

TLIPC0007 Identify elements of a rail network

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Modification History

Release	Comments
1	This unit of competency was first released in TLI Transport and Logistics Training Package Release 18.0.

Application

This unit describes the skills and knowledge required to identify how rail networks are structured, operated and governed.

Rail networks include a range of distinct transport systems that differ in their primary purpose, infrastructure, rolling stock, operating environments and service characteristics.

This unit requires learners to identify the purpose and characteristics of different network types, the rolling stock, infrastructure and operational systems that support a network. It also includes the governance arrangements for rail networks and the roles of key persons and organisations responsible for the safe and effective management of rail services.

This unit applies to individuals who wish to prepare for entry level employment and/or further study in the rail transport industry. It does not provide competence to undertake rail safety work or operate rail systems.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite unit(s)

Not applicable.

Competency field(s)

N/A

Unit sector(s)

Rail sector.

Elements and Performance Criteria

Element S	Performance criteria
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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Identify key elements of a rail network	1.1	Identify the purpose and characteristics of two distinct rail networks
		1.2	Identify the types of rolling stock used on each selected rail network
		1.3	Identify the infrastructure and operational systems that support the operation of the selected rail networks
		1.4	Describe the geographic coverage and key locations of the selected rail networks
		1.5	Identify the roles and responsibilities of persons supporting the operation of the selected rail networks
2	Identify governance arrangements for rail networks	2.1	Identify organisations responsible for the governance, regulation and operation of selected rail networks
		2.2	Identify accredited operators within a selected jurisdiction for each selected rail network and describe the primary functions
		2.3	Identify the legislation governing rail operations within a selected jurisdiction
		2.4	Distinguish the governance, infrastructure management and operational responsibilities within the selected networks
3	Observe a selected rail network operation	3.1	Plan a journey incorporating at least two travel segments on at least one rail network.
		3.2	Access and interpret journey information to select appropriate services
		3.3	Undertake journey and observe the operation of selected network/s.
		3.4	Identify examples of rolling stock, infrastructure, operational systems and key rail persons encountered during the journey.

		3.5	Record observations about how the network supports safe and efficient passenger transport
		3.6	Report findings from the journey, including observations about the operation of the network and opportunities for improvement

Foundation Skills

Foundation Skills essential to successful completion of this unit are mapped to the Australian Core Skills Framework (ACSF) and the European Digital Competence Framework (DigComp 3.0). Further information is available in the TLI Training Package Foundation Skills Companion Volume.

Unit Mapping Information

Links

Assessment Requirements for TLIPC0007 Identify elements of a rail network

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion.

Evidence must demonstrate the ability to:

- Use technology to search for specific information and to formulate a report in an appropriate written, oral or visual format
- describe different rail network types, such as passenger, freight, heavy haul or mixed-use networks
- investigate and describe the characteristics and purpose of:
 - one rail network
 - one light rail network
- identify and describe for each selected network:
 - rolling stock or light rail vehicles
 - key infrastructure
 - operational systems
 - geographic coverage
 - key operational personnel
 - governance arrangements
- identify the functions of organisations responsible for:
 - rail safety regulation
 - rail infrastructure management
 - rail transport operations
 - transport administration
- identify the legislation and regulatory framework applicable to a selected jurisdiction
- plan and undertake, or participate in, a journey or investigation of two segments of at least one rail network through one or more of the following:
 - a passenger journey
 - a virtual tour
 - a simulated activity
 - a rail site visit that includes rail travel
 - a case study
- record observations of elements such as:
 - rolling stock
 - infrastructure

- operational systems
- network persons
- passenger facilities
- present findings using appropriate rail industry terminology.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- rail terminology and its appropriate use
- operational systems, including signalling, communications, train control and differing levels of automation used within rail and light rail networks.
- types of rolling stock used on the rail and light rail networks:
 - rail network
 - light rail network
- key infrastructure which facilitates the operation of the rail and light rail networks:
 - rail network:
 - train control centre
 - stations
 - rail tracks consisting of rail, sleepers, ballast, drainage
 - bridges, tunnels, boom barriers/gates
 - underground loops and stations
 - overhead electrical power systems (portal/cantilever structures, contact wires, substations)
 - train control signalling systems; train stabling/maintenance sites; passenger ticketing system
 - light rail (tram) network:
 - control centre
 - tram depots
 - tram stop facilities
 - tram track network
 - electric power supply and trolley system
 - tram control signalling system
 - driver communication system
 - substations
 - intercity/regional network:
 - stations, walk bridges and related facilities

- tracks consisting of rail, sleepers, ballast, drainage systems, points and crossings
- bridges, viaducts, tunnels, boom barriers/gates
- line control and signalling facilities
- train stabling/maintenance sites
- control centre/s
- train control signalling systems
- geographical coverage of the rail and light rail networks within the state/territory
- key rail staff roles for the day-to-day operation of the heavy rail and light rail networks such as:
 - heavy rail network operations:
 - network controllers
 - train drivers; electrical systems engineers
 - signalling controllers/technicians
 - track and structure maintenance workers
 - electrical overhead and high voltage (HV) technicians
 - station attendants/customer service
 - service advisers
 - cleaners
 - authorised officers (protective services)
 - light rail network operations:
 - network controllers
 - signalling maintenance technicians
 - rail safety engineers
 - track maintenance workers
 - electrical overhead and high voltage technicians
 - customer service attendants
 - tram drivers; customer service employees
 - authorised officers
- major functions of the any state/territory legislation
- public transport governance and rail authorities within the state/territory
- accredited rail transport operators within the state/territory
- basic information required to plan and undertake a rail journey
- types of rail journey observations may include:

- ease of reading the timetables
- access to ticket sales
- identifying routes used for the journey
- facilitating interconnecting service arrangement
- embarking and disembarking at stations
- type of tram/train/s boarded for the journey
- significant rail infrastructure noted on the journey
- type of rail staff encountered on the journey
- timeliness of the services
- cleanliness of carriage (seats, floor, windows and toilets)
- helpfulness of station/customer service staff
- type of passenger groups (young adults, seniors, school-aged children) in the same carriage/s

Assessment Conditions

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the task being performed and the needs of the candidate.

Resources for assessment include:

- a range of relevant exercises, reports and/or simulations
- suitable classroom or simulated work environment
- relevant and appropriate materials, tools, equipment, emergency and personal protective equipment (PPE) currently used in industry
- applicable documentation which may include rail/transport legislation, regulations, codes of practice, workplace procedures and operation manuals.
- access to rail network/s (for rail journey)

Unit Mapping Information

Links

Companion volumes, including implementation guides, are found on the national training register - <https://training.gov.au/training/details/TLI>.