AND LOGISTICS TRAINING PACKAGE

There are no TLI (Rail) Transport and Logistics Training Package products currently identified for revision or development during this forecast period. TLI (Rail) Transport and Logistics Training Package qualifications, Skill Sets and Units of Competency that have not been subject to revision or development between 2019 and 2021, will be reviewed in this period. Where imported Units of Competency are identified as either deleted or superseded, the IRC may elect to revise the affected qualification(s) through the IRC Minor Change process.

2020-21 PROJECT DETAILS

TRAIN AND RAIL VEHICLE OPERATIONS - REVIEW AND DEVELOPMENT

Description

The Rail IRC has proposed that the Certificate II in Shunting, Certificate III in Rail Driving, Terminal Train Driving and Certificate IV in Train Driving qualifications be reviewed to address identified skills and knowledge gaps. The revision will update and align the qualifications with new and emerging technologies including the pre- and post-operational requirements of a train driver in preparing autonomous or remotely operated trains for their journey.

The average enrolments for the Certificate IV in Train Driver (2015/18) is over 1,500 persons per year; with Certificate III in Terminal Train Driving and Rail Driving exceeding 100 enrolments for the same period; and Certificate II in Shunting showing similar enrolments for 2015/18. Rail transport operators are now using these rail qualifications as part of the development pathway preparing participants for more technical job roles such as network controllers.

These qualifications provide the key skills and knowledge for Rail industry personal working in the rail operations sector of the industry. Train drivers are responsible for safe operations of rail vehicles on their allocated section of railway track and ensure trains or trams run safely and to schedule.

Rationale

The IRC and the Rail Industry have identified the need to revise the qualifications relating to operating or driving rail vehicles used for passenger, freight and track maintenance. The technology and automation within the Rail industry is expanding exponentially requiring this review. The closer running times of rail traffic means operators must manage substantially more rail vehicles in the same area of the network and some without direct human interaction (autonomous trains). The Rail industry has identified that there are a broader range of skills required for train drivers to interact with other rail vehicles to control rail traffic operations.

The skills gaps identified by industry in the existing qualifications will be addressed to ensure alignment with the specific driver requirements at various operator levels. This will include

autonomous and remotely operated rail vehicle systems set up, fault rectification, communicating with operational staff, preparing for operation and monitoring.

Ministers' Priorities Addressed

- The project does not identify the removal of an obsolete and superfluous qualification from the National Register
- The project will ensure that more information is made available about rail operations training delivery to training providers
- The project will address the needs of individuals and industry and provide transferable skills from one occupation to another in the Rail industry
- The project will support the creation of Units of Competency that may be owned and used by multiple industry sectors
- The project is not developing any additional Skill Sets for the TLI (Rail) Transport and Logistics Training Package
- The project does not propose the incorporation of existing accredited course materials into the TLI (Rail) Transport and Logistics Training Package

Consultation Plan

AIS will:

- Undertake consultation with industry stakeholders and all State Training Authorities (STAs) on behalf of the IRC
- Seek public feedback and input into development of material throughout the project's duration
- Communicate the establishment and progress of the project to enterprises, STAs, State/Territory Industry Training Advisory Bodies, Peak Bodies, Registered Training Authorities (RTOs) and other interested parties, through AIS website and newsletter, electronic direct mail, social media and other communication channels.
- Conduct initial consultation with stakeholders to identify and invite key representatives to establish the Technical Advisory Committee (TAC)
- Conduct face to face consultation and engagement sessions as required
- Facilitate TAC meetings to undertake review and development work
- Communicate the process of drafting Training Package materials (Qualifications/ Units of Competency/Skill Sets), and seek feedback from stakeholders to validate draft material through email, the AIS website and other communication channels throughout the review process

Scope of Project

This revision will consist of the following qualifications; Certificate II in Shunting, Certificate III in Rail Driving, Terminal Train Driving and the Certificate IV Train Driving. Qualifications will be updated to include new technologies being retrofitted into rail vehicles in Australia and incorporate the skill and knowledge requirements for autonomous rail vehicles. Driver contingency skill requirements will be revised to ensure they reflect the current needs of industry across all types of rail vehicles. This project includes adding systems operation requirements for autonomous rail and light rail vehicles. Additionally, any superfluous Units of Competency will be removed from the national register.

The TLI (Rail) Transport and Logistics Training Package is planned to be reviewed and developed from June 2020, with a Case for Endorsement planned for submission by 30 October 2021.

Other Relevant Information:

These qualifications have undergone minor changes in the last two years. These changes relate to other rail projects adding human factors, automation and communications units to these existing qualifications. The minor changes have not addressed skills gaps in these qualifications nor aligned these additional units to the rail driving job role outcomes.

Training Package

- TLI (Rail) Transport and Logistics Training Package

Qualifications

Four existing qualifications require revision and development:

- TLI22015 Certificate II in Shunting
- TLI33215 Certificate III in Terminal Train Driving
- TLI31418 Certificate III in Rail Driving
- TLI42615 Certificate IV in Train Driving

Units of Competency

- 62 Units of Competency to be revised (See Table A)

Skill Sets

Three Skill Sets are proposed for review.

- TLISS00107 Control Rail Traffic Through Worksite Skill Set
- TLISS00115 Handsignaller Skill Set
- TLISS00120 Lookout Working Skill Set

RAIL YARD COORDINATION - REVIEW AND DEVELOPMENT

Description

Rail transport operators have identified the need for faster transit of rail transport services through transit points. Increased rail movements place greater stress on the network and potentially leads to an increase in network congestion and system breakdowns, causing substantial delays or downtime of the rail network. Minimising delays on the rail network is critical to keep not only the affected rail movements on schedule, but also maintain reliability of transport services. Automation is now replacing the signalling job role, but not in all locations or networks. With the move away from wayside signalling to in-cab systems, the signalling job role has a limited future in Australian rail networks.

The average enrolments for the Certificate III in Rail Yard Coordination (2015/18) is approximately 50 participants per year with the Certificate III in Rail Signalling not exceeding 10 enrolments over the same period.

Rationale

The Rail IRC and the Industry have identified the need to revise and amalgamate the Certificate III in Rail Yard Coordination and the Certificate III in Rail Signalling enabling the removal of a surplus qualification from the national register. Industry have identified that there is a requirement for the

incorporation of autonomous rail traffic, automatic signalling and rollingstock fault identification Units of Competency. Rail yard, terminus, private siding or terminal supervisors are increasingly responsible for autonomous rail traffic set up, automatic signalling maintenance and rollingstock fault identification and there is an identified skills gap at present for these operators. Due to time sensitive services through their transport hubs, it is critical the operators have the appropriate skills and knowledge to achieve these industry expectations. The additional pressures of the in-land rail connection, new transport interchanges and supply chain technologies will require these sites to operate at a level that meets the freight demand.

Merging the two qualifications and creating vocational streams identified by industry will enable skills transferability for workers across these sectors and remove a superfluous qualification from the National Register of VET. It will address new technologies being used that are not presently included, autonomous rail traffic, automatic signalling and rollingstock fault identification for operators and will provide the skills and knowledge required by rail yard and terminal supervisors in an ever-increasingly automated rail workplace.

Ministers' Priorities Addressed

- The project has identified for removal one obsolete and superfluous qualification from the National Register
- The project will ensure more information is made available about rail operations training delivery to training providers
- The project will address the needs of individuals and industry and provide transferable skills from one occupation to another in the Rail industry
- The project will support the creation of Units of Competency that can be owned and used by multiple industry sectors if required
- The project is not developing a Skill Set for the TLI (Rail) Transport and Logistics Training Package
- The project does not propose the incorporation of existing accredited course materials into the TLI (Rail) Transport and Logistics Training Package

Consultation Plan

AIS will:

- Undertake consultation on behalf of the IRC with industry stakeholders and all STAs
- Seek public feedback and input into development of material throughout the project's duration
- Communicate the establishment and progress of the project to enterprises, STAs, State/Territory Industry Training Advisory Bodies, Peak Bodies, RTOs and other interested parties, through AIS website and newsletter, electronic direct mail, social media and other communication channels.
- Conduct initial consultation with stakeholders to identify and invite key representatives to establish the TAC
- Conduct face to face consultation and engagement sessions as required
- Facilitate TAC meetings to undertake review and development work
- Communicate the process of drafting Training Package materials (Qualifications/ Units of Competency/Skill Sets), and seek feedback from stakeholders to validate draft material through email, the AIS website and other communication channels throughout the review process

Scope of Project

The Rail industry has indicated this review will amalgamate and stream Certificate III in Rail Yard Coordination and Certificate III in Rail Signalling and associated Units of Competency to incorporate autonomous rail traffic, automatic signalling and rollingstock fault identification units. This review will also examine the skills and knowledge needed for a new coordination Unit of Competency and investigate incorporating existing units around automated operations.

The skills gaps identified by industry in the two existing qualifications will be addressed to ensure alignment with the specific rail yard coordination requirements at various network rail yard, terminus or private siding locations. This will include autonomous and remotely operated rail vehicles systems set up, communicating with operational staff, preparing the rail vehicle and signalling operation; and monitoring and fault-finding rail vehicle operations.

The TLI (Rail) Transport and Logistics Training Package is planned to be reviewed and developed from June 2020, with a Case for Endorsement planned for submission by 30 October 2021.

Training Package

- TLI (Rail) Transport and Logistics Training Package

Qualifications

- TLI32815 Certificate III in Rail Yard Coordination
- TLI32615 Certificate III in Rail Signalling

Units of Competency

- Seven Units of Competency to be reviewed (See Table A)
- One new Unit of Competency to be developed (See Table A)

Skill Sets

One Skill Set to be reviewed.

- TLISS00125 Operate Signalling/Point Control Equipment Skill Set

RAIL TRACK PROTECTION - REVIEW AND DEVELOPMENT

Description

Rail operators have identified the need for the Rail Track Protection qualification to be reviewed to incorporate new technology which includes automated protection devices and audible warning devices, thus providing increased safety and productivity gains for the industry. A Protection Officer (PO) is qualified to implement varying levels of safeworking worksite protection for activities being undertaken in the rail corridor by rail industry workers. The average enrolments for the Certificate II in Track Protection (2015/18) are over 10,000 persons per year with Certificate III in Track Protection exceeding 600 enrolments in the last two years and averaged over 500 enrolment for the same 2015/18 period.

Rail transport operators are now using these rail qualifications as part of the development pathway for transitioning participants into more technical job roles as Rail Infrastructure projects continue to increase throughout the Australian rail networks.

Rationale

The Rail IRC and the Industry have identified the need to review the Certificate II and III in Track Protection and the associated Skill Sets and Units of Competency, for Rail Track Protection Officer (Level 1 & 2) and Possession Protection Officer (Level 3 & 4). With the federal and state governments investing billions of dollars in rail infrastructure there is an immediate need to incorporate the new technology and automation being used in the industry including automated protection devices. Track protection officers are the first line of safety for all workers working in the dangerous rail corridor environment.

Updating safety compliance and regulatory requirements, will enable workers on these projects to meet the safety and regulatory requirements, with a far lower the risk of incident or injury. The skill gaps identified by industry in the qualifications will be addressed to ensure alignment with the specific rail requirements on various networks. Safety and compliance issues associated with rail track protection will also be addressed. This review is critical to assist rail transport operators to deal with the increased reliance on rail infrastructure and track worker safety into the future.

Ministers' Priorities Addressed

- The project has not identified for removal any obsolete and superfluous qualifications from the National Register
- The project will ensure more information is made available about rail operations training delivery to training providers
- The project will address the needs of individuals and industry and provide transferable skills from one occupation to another in the Rail industry
- The project will support the creation of Units of Competency that can be owned and used by multiple industry sectors if required
- The project is not developing a Skill Set for the TLI (Rail) Transport and Logistics Training Package
- The project does not propose the incorporation of existing accredited course materials into the TLI (Rail) Transport and Logistics Training Package

Consultation Plan

AIS will:

- Undertake consultation on behalf of the IRC with industry stakeholders and all STAs
- Seek public feedback and input into the development of material throughout the project's duration
- Communicate the establishment and progress of the project to enterprises, STAs, State/Territory Industry Training Advisory Bodies, Peak Bodies, RTOs and other interested parties, through AIS website and newsletter, electronic direct mail, social media and other communication channels.
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- Conduct face to face consultation and engagement sessions as required
- Facilitate TAC meetings to undertake review and development work
- Communicate the process of drafting Training Package materials (Qualifications/ Units of Competency/Skill Sets), and seek feedback from stakeholders to validate draft material

through email, the AIS website and other communication channels throughout the review process

Scope of Project

This review will address the safety and compliance requirements associated with rail track protection and will ensure there is an industry approved pathway from the Certificate II to the Certificate III for Track Protection Officers. In addition, it will address the move away from lookouts, flag, hand, or light signals to automated protection devices or audible warning devices providing increased safety and productivity gains for those working in the rail corridor.

The TLI (Rail) Transport and Logistics Training Package is planned to be reviewed and developed from June 2020, with a Case for Endorsement planned for submission by 30 October 2021.

Training Package

- TLI (Rail) Transport and Logistics Training Package

Qualifications

The following qualifications require revision:

- TL121918 Certificate II in Track Protection
- TL132715 Certificate III in Track Protection

Units of Competency

- 15 Units of Competency to be reviewed (See Table A)
- One new Unit of Competency to be developed (See Table A)

Skill Sets

Five Skill Sets are proposed for review.

- TLISS00103 Accessing the Rail Corridor Skill Set
- TLISS00105 Blocking Protection Skill Set
- TLISS00106 Conduct Track Protection Skill Set
- TLISS00126 Plan Track Possessions Protection Skill Set
- TLISS00136 Track Occupancy Protection Skill Set

RAIL CUSTOMER SERVICE - REVIEW AND DEVELOPMENT

Description

The Rail industry has recognised the need to review the Certificate II and Certificate III in Rail Customer Service. Customer Service Operators are required to deal with not only passengers but also freight customers. As the first point of contact on board and at stations there is a reliance from the public for assistance and there are many human factor issues they are required to deal with. Safety and communications issues associated with rail will also be addressed.

Rationale

The IRC and Industry have identified the need to review the Certificate II and III in Rail Customer Service and Certificate to incorporate rail (including light rail) customer service requirements, security, rail traffic and ticketing automation and tracking technology. With rail passenger numbers

steadily climbing, the customer service role is expanding and customer expectations increasing. Customer service is paramount in taking care of the customer's needs by providing and delivering professional, helpful, high quality service and assistance before, during, and after the customer's requirements are met. New automation systems, security and monitoring operations will also be included along with some guard/conductor roles relating to passenger luggage, small freight and buffet service on board to ensure alignment with the specific rail and light rail operator requirements. The review will also address the rail operators' employment pathways ensuring the qualifications meet the need of industry.

This development will assist rail operators to deal with the increased reliance on rail transport into the future.

Ministers' Priorities Addressed

- The project has not identified for removal any obsolete and superfluous qualifications from the National Register
- The project will ensure more information is made available about rail operations training delivery to training providers
- The project will address the needs of individuals and industry and provide transferable skills from one occupation to another in the Rail industry
- The project will support the creation of Units of Competency that can be owned and used by multiple industry sectors if required
- The project is not developing a Skill Set for the TLI (Rail) Transport and Logistics Training Package
- The project does not propose the incorporation of existing accredited course materials into the TLI (Rail) Transport and Logistics Training Package

Consultation Plan

AIS will:

- Undertake consultation on behalf of the IRC with industry stakeholders and all STAs
- Seek public feedback and input into development of material throughout the project's duration
- Communicate the establishment and progress of the project to enterprises, STAs, State/Territory Industry Training Advisory Bodies, Peak Bodies, RTOs and other interested parties, through AIS website and newsletter, electronic direct mail, social media and other communication channels.
- Conduct initial consultation with stakeholders to identify and invite key representatives to establish the TAC
- Conduct face to face consultation and engagement sessions as required
- Facilitate TAC meetings to undertake review and development work
- Communicate the process of drafting Training Package materials (Qualifications/ Units of Competency/Skill Sets), and seek feedback from stakeholders to validate draft material through email, the AIS website and other communication channels throughout the review process

Scope of Project

This review will address the gaps identified by industry and develop Units of Competency specific to light rail operators. Security requirements, rail traffic and ticketing automation and freight tracking technology. There are some existing units from other packages that have been identified as suitable and these will be imported into, the qualifications throughout the review and development also.

The TLI (Rail) Transport and Logistics Training Package is planned to be reviewed and developed from June 2020, with a Case for Endorsement planned for submission by 30 October 2021.

Training Package

- TLI (Rail) Transport and Logistics Training Package

Qualifications

The following qualifications require revision:

- TLI22318 Certificate II in Rail Customer Service
- TLI33118 Certificate III in Rail Customer Service

Units of Competency

- Six Units of Competency to be reviewed (See Table A)
- One new Unit of Competency to be developed (See Table A)

Skill Sets

One Skill Set to be reviewed

- TLISS00108 Coordinate Multiple Work Groups Skill Set

RAIL ROLLING STOCK MAINTAINER – DEVELOPMENT

Description

The Rail industry has recognised the need to develop a qualification in Rail Rolling Stock Maintenance. Rail rolling stock maintainer workers are required to deal with rail preventative and maintenance requirements to ensure rollingstock reliability. With the federal and state governments investing billions of dollars in the rail sector there is an immediate need to incorporate new technology and automation being used in the industry. Rail operators now need to establish their own maintenance capability for rolling stock.

Rationale

The IRC and Industry have identified the need to develop a Qualification for a Rail Rolling Stock Maintainer to incorporate rail (including light rail) technology and part replacement requirements to maintain rail traffic efficiencies. With rail traffic steadily climbing, the rail rolling stock maintainer role is expanding and reliability expectations increasing. Rail maintenance is vital in taking care of the rollingstock needs by providing and delivering professional, high quality first line maintenance and assistance before, during, and after the transport requirements are met. New automation systems, security and monitoring operations will also be included along with maintainer roles relating to rail traffic to ensure alignment with the specific rail and light rail operator requirements.

The development will also address the rail operators' employment pathways ensuring the qualifications meet the need of industry.

This development will assist rail operators to deal with the increased reliance on rail transport into the future.

Ministers' Priorities Addressed

- The project has not identified for removal any obsolete and superfluous qualifications from the National Register
- The project will ensure more information is made available about rail operations training delivery to training providers
- The project will address the needs of individuals and industry and provide transferable skills from one occupation to another in the Rail industry
- The project will support the creation of Units of Competency that can be owned and used by multiple industry sectors if required
- The project is developing a Skill Set for the TLI (Rail) Transport and Logistics Training Package
- The project does not propose the incorporation of existing accredited course materials into the TLI (Rail) Transport and Logistics Training Package

Consultation Plan

AIS will:

- Undertake consultation on behalf of the IRC with industry stakeholders and all STAs
- Seek public feedback and input into development of material throughout the project's duration
- Communicate the establishment and progress of the project to enterprises, STAs, State/Territory Industry Training Advisory Bodies, Peak Bodies, RTOs and other interested parties, through AIS website and newsletter, electronic direct mail, social media and other communication channels.
- Conduct initial consultation with stakeholders to identify and invite key representatives to establish the TAC
- Conduct face to face consultation and engagement sessions as required
- Facilitate TAC meetings to undertake review and development work
- Communicate the process of drafting Training Package materials (Qualifications/ Units of Competency/Skill Sets), and seek feedback from stakeholders to validate draft material through email, the AIS website and other communication channels throughout the review process

Scope of Project

This development will address the maintainer skills gaps identified by rail industry stakeholders and will review existing Units of Competency from the TLI and Traditional trades training packages to identify suitable Units of Competency specific to this rail need. Once pathways are identified a determination will be made as to the requirements of the new units to be developed to create a streamlined qualification and suitable skill sets.

The TLI (Rail) Transport and Logistics Training Package is planned to be reviewed and developed from June 2020, with a Case for Endorsement planned for submission by 30 October 2021.

Training Package

- TLI (Rail) Transport and Logistics Training Package

Qualifications

One New Qualification

- TLI39999 Certificate III in Rail Rolling Stock Maintenance

Units of Competency

- Existing TLI and imported Units of Competency to be reviewed for suitability (See Table A)
- Two new Units of Competency to be developed (See Table A)

Skill Sets

Three new Skill Sets to be developed

- TLISS99997 Apply rail refrigeration plant rolling stock maintainer fundamentals Skill Set
- TLISS99998 Apply rail mechanical rolling stock maintainer fundamentals Skill Set
- TLISS99999 Apply rail electrical rolling stock maintainer fundamentals Skill Set