Light rail standards: T LR CI 12510 ST and T LR CI 12530 ST

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T LR CI 12510 ST: Civil Requirements for Alignment Configuration – Scope

• This standard covers the requirements for segregated alignments and requirements for delineation of light rail tracks in separated and mixed alignments.

• The requirements for separated and mixed light rail alignments are specified by Roads and Maritime Services (RMS) for the classified road network and by the local government authority for the non-classified road network.
Types of alignments

Light rail alignments in NSW may be situated in three different environments:

- **segregated alignment** – a dedicated corridor for light rail use only to which access for other road and rail traffic, and pedestrians is controlled.
- **separated alignment** – intended for exclusive use by light rail but integrated into the road space in such a way that occasional access by other traffic and pedestrians is possible.
- **mixed alignment** – fully integrated into the road space used by light rail, road users and pedestrians.

[Definitions taken from TN 078:2016 Principles, standards and high level design parameters for the development of light rail systems]
Configuration

• Two activities that assist the decision making:
  • Road safety audit
    • Guidelines for Road Safety Audit Practices
  • Risk assessment
    • T MU MD 20002 ST Risk Criteria for Organisations Providing Engineering Services

• Selection of alignment delineation
  • Delineation of light rail tracks from vehicular and pedestrian traffic for separated and mixed alignments is dependent on a wide range of parameters applying at a given location.
Selection of alignment delineation

- Delineation of light rail tracks from vehicular and pedestrian traffic for separated and mixed alignments is dependent on a wide range of parameters applying at a given location
  - T LR TR 10000 ST *Light Rail Track Requirements*
  - *Guide to traffic Management – Part 4: Network Management*
Access control vs permeability
Segregated alignment
Segregated alignment (contd.)
Separated alignment (contd.)
Separated alignment (contd.)

KINEMATIC OUTLINE FOR LIGHT RAIL VEHICLES

300 MIN TYP

MOUNTABLE KERB (BOTH FACES) MINIMUM HEIGHT 130mm TYP TO THE REQUIREMENTS OF THE ROAD AUTHORITY
Separated alignment (contd.)

KINEMATIC OUTLINE FOR LIGHT RAIL VEHICLES

REGULATORY MARKING
Separated alignment (contd.)
Separated alignment (contd.)
Mixed alignment
Mixed alignment (contd.)
Mixed alignment (contd.)
Mixed alignment (contd.)
Mixed alignment (contd.)
T LR CI 12530 ST: Corridor Interface
Requirements – Scope

• This standard covers the design of new external developments, airspace developments and services installed above and below ground within the light rail corridor of a segregated alignment.

• This standard does not cover the new external developments, airspace developments and services installed above and below ground within separated or mixed light rail alignments. The conditions for these alignments are set by the relevant road authority.
External developments

• An external development is the construction, extension or demolition of any new public or private infrastructure adjacent to TfNSW light rail corridor.

• External developments shall comply with the requirements of T HR CI 12080 ST External Developments version 1.0 except in relation to derailment protection of structures (§6.12 of T HR CI 12080 ST).
Airspace developments

• An airspace development is a structure or structures built over the light rail tracks to support offices, shops, accommodation and the like. An airspace development may exist at a stop.
• Airspace developments shall comply with the requirements of T HR CI 12075 ST *Airspace Developments* version 1.0 with the exception of electrical services (§10.4 of T HR CI 12075 ST).
• Light rail loading shall be in accordance with T LR 12500 ST.
Services in the corridor

• Services are utility assets used to transfer, transmit or transport data, electricity, liquids, solids, gases and the like. Services are installed above ground and below ground within and outside light rail corridors. Services may be owned by TfNSW, Transport agencies or external third party organisations.

• Services crossing or within a segregated light rail alignment deployed in an existing heavy rail corridor shall comply with the requirements of T HR CI 12190 ST Service Installations within the Rail Corridor version 1.0.

• Services crossing within a segregated light rail alignment that is not contained in an existing heavy rail corridor shall be in accordance with the requirements of relevant road authority.