Department of Transport and Main Roads – TransLink Division Public Transport Infrastructure Manual. Published by Department of Transport and Main Roads – TransLink Division 2020.

Disclaimer

This manual is intended to provide good practice guidelines for the planning and design of public transport infrastructure only. Users of this manual should not rely solely upon the information contained in this manual and should undertake and/or obtain their own independent professional assessment of accessibility, engineering, construction, installation, ongoing maintenance and safety requirements when planning and designing public transport infrastructure.

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Chapter 1 – Background and application

1.1 *PTIM* structure

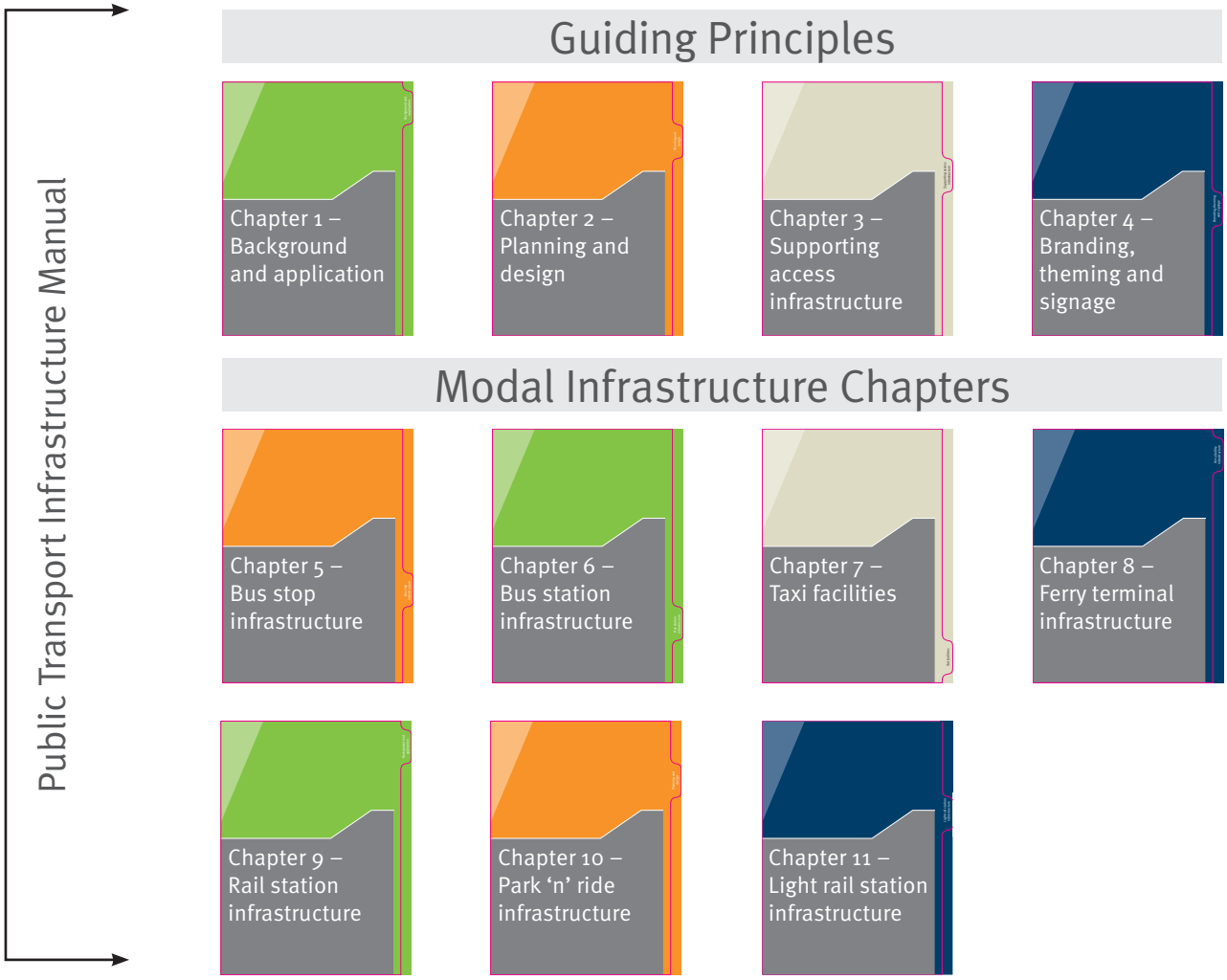
1.1.1 Introduction

The *Public Transport Infrastructure Manual* is relevant to developers of public transport infrastructure, those planning public transport provision and development assessment. The document is divided into two main sections:

- Guiding principles for public transport development
- Modal infrastructure chapters.

Figure 1.1 below illustrates this structure.

Figure 1.1 –
Public Transport Infrastructure Manual PTIM overview



NOTE: The figure indicates the documents currently available and which can be downloaded from the TransLink website www.translink.com.au.

1.2 Abbreviations

AFC	Automatic Fare Collection
AHRC	Australian Human Rights Commission
AS	Australian Standards
AS/NZS	Australian/New Zealand Standards
ATIA	Australian Taxi Industry Association
ATM	Automatic Teller Machine
AVVM	Add Value Vending Machine
BCA	*Building Code of Australia*
BCC	Brisbane City Council
BRT	Bus Rapid Transit
CBD	Central Business District
CCTV	Close Circuit Television
CPAS	Customer Public Address System
CPTED	Crime Prevention through Environmental Design
DDA	*Disability Discrimination Act 1992*
DNPRSR	Department of National Parks, Recreation, Sport and Racing
DRT	Demand Responsive Transport
DSAPT	*Disability Standards for Accessible Public Transport 2002*
ETS	Electronic Ticketing System
HAT	highest astronomical tide
HOV	High Occupancy Vehicle
ITS	Intelligent Transport System
LED	Light emitting diode
LGA	Local Government Authority
LOS	Level-of-Service
LRT	Light Rail Transit
LUP	Land Use Plans
MaaS	Mobility-as-a-Service
MBP	Minimum Boarding Point
MLWM	Mean Low Water Mark
MLWS	Mean Low Water Springs
MHWM	Mean High Water Mark
MHWS	Mean High Water Springs
MSQ	Marine Safety Queensland http://www.msq.qld.gov.au/
MUTCD	Manual of Uniform Traffic Control Devices
NES	National Environmental Significance
NCC	*National Construction Code of Australia*

NTS	Not to scale
PDA	Priority Development Area
PT	Public Transport
PTIM	*Public Transport Infrastructure Manual*
PWD	Person with a disability
QLD	Queensland
QPS	Queensland Police Service
QR	Queensland Rail
QRR	Queensland Road Rules
SACID	Stand Alone Card Interface Device
SDM	*Station Design Manual*
SEQ	South East Queensland
SMP	Species Management Plan
TCQSM	*Transit Capacity and Quality of Service Manual*
TGSI	Tactile Ground Surface Indicator
TMR	Department of Transport and Main Roads
TOD	Transit-oriented development
WAT	Wheelchair Accessible Taxi

1.3 Glossary

Add Value Vending Machine (AVVM)	A self-serve electric ticketing fare machine consisting of a touch screen display, card reader and cash payment options, used to purchase paper tickets or perform a limited range of *go* card functions including displaying the card balance, transaction history, or adding value to the *go* card.
Amenity	Provision of a comfortable, interesting, high-quality environment, including: • high quality (visually-appealing) finishes that are durable, self-cleaning, vandal resistant and easy to maintain • use of materials and finishing consistent with those in adjacent public transport facilities • interesting internal and external views from paths • quality textured landscapes and architecture • public art and community literacy elements where applicable.
Booked hire service	Booked hire services are commonly known as ride-booking, ride-sourcing and ride-sharing services. Booked hire vehicles cannot be hailed and are instead pre-booked using booking options provided by the service provider. For example, an app platform which can be used to connect a driver with commuters or people wishing to travel with/without a private vehicle to share a trip and travel together.
Branding	The TransLink logo, ellipse device and name style and where applicable, the Queensland Coat of Arms.
Bus Rapid Transit (BRT)	A form of mass transit which utilises buses operating at a higher capacity and frequency than conventional bus networks. BRT typically features a unique identity with segregated right-of-way measures such as dedicated road corridors (referred to as busways) or HOV lanes. BRT infrastructure such as stations and busway corridors can be at surface grade, elevated or below ground level. BRT is often characterised as offering the quality of metro rail systems with the flexibility of buses.
Bus feeder	Local or neighbourhood bus services which operate within lower urban density neighbourhood communities and provide transport connections for passengers wanting to interchange with more frequent line-haul services along designated high-frequency services routes or corridors.
Bus layover	Waiting location for vehicles (commonly at stations) to adjust time between services, enable driver change-over, or scheduled rest/meal break, or commence a new service route.
Bus stop	A collector point for pedestrians along a public transport route that allows for boarding and alighting, that also includes a portion of the roadway for the stopping of a bus. Refer *Transport Operations (Road Rules) Regulation 2009* for further detail.
Bus station	Public transport infrastructure which acts as a central departure and/or destination point where passengers board and alight a bus.
Busway	A route especially designed and constructed for, and dedicated to, the priority movement of buses for public transport purposes. Busways can be either at-grade or grade-separated (i.e. elevated over the surrounding development). Refer *Transport Infrastructure Act 1994* for further detail.

Crime Prevention Through Environmental Design (CPTED)	An approach using multidisciplinary urban design principles to reduce the incidence and perception of crime in the built environment.
Cycle lane	An on-road special purpose lane for the exclusive use of bicycles.
Cycle track	A physically separated bicycle-only facility with clear bicycle priority at intersections.
Demand responsive transport (DRT)	DRT refers to a type of public transport, that is distinct from fixed-route scheduled passenger transport services. DRT typically does not operate to a specific timetable, offering a flexible shared transport service designed to enable customers to travel within their local area when buses and trains aren't available, or to provide access to a trunk service fixed route.
Dredging	The process whereby solid matter is disturbed (moved, removed, or extracted, transported or relocated) from the bed of any waterway. Disturbed bed material is termed dredge spoil which can be disposed of to sea (sea dumping to marine disposal area, including side casting), or to land, such as for environmental enhancement), or beneficial reuse.
Equivalent access	A process, often involving the provision of direct assistance, under which an operator or provider is permitted to vary the equipment or facilities that give access to a public transport service, so long as an equivalent standard of amenity, availability, comfort, convenience, dignity, price and safety is maintained. It does not include a segregated or parallel service.
Facility	Any form of infrastructure used for a particular purpose for public transport (i.e. a whole station is considered to be a facility, and a bicycle cage or park 'n' ride is also defined as a facility).
Ferry terminal	A ferry terminal (jetty, pontoon, or landing) is a structure, which enables passengers to safely and efficiently board or disembark a scheduled ferry service. A ferry is defined as a ship, boat, barge or hovercraft. Refer *Transport Operations (Passenger Transport) Act 1994* for further detail.
Freeboard	The vertical distance between the still water level and the top of a floating structure or vessel.
Fruin Level-of-Service (LOS)	Based on the literature by J. Fruin (1987) *Pedestrian Planning and Design*. Fruin defines the required level-of-service by outlining the quantified area needed for pedestrians to comfortably walk, queue, wait or travel through pedestrians spaces (such as station platforms, elevators, stairways, walkways and other public spaces).
Future-proofing	The specific provision made for the possible expansion of infrastructure and services due to potential or anticipated increase (or decrease) in future passenger demand.
Gangplank	A narrow, moveable platform or ramp forming a bridge by which to board or leave a vessel.
Gangway or ramp	A structure which provides passenger access between a walkway or shore and a floating structure or vessel.
Grade separation	The infrastructure provision for public transport corridors to offer the highest level of travel priority by operating exclusively (either vertically or horizontally) from other transport modes, in order to minimise disruption (that is, busways, rail lines and stations typically feature grade-separated treatments so that they are not in conflict with private vehicle traffic).
Hail 'n' ride service	A hail 'n' ride service is a service operated by a bus that follows set routes, but may stop for passengers at any safe point on the route.
High Occupancy Vehicle (HOV) Lane	A lane along a road corridor which is dedicated for use by high-occupancy vehicles such as buses or private cars with more than one occupant.

High water mark	The ordinary (mean) high water mark at Spring tides.
Independent stop	A type of bus stop which is designed for one or a particular set of pre-designated services. Independent stops are characterised by individually laid out platforms with designated stopping areas for buses. This is in contrast to a lead stop set-up which features one stop along a platform which all buses pull up to if servicing the stop or station.
Infrastructure	In this manual the term infrastructure is defined as any item in the TransLink network that has been designed, constructed, installed or any fixture or fitting required for the appropriate function of a public transport system (that is, but not limited to – seats, platforms, stairs, overpasses, shelters, signage, furniture, information and display devices, security devices, enhancements, vehicle arrangement requirements, pedestrian infrastructure, cycle infrastructure and parking infrastructure).
Intelligent Transport Systems (ITS)	The general term for electronic infrastructure used at public transport stops and stations to assist customers and operators with the operation and function of the transport system. ITS can include but is not limited to, security cameras (CCTV), real-time-information, public address systems, and other public transport information.
Kiss 'n' ride	Vehicle drop-off or pick-up zone for passengers arriving from, or leaving for, a public transport service (also includes taxis).
Lead stop	A bus stop which is designed to have a single platform boarding point for passengers where bus vehicles platoon behind each other as opposed to independent designated stops for different services. Lead stop situations are typical for bus stops with a high-frequency of services passing through and are designed to reduce dwell times.
Level-of-Service (LOS)	The measure of effectiveness by which traffic engineers determine the quality of service on elements of transport infrastructure. The level-of-service in this manual predominately specifies the amount of space required for acceptable pedestrian waiting areas (see Fruin Level-of-Service).
Livery	The distinctive design and visual appearance of public transport vehicles. Livery has been specifically designed by TransLink so that vehicles are instantly recognisable as being part of the TransLink network.
Lowest astronomical tide (LAT) and highest astronomical tide (HAT)	These are the lowest and highest levels which can be predicted to occur under average meteorological conditions and any combination of astronomical conditions.
Functional station design	Fundamental design objectives which define how a station should function and operate/ perform (with emphasis on the spatial relationship between human to human and human to built environment interaction) to satisfy the requirements of the intended customer (i.e. the passenger) and the TransLink network.
Mean High Water Mark (MHWM)	The position where the plan of the mean of all ordinary local high tides intersects the foreshore.
Mean Low Water Mark (MLWM)	The position where the plane of the mean of all ordinary local low tides intersects the foreshore.
Micro-mobility	Also known as micro-transit, this refers to a form of alternative transportation (i.e. to cars, trains, buses) that includes electric scooters and bicycles. Typically used in cities or communities as a “first and last mile transport” option or for convenient travel over short distances.

Mobility-as-a-Service (MaaS)	MaaS is a total mobility solution focused on the individual's lifestyle and travel needs. It is a move from traditional models of individuals owning and organising their transport, to a subscription-based service model whereby individuals access transport services as required. MaaS integrates planning, booking and payment, and provides more transport and payment options across multiple transport modes such as car and ride share, with public and even active transport options. TMR has recognised that MaaS could provide more end to end, personalised and seamless transport options as part of the wider integrated network.
Mode	The particular type of vehicle used on a transport service such as train, bus, and light rail (can also include the private car).
Modular infrastructure	Infrastructure which has been designed and assembled into a prefabricated kit of parts (for example shelters and seating) allowing for minimal construction, efficient maintenance, ease of modification and potential expansion (thus minimising level of disturbance to a site). Modular infrastructure also allows for uniformity in infrastructure design which ensures high legibility for passengers using the public transport system.
Mooring	A detached or freestanding structure to which a vessel is moored.
Park 'n' ride	Commuter car parking area at public transport stops and stations for accessing public transport services. Generally also accommodates kiss 'n' ride zones.
Pontoon	A floating platform used for access to the water or a vessel.
Public address system	An electronic communication device (generally located at stations) used for informing public transport patrons of public transport messages, warnings and other information.
Public passenger vehicle	This means any of the following vehicles used to transport members of the public: • a bus • a ferry • a taxi • a fixed track vehicle • an aircraft • a limousine • a booked hire vehicle • another vehicle used to provide a public passenger service • a vehicle classified by regulation as a public passenger vehicle. Refer to *Transport Operations (Passenger Transport) Act 1994*
Public transport service	A form of travel provided by high-occupancy vehicles (for example, bus, train or ferry) along set paths of travel and at scheduled intervals during a day. A public transport service, also known as scheduled passenger service, can be operated by governments or private organisations and provides equitable access to transport for the whole community as opposed to private transport which only provides transport to the individual or passengers given consent. Refer *Transport Operations (Passenger Transport) No. 43, 1994* for further detail.
qconnect	A Queensland Government initiative providing improved public transport services and greater connectivity between services throughout regional, rural and remote Queensland. The *qconnect* brand signifies integration of transport modes and operators across Queensland.
Rail station	Public transport infrastructure which acts as a central departure and/or destination point where passengers board and alight a fixed-track vehicle.

Rapid transit	A form of public transport which involves very high passenger demand resulting in high-quality infrastructure with very frequent services. A distinctive feature of rapid transit is the travel priority given through grade-separated treatments (such as busways or rail corridors).
Real-time	The ability to monitor and communicate, using global positioning technology, up-to-date information for expected performance of public transport services based on their distance away from a specific location.
Reclamation	An area of dry land that was previously submerged land but now is enclosed by seawalls that alter the natural line of the foreshore.
Signage	The use of a consistent signage suite that has been developed to create seamless identification of public transport infrastructure for a range of different modal facilities, to improve overall network legibility and wayfinding.
Shared path	A pedestrian and bicycle facility that gives pedestrians priority under Queensland Road Rules.
State transport corridor	Land on which any of the following public transport infrastructure is situated, if the infrastructure is, or is to be, used for providing a scheduled passenger service, including buses or busway, light rail or rail transport infrastructure. Refer *Planning Regulation 2017, Schedule 24* for further detail.
Stand Alone Card Interface Device (SACID)	An electronic device (usually placed at the entry/exit and key decision points of stations) used by passengers to validate a go card at the commencement and end of their trip so that their trip fare can be calculated.
Station	Public transport infrastructure which acts as a central departure and/or destination point where passengers board and alight a vehicle (e.g. bus, ferry, fixed-track vehicle, etc.). Stations provide passengers with the key point of connection between a scheduled passenger transport service and a desired destination (or transfer point enroute to a destination). Refer to *Transport Operations (Passenger Transport) Act 1994* for details.
Station formation	A key step in the planning and design process as defined in the *PTIM* of taking a generic station layout and configuring this to meet the specific function and site requirements.
Supporting access infrastructure	The infrastructure which provides the key connection between a TransLink stop or station and the immediate surrounding environment. In this manual, this includes pedestrian, bicycle, bus feeder, kiss 'n' ride and park 'n' ride infrastructure.
Tactile Ground Surface Indicator (TGSI)	Raised ground surface texture treatments (usually paving) used by people with vision impairments to navigate their way in the built environment. TGSIs assist users by providing warning and directional information, and typically consist of square tiles with raised profiles laid in logical locations.
Theming	The specific design language created through the use of the TransLink infrastructure colour palette and structural design features and finishes.
The Premises Standards	The *Disability (Access to Premises-Buildings) Standards 2010*
The Transport Standards	The *Disability Standards for Accessible Public Transport 2002 (DSAPT)*
Transit-oriented development (TOD)	Transit-oriented development promotes the creation of sustainable communities around public transport stations. In this manual, it provides effective land use and transport integration; high accessibility to public transport network; high quality public space and streets; higher density residential, retail, commercial and community uses or ideally, a mix of these where appropriate.
TransLink	TransLink is a division within the Department of Transport and Main Roads
Wayfinding	Involves a range of navigation techniques to assist the independent and safe movement of people from one place to another.

1.4 Reference materials and supporting information

The applicable information resources and references include (but are not limited to):

Legislation	
Commonwealth	• *Disability Discrimination Act 1992 (DDA)* • *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*
State	• *Anti-Discrimination Act 1991 (ADA)* • *City of Brisbane Act 2010* – *City of Brisbane Regulation 2012* • *Coastal Protection and Management Act 1995 (Coastal Act)* – *Coastal Protection and Management Regulation 2017* • *Environmental Protection Act 1994 (EP Act)* • *Fisheries Act 1994* • *Land Protection (Pest and Stock Route Management) Act 2002 (Land Act)* • *Vegetation Management Act 1999 (VM Act)* • *Marine Parks Act 2004* – *Marine Parks Regulations 2006* • *Nature Conservation Act 1992 (NC Act)* • *Planning Act 2016* – *Planning Regulation 2017* • *Rail Safety National Law (Queensland) Act 2017* • *Transport Infrastructure Act 1994* • *Transport Operations (Passenger Transport) Act 1994* – *Transport Operations (Passenger Transport) Regulations 2018* – *Transport Operations (Passenger Transport) Standard 2010* • *Transport Operations (Road Use Management) Act 1995* – *Transport Operations (Road Use Management—Road Rules) Regulation 2009* • *Transport Planning and Coordination Act 1994* – Transport Planning and Coordination Regulation 2005 • *Transport Security (Counter Terrorism) Act 2008* • *Transport (Rail Safety) Act 2010* *http://www.tmr.qld.gov.au/About-us/Corporate-information/Legislation.aspx*

Disability Standards and Guidelines	
Standards and supplementary material	• *Disability (Access to Premises – Buildings) Standards 2010 (Premises Standards)* • *Disability Standards for Accessible Public Transport 2002 (Cth) (Transport Standards)* • *Disability Standards for Accessible Public Transport Guidelines 2004 (No. 3)*
Guidelines	• AusAID. (2013). *Accessibility Design Guide: Universal design principles for Australia's aid program* https://dfat.gov.au/about-us/publications/Documents/accessibility-design-guide.pdf • Australian Human Rights Commission. (2010) *Accessible bus stop guidelines* https://www.humanrights.gov.au/australian-human-rights-commission-accessible-bus-stops-guidelines • Australian Human Rights Commission (2013) *Guidelines on the application of the Premises Standards, Version 2 https://www.humanrights.gov.au/guidelines-application-premises-standards* • The Department of Infrastructure, Regional Development and Cities (2018) *The Whole Journey: A guide for thinking beyond compliance to create accessible public transport journeys.* Commonwealth of Australia
Australian Standards	
Access and mobility	• AS 1428.1-2009 - *Design for access and mobility - General requirements for access - New building work* • AS 1428.1-2009/Amdt 1-2010 - *Design for access and mobility - General requirements for access - New building work* • AS 1428.1-2009/Amdt 2-2017 - *Design for access and mobility - General requirements for access - New building work* • AS 1428.1-2001 (superseded) - *Design for access and mobility - General requirements for access - New building work ** • AS 1428.2-1992 (R2015) - *Design for access and mobility - Enhanced and additional requirements - Buildings and facilities ** • AS 1428.4-1992 (superseded) - *Design for access and mobility - Tactile ground surface indicators for the orientation of people with vision impairment ** • AS/NZS 1428.4:2002 (superseded) - *Design for access and mobility - Tactile indicator* • AS/NZS 1428.4.1:2009 - *Design for access and mobility - Means to assist the orientation of people with vision impairment - Tactile ground surface indicators* • AS/NZS 1428.4.1:2009/Amdt 1:2010 - *Design for access and mobility - Means to assist the orientation of people with vision impairment - Tactile ground surface indicators* • AS/NZS 1428.4.1:2009/Amdt 2:2014 - *Design for access and mobility - Means to assist the orientation of people with vision impairment - Tactile ground surface indicators* • AS 1428.4.2:2018 *Design for access and mobility - Means to assist the orientation of people with vision impairment - Wayfinding signs* • AS 1735.12-1999 - *Lifts, escalators and moving walks - Facilities for persons with disabilities ** • AS/NZS 3856.1:1998 - *Hoists and ramps for people with disabilities - Vehicle-mounted - Product requirements*

* Edition of *AS1428* applicable at the time of the *Transport Standards/DSAPT* were developed.

Parking	• AS 2890.3-2015—*Parking Facilities—Bicycle parking facilities* • AS 2890.5–1993 —*Parking facilities—On-street parking* • AS/NZS 2890.1-2004—*Parking facilities—Off-street car parking* • AS/NZS 2890.6:2009 - *Parking facilities - Off-street parking for people with disabilities*
Signage and traffic control devices	• AS 1742.10-2009—*Manual of uniform traffic control devices—Pedestrian control and protection* • AS 1742.11-1999—*Manual of uniform traffic control devices—Parking controls* • AS 1742.19—*Manual of uniform traffic control devices - Bicycle Facilities, 2018* • AS 1742.12—*Manual of uniform traffic control devices - Bus, transit, tram and truck lanes, 2017*
Access and safety	• AS 4586-2013—*Slip resistance classification of new pedestrian surface materials* • AS 4586-2013/Amdt 1-2017 - *Slip resistance classification of new pedestrian surface materials* • AS 4663-2013—*Slip resistance measurement of existing pedestrian surfaces* • AS/NZS 3661.2-1994—*Slip resistance of pedestrian surfaces—Guide to the reduction of slip hazards*
Lighting	• AS/NZS 1158.3.1:2005 - *Lighting for roads and public spaces - Pedestrian area (Category P) lighting - Performance and design requirements* • AS/NZS 1158.3.1:2005/Amdt 1:2008 - *Lighting for roads and public spaces – Pedestrian area (Category P) lighting – Performance and design requirements* • AS/NZS 1158.3.1:2005/Amdt 2:2010- *Lighting for roads and public spaces – Pedestrian area (Category P) lighting – Performance and design requirements* • AS/NZS 1158.3.1:2005/Amdt 3:2013 - *Lighting for roads and public spaces – Pedestrian area (Category P) lighting – Performance and design requirements* • AS/NZS 1158.3.1:2005/Amdt 4:2015 - *Lighting for roads and public spaces – Pedestrian area (Category P) lighting – Performance and design requirements* • AS/NZS 1158.4:2015 - *Lighting for roads and public spaces - Lighting of pedestrian crossings* • AS/NZS 1680.2.1:2008 - *Interior and workplace lighting - Specific applications - Circulation spaces and other general areas*
Human factors	• AS 7470:2016 - *Human factors integration in engineering design - general requirements*
National Standards	
	• *Building Code of Australia Class 2 to Class 9 Buildings (NCC Volume 1)* Contains the regulations for commercial buildings • *Building Code of Australia Class 1 and Class 10 Buildings (NCC Volume 2)* Contains the regulations for residential buildings • *National Construction Code of Australia (NCC) 2019* https://ncc.abcb.gov.au/ncc-online/NCC
Australian Design Rules (ADR)	http://www.infrastructure.gov.au/roads/motor/design/ • *Vehicle Standard (Australian Design Rule 58/00 – Requirements for Omnibuses Designed for Hire and Reward) 2006*

Austroads

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- Austroads. (2017). *Guide to Road Design Part 4 – Intersections and Crossings – General* (Publication No: AGRD04-17). Sydney: Austroads Ltd.
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- Austroads. (2017). *Guide to Road Design Part 6A – Paths for Walking and Cycling* (Publication No: AGRD06A-17). Sydney: Austroads Ltd.
- Austroads. (2016). *Guide to Traffic Management Part 8 – Local Area Traffic Management* (Publication No. AGTM08-16). Sydney: Austroads Ltd.
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- Austroads. (2018). *Australasian Pedestrian Crossing Facility Selection Tool [v2.1.2].* Sydney: Austroads Ltd.
- Austroads. (2018). *Australasian Pedestrian Facility Selection Tool [v2.0] User Guide.* Sydney: Austroads Ltd.
- N.B. *Austroads' Guide to Traffic Engineering Practice* has been superseded. Relevant information is now in *Guide to Road Design 2009* (particularly Parts 4, 4A and 6A) and *Guide to Traffic Management*. Cycling Aspects of Austroads Guides provides a summary of cycling related information from all Austroad guides.

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1.5 Introduction

Public transport infrastructure is a critical component of operating an efficient and safe public transport system in Queensland. This *Public Transport Infrastructure Manual (PTIM)* establishes guidelines for the planning and design of public transport infrastructure.

The *PTIM* is developed and updated by the Department of Transport and Main Roads' TransLink Division. TransLink is responsible for the oversight of the public transport networks across Queensland.

For the purposes of this *PTIM* the following definitions apply:

Public transport means the carriage of a passenger by a public passenger service using a public transport passenger vehicle.

Public passenger transport infrastructure means infrastructure for, or associated with, the provision of public passenger transport, including, but not limited to a:

- transit terminal for public passenger services, including an airport terminal or coach terminal
- ferry terminal, jetty, pontoon or landing for ferry services
- bus stop, bus shelter, bus station or bus layovers
- busway station
- light rail station
- taxi rank, limousine rank or limousine standing area
- railway station
- vehicle parking and set-down facilities
- pedestrian and bicycle paths and bicycle facilities
- road on which a public passenger transport service operates.

Refer to the *Transport Planning and Coordination Act 1994* for further detail.

1.5.1 Purpose and objectives of the *PTIM*

Public transport infrastructure is a key component of providing quality customer access, convenience, safety and comfort.

The *PTIM* provides a practical framework to ensure TransLink's policy objectives are translated to the planning, design and delivery of public transport infrastructure.

The objectives of the *PTIM* are to:

- inform and guide the planning and design of public transport infrastructure across Queensland by providing a clear and consistent set of principles and guidelines
- encourage the use of best practice guidelines in the planning and design of public transport infrastructure
- ensure public transport infrastructure complies with relevant standards and regulations
- ensure a consistent approach is applied across the state, with consideration of local climatic and environmental characteristics.

1.6 Application of the *PTIM*

1.6.1 The intended audience of the *PTIM*

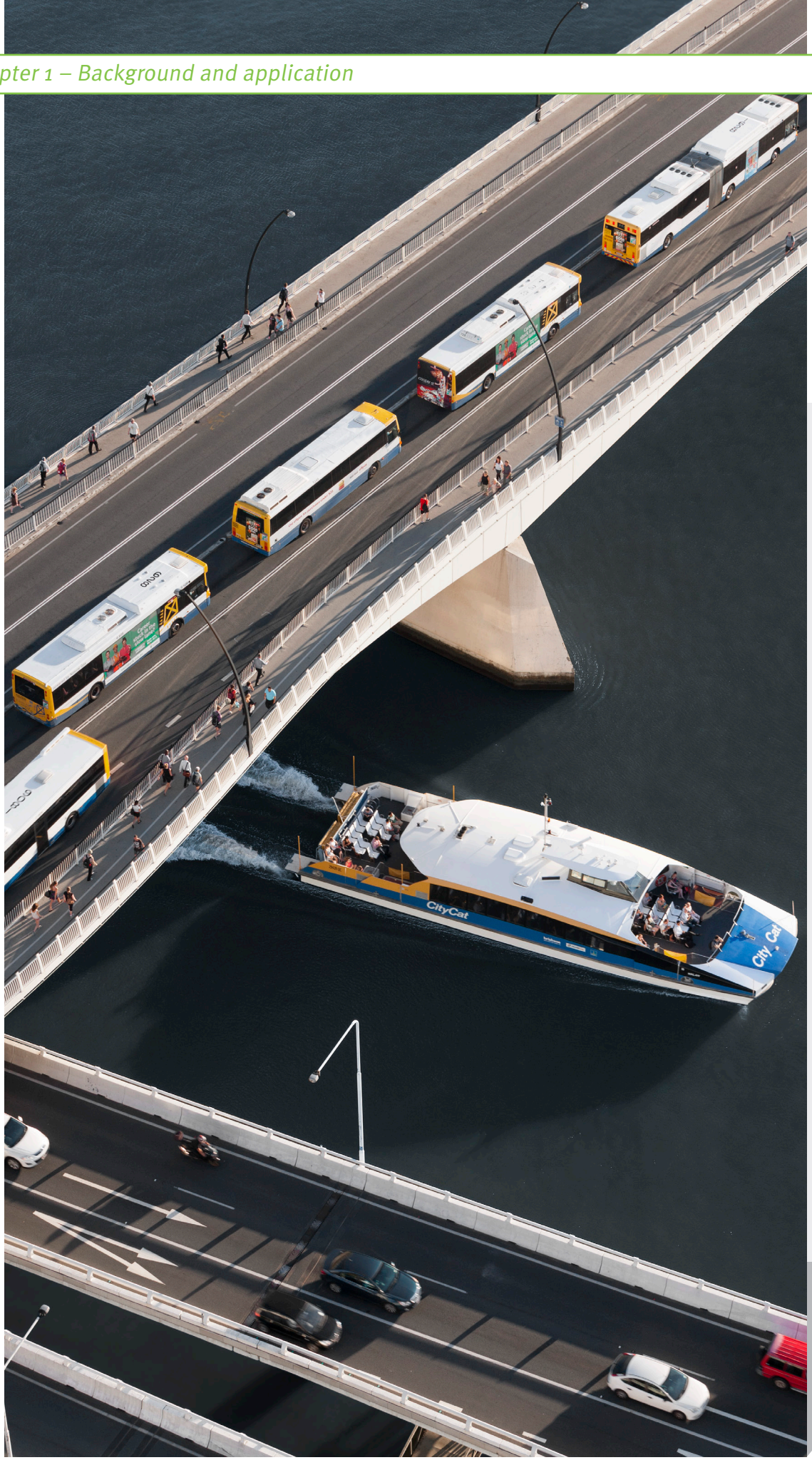
The *PTIM* is an overarching reference tool for the planning and design of public transport infrastructure in the TransLink network.

The *PTIM* is intended for use by professionals in the transport planning and delivery industry. This generally involves, but is not limited to, designers, planners, engineers, architects and other professionals involved in the planning, design and delivery of public transport infrastructure in Queensland.

1.6.2 Using the *PTIM*

The *PTIM* should be referred to before starting to plan new public transport infrastructure projects. It represents TransLink's overarching requirements for the planning, design and implementation of public transport infrastructure across the TransLink network. The TransLink network includes all public transport services across Queensland.

TransLink, in partnership with Local Government and in collaboration with relevant stakeholders and delivery partners, shall be consulted on the final design for new infrastructure and upgrade of existing facilities.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1.7 Planning and design

1.7.1 Overarching considerations

There are overarching considerations that need to be incorporated into the planning and design of public transport infrastructure. Table 1.1 provides an overview of these considerations for all public transport infrastructure.

Table 1.1:
Overarching considerations for public transport infrastructure planning and design

Element	Consideration in public transport infrastructure planning and design
Urban design	Successful urban outcomes require quality planning, design and management of the built environment. *QDesign Queensland Urban Design Principles* (Queensland Government, 2018) outlines nine priority planning principles that should be considered in the planning and design of public transport infrastructure: • be climate responsive • be inspired by local place character, form and culture • work with and enhance natural systems, landscape character and biodiversity • create great places for people to live • deliver diverse development forms and density • embed opportunities for adaptation and change • lead by example • engage effectively.
Cross-agency planning	Infrastructure to access public transport stops and stations is often the responsibility of agencies other than TransLink, making cooperative cross-agency planning essential. The following principles should be applied: • define agency and stakeholder responsibilities at project inception • work with the local government and property owners to ensure public transport infrastructure is integrated with existing or planned facilities • consider local community needs and design appropriately to the local context.

Element	Consideration in public transport infrastructure planning and design
Crime Prevention through Environmental Design	• public transport infrastructure design needs to ensure passengers feel safe using public transport at any time of the day and night • apply creative urban design principles to reduce the incidence and perception of crime • include the presence of passive surveillance mechanisms and creation of defensible spaces to act as deterrents of crimes—for example, effective lighting, enhanced visibility, legible and clearly defined spaces, effective signage and wayfinding, and promoting activity. For details, refer to the current version of the government's *Crime Prevention through Environmental Design Guidelines for Queensland*.
Branding, theming and signage	Public transport infrastructure should be easy for passengers to identify and understand. This will be achieved by: • consistent look and feel of infrastructure to provide a recognisable appearance that sits comfortably with the surrounding community • consistent design language which is user-friendly, familiar and instils confidence in existing and potential passengers • modern, high-quality, open structures with a lightweight appearance and an approved colour palette. TransLink branding, theming and signage, including the TransLink colour palette, must be applied to all new and upgraded public transport infrastructure. For details of TransLink's infrastructure colour palette refer to *PTIM, Branding, theming and signage*. Where applicable, consult with stakeholders (i.e. local Government authority, Queensland Rail, GoldLinQ etc.) to determine any additional signage requirements.
Disability access	All public transport infrastructure must comply with relevant standards and guidelines for disability access (for example, Commonwealth *Disability Standards for Accessible Public Transport 2002*). Designs should incorporate: • most direct and convenient access from facility entry to boarding points • buildings or shore lines to facilitate clear and direct access, providing an effective means of wayfinding, and minimising the need for other additional aids, such as TGSI • measures to minimise barriers that deter people with disability from using passenger transport and to improve accessibility and wayfinding for all • use of consistent layouts, signage, wayfinding and design principles. For specific projects the project team will engage with the TMR Accessibility Reference Group.

Element	Consideration in public transport infrastructure planning and design
Environmental sustainability	TransLink and relevant stakeholders involved in public transport infrastructure projects have an obligation to comply with applicable state and commonwealth environmental and energy-efficiency standards for all public transport infrastructure. To support sustainability outcomes, public transport infrastructure should be designed to: • minimise impact on biodiversity and open space • reduce waste consumption and promote re-use and recycling of resources (for example, water use) • use environmentally-friendly devices and components within facilities • improve air quality and promote healthier travel options by providing appropriate access and cycle facilities. Refer to *PTIM, Supporting access infrastructure*.
Human factors	TransLink aims to incorporate human factors principles throughout planning and design to provide assurance to safe, effective and comfortable public transport systems and environments, for all users. This includes contextually-specific considerations for: • the physical effort and ability for a person to use a system or navigate and environment • the adequacy and comfort of ones' surroundings • the recognition and interpretation of interfaces and information • the level of support and/or sensory feedback one is offered, able and/or willing to receive • the understanding of the environment that a person is in, was in, and/or aims to get to • a person's various behavioural states under certain conditions • the various environmental and psychosocial conditions that one may be presented.
Environmental characteristics	When planning, designing and constructing public transport infrastructure, differing environmental characteristics and factors need to be considered (for example wet tropical, sub-tropical, dry arid): • design of infrastructure at any specific location must respond to specific regional characteristics • material selections and construction methods must consider the regional environmental characteristics.

Element	Consideration in public transport infrastructure planning and design
Engineering innovation	The Department of Transport and Main Roads' engineering innovation strategy, which encompasses the design and construction of public transport facilities, as follows: 1. *identify innovation and opportunities as an essential part of the business* 2. *develop and maintain capacity to facilitate and manage innovation* 3. *provide resources for innovation testing and assessment* 4. *improve by evaluating innovation and implementing learnings*. For further information on the Department's Engineering Innovation guidelines refer to the Queensland Government document *Engineering Innovation within the Department of Transport and Main Roads*.
Univeral design	Public transport infrastructure should incorporate the principles of universal design to support and enable a diverse range of customers to access and use the public transport network. According to the AusAID's *Accessibility Design Guide: Universal design principles for Australia's aid program*, the seven principles of universal design are: 1. equitable use 2. flexibility in use 3. simple and intuitive use 4. perceptible information 5. tolerance for error 6. low physical effort 7. size and space for approach and use.

The overall process that needs to be followed for planning and design of public transport infrastructure is illustrated in Figure 1.2.

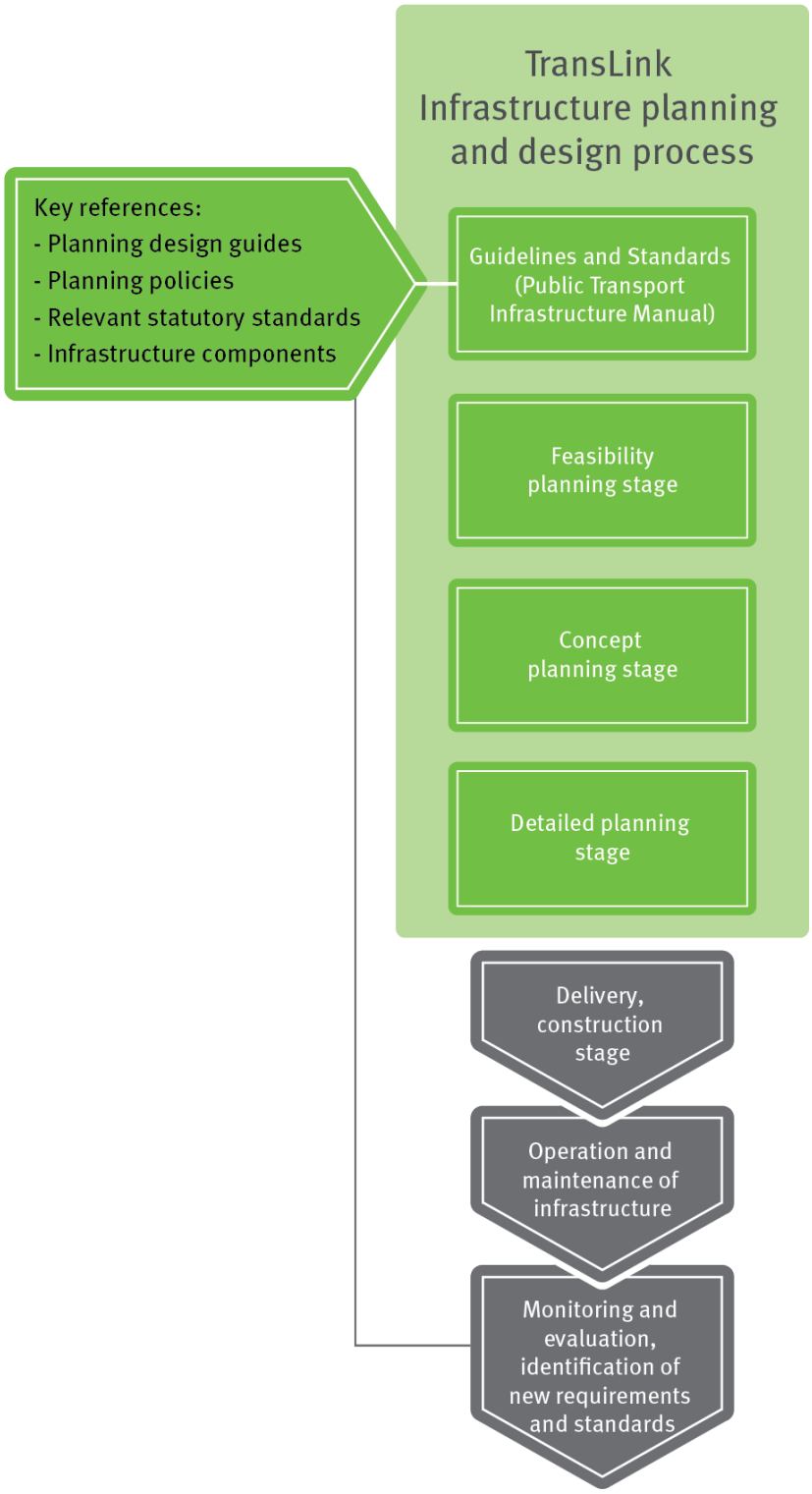

Figure 1.2 –
TransLink infrastructure planning and design process