

Bruce Highway Targeted Safety Program (BHTSP)

Fatigue Management Infrastructure Program Note

April 2026

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Definitions / Glossary of terms

Summary of abbreviations and unfamiliar words used in a publication.

Term	Description
4G	Fourth Generation cellular network technology
ANPR	Automated Number Plate Recognition
BHTSP	Bruce Highway Targeted Safety Program
CCTV	Closed circuit television
CPTED	Crime Prevention Through Environment Design
DDA	<i>Disability Discrimination Act 1992</i>
DEF	Diesel Exhaust Fluid
EV	Electronic vehicles
ITS	Intelligent Transport System
HV	Heavy Vehicles
LPG	Liquefied Petroleum Gas
Queensland MUTCD	Queensland Manual of Uniform Traffic Control Devices
NCC	<i>National Construction Code</i>
Noisy Freight	Examples include heavy vehicles carrying cattle and refrigerated heavy vehicles.
Other Locations	Are stopping opportunities that support fatigue management for all road users in between strategic locations.
PBS	Performance Based Standards
PDO	Program Delivery and Operations
PN	Program Note
PRN1	Priority Road Network 1
Strategic Locations	Were identified through external consultation with various stakeholders as being consistently utilised by fatigued regulated vehicles as being places to manage their fatigue regulated rests. These locations also typically coincide with locations that have facilities and amenities for the management of fatigue for non-fatigue regulated vehicles and are generally separated by less than 2 hours of travel.

1 Preamble

1.1 Document purpose

The purpose of this Program Note (PN) is to provide a clear intent, scope, guidance and limitations Program Delivery and Operations (PDO) shall use in planning, designing and delivering upgrades under the Bruce Highway Targeted Safety Program (BHTSP) for fatigue related infrastructure.

This PN details the requirements for rest areas and other infrastructure to support road user fatigue management on the Bruce Highway. Other PNs will be issued to create a suite of PNs for the BHTSP.

This PN will be reviewed periodically and updated to incorporate program learnings, innovation and emerging technology.

1.2 Rationale

This PN will not repeat or reference all the various technical documents used during the planning, design and construction processes but will note some specific technical document requirements, to provide clarity in project development and detail mandatory and desirable criteria for use under BHTSP. This at times exceeds the minimum requirements of these documents. The higher standards reflect the strategic importance of the Bruce Highway and safety focus of the BHTSP.

This will provide a level of uniformity in design and construction of the Program works to deliver a consistent road user outcome and benefit realisation for the Program.

1.3 Application

This PN shall be used to design and construct all fatigue related infrastructure and their associated signage under the BHTSP. Where scope criteria are not detailed in this PN, refer to the relevant Transport and Main Roads design guidance and technical notes for the design element being considered.

For existing projects, it is expected that project managers will look to apply the principles of this PN. It is not expected that projects will significantly change already completed designs, incurring larger costs and project delays. Departures from this PN (for existing projects) is possible and would require sign-off by the Project Manager.

Clarification shall be sought from the BHTSP Program Management Office (PMO) (BHTSP@tmr.qld.gov.au).

It is recognised that other works by the department and third parties will be undertaken on the Bruce Highway concurrently which will not align with the BHTSP PNs.

Bruce Highway Scope Management and Design Guideline does not apply to BHTSP.

2 Vision standard requirements

2.1 General considerations

2.1.1 Strategic planning purposes

The BHTSP will complement existing upgrades and bring forward new safety projects on priority road safety sections north of Gympie on the Bruce Highway to reduce the severity and frequency of crashes and improve road safety. This PN relates to fatigue related infrastructure.

2.1.2 Priority road network

The Bruce Highway is a Priority 1 (PRN1): identified as roads that provide the main inter and intra-state thoroughfares as well as connections to major population and economic zones.

2.1.3 Design vehicle: rest areas

The design vehicle for rest areas intending to accommodate light vehicles will be generally a **standard passenger vehicle towing a trailer**.

The design vehicle for rest areas intending to accommodate heavy vehicles will be generally a **PBS 2A 26 m B-Double**, as outlined under the BHTSP *Design Program Note*.

It is noted that sections of the highway are currently operating larger vehicles (i.e., PBS 3A 36.5 m Type 1 road train) under permit freight movements. The check vehicle for the sections already allowing access for PBS 3A vehicles, **only** is Type 1 road train and any upgrades considering utilising this vehicle for design shall seek prior approval from the Executive Director (ED) BHTSP before design commencement.

Parallel parking options shall be provided at all fatigue related infrastructure (intending to accommodate HVs) to accommodate Type 1 road trains.

Where herringbone parking is provided, design shall accommodate PBS 2A 26 m B-Doubles. Any herringbone parking designed for larger vehicles (i.e., PBS 3A 36.5 m Type 1 road train vehicles), shall seek prior approval from the ED (BHTSP) before design commencement.

2.1.4 Ownership

Before initiating any public rest area project (including planning, design, and construction), PDO should consider collaborating with the relevant local government to evaluate the potential for BHTSP funding to cover capital costs and facilitate the transfer of ownership and/or maintenance responsibilities to the local government, particularly where the asset is expected to contribute to local economic growth.

It is also important to note that opportunities for third-party ownership of rest areas are available. To explore these options, the department's Property Services team should be contacted at the earliest opportunity.

2.2 Bruce Highway vision standards

This section will be updated once the *Fatigue Management Strategy* has been approved.

2.3 Capacity

Capacity requirements for stopping opportunities will be calculated as per Table 6B-1 of the *Road Planning and Design Manual 2nd edition (RPDM)*, Volume 3, Part 6B.

Note:

1. Capacity will be calculated for each road user group (e.g., general motorists, caravans, motorcyclists and heavy vehicles).
2. The supply of all reasonable stopping opportunities within a one hour drive (80 km adopted) can be considered as part of the overall supply at the stopping opportunity being considered to meet the capacity requirements (see Figure 2.3 below).

Reasonable stopping opportunities include:

- a. rest areas
- b. service centres and service stations
- c. towns
- d. roadhouses, and
- e. caravan parks and other accommodation.

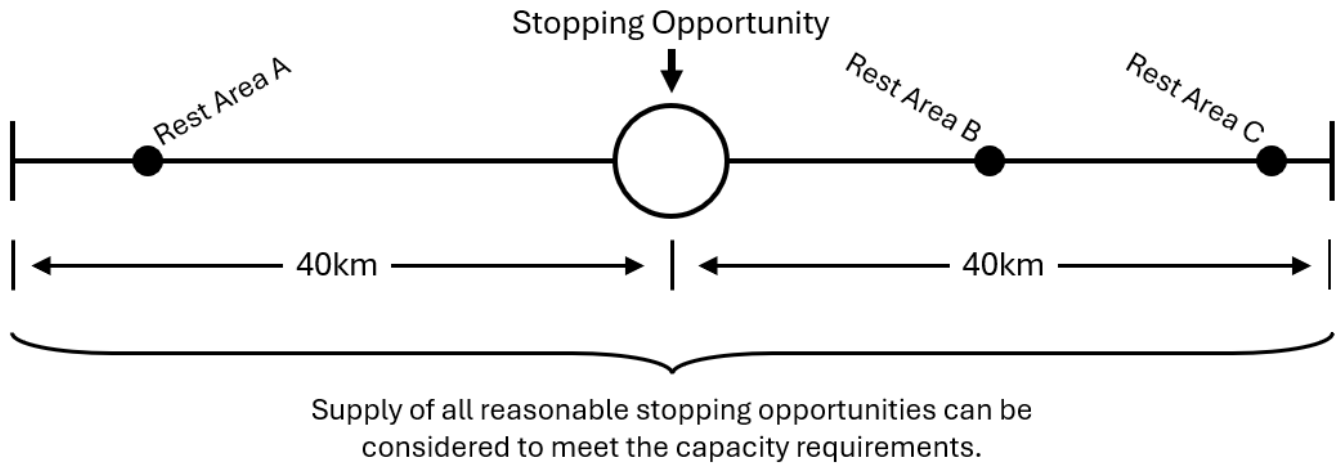
Reasonable stopping opportunities exclude:

- a. stopping bays (formal and informal)
- b. illegal parking locations with unapproved access, and
- c. private facilities that do not meet the criteria in Section 1 8.

3. Breakdown areas are not recognised for fatigue management under Part 6B of RPDM, Volume 3.

Figure 2.3 – Stopping opportunity capacity requirement estimation

$$Supply_{Stopping\ Opportunity} \geq Capacity_{Requirement} - (Supply_{RAA} + Supply_{RAB} + Supply_{RAC})$$



2.4 Rest area design

2.4.1 Strategic locations

Rest area strategic locations are defined in Attachment A.

Strategic location rest area design requirements will be in accordance with Type A rest areas in Table 6B-1 of RPDM, Volume 3, Part 6B with the following amendments:

- Compliance with *Crime Prevention Through Environmental Design (CPTED) Guidelines* including provision of closed-circuit television (CCTV) – required (for security surveillance and compliance checking through joint ANPR HV ITS technology).
- Provision of showers – required where potable plumbed water is readily available.
Note: Consider showers to be provided on a pay per use basis – with funding to be directed back into rest area maintenance.
- Toilet provisions are to be accessible and ambulant – required.
- Drinking water facilities (e.g., water bubblers) – required where potable plumbed water is readily available.
- Information boards – required.
- Uni-directional traffic flow – required.
- Parking style:
 - no reverse parking for heavy vehicles and caravans – required

- no reverse parking for all other vehicles – desirable, and
- where herringbone parking is provided for heavy vehicles parallel parking styles are also to be provided for heavy vehicles – required.
- Separation of noisy freight – desirable.
Note: The differing noise benefits of each parking style are:
 - parallel parking bays provide noise reduction benefits for noisy vehicles and parking opportunity for longer vehicles (compared to the reference design vehicle), and
 - herringbone parking allows for more efficient use of space and increased parking capacity.
- Telecommunications – all sites to have a minimum of 4G coverage – required.
- The design must allow for a third-party vendor (e.g., coffee van, flower truck, etc) to be present on site without impacting the flow or storage of vehicles within the rest area or the rest of the various road users, and
- Supply of bins shall be included.

2.4.2 Other rest area locations

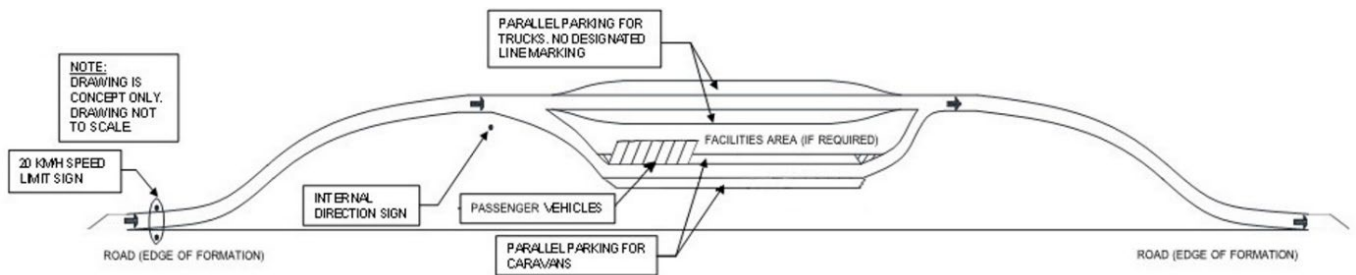
Rest area design requirements will be in accordance with Type B rest areas in Table 6B-1 of RPDM, Volume 3, Part 6B with the following amendments:

- provision of lighting – required
Note: consider light positioning and illumination levels for resting drivers and glare of vehicles on the main carriageway.
- provision of accessible and ambulant toilets – required
- compliance with CPTED Guidelines including provision of Closed Circuit Television (CCTV) – required (for security surveillance and possible usage compliance checking through joint ANPR technology)
- drinking water facilities – required where potable water is available
- information boards – desirable
- uni-directional traffic flow – desirable
- no reverse parking for heavy vehicles and caravans – required
- telecommunications – all sites to have a minimum of 4G coverage
- ensure heavy vehicle parking bays for long term use are separated from general use facility areas – required

- the design should allow for a third-party vendor (e.g., coffee van, flower truck etc) to be present on site without impacting the flow or storage of vehicles within the rest area or the rest of the various road users, and
- supply for bins shall be included.

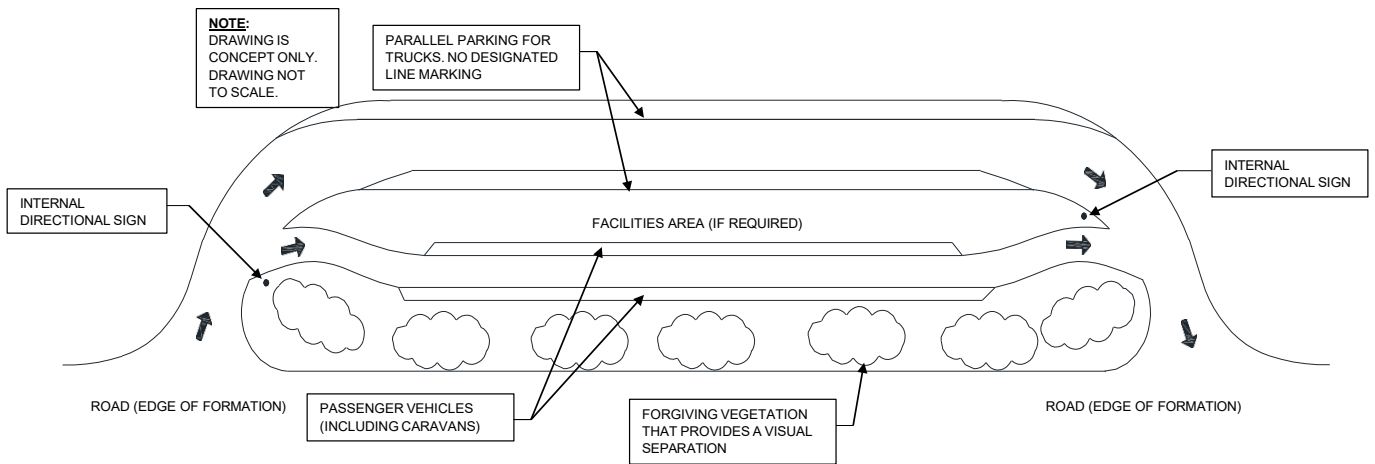
Examples of preferred layouts (of ‘Other’ rest area locations) as provided by Research Report AP-R591-19, *Guidelines for the Provision of Heavy Vehicle Rest Area Facilities* Edition 1.1.

Figure 2.4.2(a) – Example of preferred rest area layout – Option A



Note: This diagram is indicative only. The layout and size will need to be determined based on a range of site specific issues as outlined in Section 4 of these Guidelines in particular the number and type of the various heavy vehicles anticipated to use the HVRA now and in the future (giving consideration to future demands as outlined in Section 4.6.8). Consideration should also be given to the number of other potential vehicles using the HVRA. Vegetation screen shall be designed as to promote passive surveillance into the rest stop facility from the adjacent roadway.

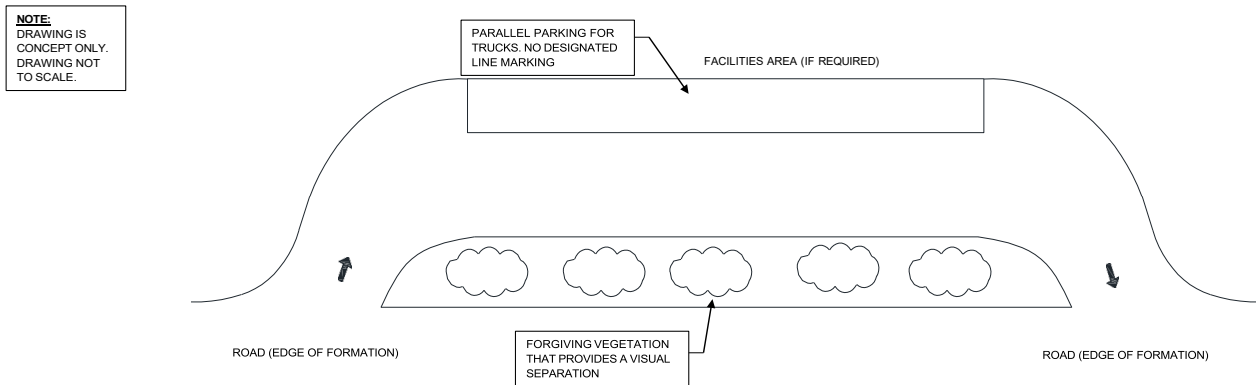
Figure 2.4.2(b) – Example of preferred rest area layout – Option B



Notes:

- This diagram is indicative only. The layout and size will need to be determined based on a range of site-specific issues as outlined in Section 4 of these Guidelines in particular the number and type of the various heavy vehicles anticipated to use the HVRA now and in the future (giving consideration to future demands as outlined in Section 4.6.8). Consideration should also be given to the number of other potential vehicles using the HVRA.
- Speed limit signs are not required as speed should be controlled by the physical point of entry.

Figure 2.4.2(c) – Example of preferred rest area layout – Option C



Notes:

- This diagram is indicative only. The layout and size will need to be determined based on a range of site-specific issues as outlined in Section 4 of these Guidelines in particular the number and type of the various heavy vehicles anticipated to use the HVRA now and in the future (giving consideration to future demands as outlined in Section 4.6.8). Consideration should also be given to the number of other potential vehicles using the HVRA.
- Speed limit signs are not required as speed should be controlled by the physical point of entry.

2.5 Commercial partnerships stopping opportunity requirements

The department’s *Roadside Fuel Facilities Policy and Guidelines* (scheduled for release in 2026) provides opportunities for commercial vendors to offer road users access to fuel / energy sources and services and acknowledges the benefits of these facilities for road users to break their journey and avoid driving fatigued. The *Roadside Fuel Facilities Policy and Guidelines* outlines facility requirements which must be met for the facility to be eligible for the department’s support.

The requirements within the department’s *Roadside Fuel Facilities Policy and Guidelines* are applicable to the Queensland state-controlled road network. The requirements within the department’s *Roadside Fuel Facilities Policy and Guidelines* have been adopted for the application of commercial partnership stopping opportunities on the Bruce Highway with specific criteria as listed below.

In addition to the above, where commercial partnership stopping opportunities are being developed, a maintenance standard shall be included within the contract. The conditions shall include performance criteria requiring the commercial facility to maintain the services ensuring that the customer satisfaction and desirability remains to a high standard.

2.5.1 Commercial facilities at strategic locations

For **commercial fuel facilities** operating at strategic locations on the Bruce Highway (as listed in Attachment A) to be eligible for the Operator Agreement Benefits (as outlined in Section 5 of the department’s *Roadside Fuel Facilities Policy*) the facility must meet the

criteria of a Category 1 (Service Centre) or Category 2 (Remote Service Centre). The following additional departures must also be met:

- access to long-term parking for all road user types (including heavy vehicles, caravans, etc) shall be provided 24 hours a day, 7 days a week
- long-term parking capacity to be jointly agreed between the proponent and the department based on capacity defined under Section 2.3 of this PN
- there shall be 24 hour a day, 7 days a week access to public toilet facilities
- playground facilities may be indoor or outdoor
- communication services to be mandatory minimum 4G
- food and beverage offerings are to be more than pre-packaged items (such as confectionary) and should include healthy meal options
- where tourist information (e.g., maps, brochures) are available, reinforced messaging of safe driving information (including driver fatigue management) shall also be provided – contact the StreetSmarts team for opportunities on available support for safe driving (streetsmarts@tmr.qld.gov.au)
- emergency assistance (first aid kits, defibrillators, and contact points for roadside assistance) shall be made available
- CCTV and lighting for safety and security at services shall be provided
- all accessibility standards shall be met throughout the site
- water facilities for drinking and refilling vehicles (caravans and motorhomes) shall be provided
- provision to recharge vehicles through Electric Vehicle (EV) charging stations is mandatory
- Category 2 (Remote Service Centre) operations of services must exceed 16 hours a day, 7 days a week
- provision of Diesel Exhaust Fluid (DEF) for diesel vehicles requiring emission-reducing additives is required, and
- tyre air pumps shall be available.

Should a non-fuel commercial facility consider operating at strategic location on the Bruce Highway (as listed in Attachment A) the facility must meet the criteria of a Category 1 (Service Centre) or Category 2 (Remote Service Centre) from within the department's *Roadside Fuel Facilities Policy*. The following additional departures must also be met:

- the sale of diesel, petrol, LPG is prohibited
- access to long-term parking for all road user types (including heavy vehicles, caravans, etc) shall be provided 24 hours a day, 7 days a week

- long-term parking capacity to be jointly agreed between the proponent and the department based on capacity defined under Section 2.3 of this PN
- there shall be 24 hour a day, 7 days a week access to public toilet facilities
- playground facilities may be indoor or outdoor
- communication services to be mandatory minimum 4G
- where tourist information (e.g., maps, brochures) are available, reinforced messaging of safe driving information (including driver fatigue management) shall also be provided – contact the StreetSmarts team for opportunities on available support for safe driving (streetsmarts@tmr.qld.gov.au)
- emergency assistance (first aid kits, defibrillators, and contact points for roadside assistance) shall be made available
- CCTV and lighting for safety and security at services shall be provided
- all accessibility standards shall be met throughout the site
- provision of vending machines are optional
- provision of heavy vehicle rest facilities (i.e., lounge, laundry) are desirable
- drinking / water facilities shall be available, and
- the provision of food retailers are optional, however, where provided, food and beverage offerings shall be more than pre-packaged items (such as confectionary) and include desirably healthy meal options.

2.5.2 Commercial facilities at other locations

For commercial fuel facilities operating at other stopping location on the Bruce Highway (i.e., those not listed in Attachment A) to be eligible for the Operator Agreement Benefits (as outlined in Section 5 of the department's *Roadside Fuel Facilities Policy*) the facility must meet the criteria of a Category 1 (Service Centre), Category 2 (Remote Service Centre) or Category 3 (Service Station). The following additional departures must also be met:

- access to long-term parking for all road user types (including heavy vehicles, caravans, etc) shall be provided 24 hours a day, 7 days a week
- long-term parking capacity to be jointly agreed between the proponent and the department based on capacity defined under Section 2.2 of this PN
- there shall be 24 hour a day, 7 days a week access to public toilet facilities
- playground facilities may be indoor or outdoor
- communication services to be mandatory minimum 4G
- shaded / sheltered seating areas are mandatory

- food and beverage offerings are to be more than pre-packaged items (such as confectionary) and include desirably healthy meal options
- emergency assistance (first aid kits, defibrillators, and contact points for roadside assistance) shall be made available
- CCTV and lighting for safety and security at services shall be provided
- all accessibility standards shall be met throughout the site
- water facilities for drinking and refilling vehicles (caravans and motorhomes) shall be provided
- provision to recharge vehicles through EV charging stations is mandatory
- Category 2 (Remote Service Centre) and Category 3 (Service Station) operations of services shall exceed 16 hours a day, 7 days a week
- provision of DEF for diesel vehicles requiring emission-reducing additives is required, and
- tyre air pumps shall be available.

Should a non-fuel commercial facility consider operating at other stopping location on the Bruce Highway (not listed in Attachment A) to be eligible for the Operator Agreement Benefits (as outlined in Section 5 of the department's *Roadside Fuel Facilities Policy*) the facility must meet the criteria of a Category 1 (Service Centre), Category 2 (Remote Service Centre) or Category 3 (Service Station). The following additional departures must also be met:

- the sale of diesel, petrol, LPG is prohibited
- access to long-term parking for all road user types (including heavy vehicles, caravans, etc) shall be provided 24 hours a day, 7 days a week
- long-term parking capacity to be jointly agreed between the proponent and the department based on capacity defined under Section 2.3 of this PN
- there shall be 24 hour a day, 7 days a week access to public toilet facilities
- playground facilities may be indoor or outdoor
- shaded / sheltered seating areas are mandatory
- communication services to be mandatory minimum 4G
- where tourist information (e.g., maps, brochures) are available, reinforced messaging of safe driving information (including driver fatigue management) shall also be provided – contact the StreetSmarts team for opportunities on available support for safe driving (streetsmarts@tmr.qld.gov.au)
- emergency assistance (first aid kits, defibrillators, and contact points for roadside assistance) shall be made available

- CCTV and lighting for safety and security at services shall be provided
- all accessibility standards shall be met throughout the site
- provision of vending machines are optional
- drinking / water facilities shall be available, and
- the provision of food retailers are optional, however, where provided, food and beverage offerings shall be more than pre-packaged items (such as confectionary) and include desirably healthy meal options.

2.5.3 Additional considerations

Should a commercial facility (strategic (see Section 2.4.1) or other (see Section 2.4.2)) offer to build and gift the department a rest area adjoining their site, consider:

- the need of the location and if alternative locations offer higher merit
- does the facility primarily offer benefit for parking for customers (consider if demand at the rest area is primarily driven by the commercial facility)
- the ongoing maintenance needs (and funding) of the site (preferably the responsibility of the proponent), and
- probity considerations.

2.6 Design elements

2.6.1 Accessibility

All departmental facilities, including rest areas and associated amenities, are subject to the *Disability Discrimination Act 1992* (DDA). The DDA is a Commonwealth Act designed to ensure equality, fairness, and community inclusion for people with disability. Its objects (the Act's purposes) include 'to eliminate, as far as possible, discrimination against persons on the ground of disability.' The DDA applies broadly to premises, services, and facilities. In practice, the definition of 'premises' is very wide and covers most public places.

In most parts of the built environment, such as public transport infrastructure, premises, and services, as well as public buildings, the applicable standard to ensure access for people with disability is Australian Standard AS 1428.1 *Design for access and mobility, Part 1: General requirements for access - New building work*. This is typically enforced through compliance with legislative instruments, such as the Transport Standards or Premises Standards, or the *National Construction Code* (NCC), which all reference various versions of AS 1428.1.

The latest version of this standard is AS 1428.1: 2021, which includes updated requirements for a range of physical and sensory access needs, including circulation

spaces for wheelchair users, design requirements for ramps, access paths, and accessible toilets. Toilet block buildings that are subject to the NCC 2022 must comply with AS 1428.1: 2021.

In addition, the minimum requirements for the provision of off-street parking facilities for people with disabilities is outlined in AS 2890.6: 2002 *Parking facilities, Part 6: Off-street parking for people with disabilities*.

As such, to ensure the department upholds its obligations under the DDA, all departmental facilities, including rest areas and associated amenities, should therefore comply with AS 1428.1: 2021 and AS 2890.6: 2002.

2.6.2 Toilets and Showers

Toilet facilities shall:

- comply with accessibility requirements as outlined in Section 2.6.1 catering for both accessible and ambulant needs
- include ambulant and accessible toilet stalls that are not to be distinguished on the basis of sex
- be well lit maximising natural lighting and ventilation
- have water to wash hands
- have clear open spaces around the facility to provide a sense of safety and security
- be elevated to allow free drainage and reduce the impact of flooding
- utilise bollards to avoid errant vehicles colliding with facilities
- utilise floors with crossfall to allow positive drainage, and
- comply with all legislative waste requirements.

Showers shall:

- comply with accessibility requirements as outlined in Section 2.6.1 catering for both accessible and ambulant needs
- consist of individual stalls that are not distinguished on the basis of sex
- be well lit maximising natural lighting and ventilation
- have mains water supply, and
- comply with all waste water legislative requirements.

Where pay-per-use shower facilities are provided additional consideration should be provided to ensure high-standard security of the payment collection and management system.

Note: Consultation with Moreton Bay Regional Council indicated that their experience over 10 years with self-cleaning toilets has not been positive and that caution is advised when considering this facility type.

2.6.3 Fatigue management ITS infrastructure

2.6.3.1 Automated Number Plate Recognition (ANPR)

ANPR technology will be used to support fatigue management on the Bruce Highway by improving rest area usage and compliance. For ANPR refer to:

- Standard Drawing 1912 *ITS – Traffic Survey ANPR Camera Breakout Box Equipment Connection Details*
- Standard Drawing 1913 *ITS – Traffic Survey ANPR Camera Breakout Box Wiring Details*
- Standard Drawing 1915 *ITS – Traffic Survey ANPR Camera Pole Typical Detail*
- Transport and Main Roads Technical Specifications, MRS250 *Provision of Automatic Number Plate Recognition System*

Note: The ANPR technical note requires an update, refer to Safety Technology Assets – Safer Roads Infrastructure, Engineering and Technology Branch, Infrastructure Management and Delivery Division, Department of Transport and Main Roads (STAssets_SRI@tmr.qld.gov.au).

2.6.3.2 Rest area ITS infrastructure

Technical documentation for the technology is in development, for guidance refer to Safety Technology Assets – Safer Roads Infrastructure, Engineering and Technology Branch, Infrastructure Management and Delivery Division, Department of Transport and Main Roads.

2.6.4 Crime prevention through environmental design

Rest areas and stopping bays are places which attract a range of criminal activities, often due to poor design and locality decision making in planning. Designers will adopt CPTED principles where possible. Some examples include (but are not limited to):

- ensuring site locations have good visibility to ensure passive surveillance
- pair sites adjacent to established active land uses where possible
- remove entrapment points
- sites should be well lit
- buried battery boxes for solar power energy storage

- CCTV cameras, solar panels and wind energy units to be at a height which deters theft
- where possible, consider rivets as opposed to screw fittings and bolts, and
- utilise materials less prone to damage, e.g., aluminium or stainless steel panels (as opposed to wood), stainless steel or aluminium toilet bowls (as opposed to porcelain).

Note: some materials are more prone to theft such as copper pipes and stainless steel – alternative compliant materials should be considered.

For more information, refer to *Crime Prevention Through Environmental Design (CPTED)* (Queensland Police Service, 2021)).

2.6.5 Other

2.6.5.1 Wayfinding

The department does not have specific guidance regarding sign designs or layout of signage within rest areas.

Smaller rest areas (e.g., Figure 2.4.2(c) as shown in Section 2.4.2) are unlikely to need many internal traffic control devices, consider:

- signage and pavement marking for persons with a disability bay, and
- parking spaces for heavy vehicles (shared rest areas).

Larger rest areas (e.g., strategic rest areas and those with separated parking areas (i.e., as per Figure 2.4.2(a) and (b) in Section 2.4.2) shall have signs to direct users to the relevant portion of the rest area.

The wayfinding signs should be developed based on existing service symbols and signing principles in the Queensland *Manual of Traffic Control Devices* (Queensland MUTCD), specifically Part 6.

Other traffic control devices within rest areas may include:

- transverse and longitudinal lines, and regulatory signs (such as give way, pedestrian crossings, etc) in accordance with the Queensland MUTCD Part 2
- linear and/or area parking control in accordance with Queensland MUTCD Part 11
- mainline service / direction signs in accordance with Queensland MUTCD Parts 6 and 15, and
- service signs and symbols in the TC sign database.

2.6.5.2 Rest area location

The following should be considered when locating a rest area:

- locate rest area access points at locations at grade or on a downhill to accommodate easier acceleration for heavy vehicles
- avoid flood prone sites (refer to the relevant local government flood standards for guidance)
- where stopping opportunities are only available from one side of the carriageway, parking and pedestrian road crossing should be deterred, unless appropriate pedestrian crossing facilities and parking controls are provided, or a safety risk assessment is undertaken related to traffic volumes and pedestrian movements
- rest area sites are preferably self-draining, and
- CPTED guideline and principles.

2.6.5.3 Existing corridor signage

When locating a rest area on the Bruce Highway, it is important to consider the existing rest area signage on the corridor. The signage on the corridor may indicate the spacing and location of existing rest areas, which may be impacted by the placement of additional rest areas. Therefore, when designing and placing a rest area the surrounding signage should be checked to ensure accuracy following completion of the rest area.

2.6.5.4 Pavements

All pavements (delivered as part of stopping opportunities works) will comply with Section 2.4.8 of the *BHTSP Design PN*.

2.6.5.5 Tropical and sub-tropical urban design

The provision of shelters and shade shall include both tropical and sub-tropical environmental design.

The provision of natural shade is preferable for each rest area. The provision of a shelter with associated seating and tables is mandatory for each rest area.

The provision of walls within the shelter should be considered. Solid walls will provide additional shade and protection from winds, however, will create additional blind spots reducing the safety / security of some patrons. Permeable walls provide some protection from the sun and wind, whilst reducing blind spots (although not entirely eliminating them).

Where sufficient environmental design elements are provided to ensure security of users (e.g., where all sides of the shelter are visible providing natural surveillance), a shelter

with internal dividing walls to provide protection from wind and sun could be a suitable solution.

Walls both permeable and non-permeable are also likely to attract vandalism and hence CPTED measures should be included to deter vandalism.

The size of the shelter roof should also be appropriate to provide sufficient sun and rain protection.

2.6.5.6 Pedestrian fencing

Pedestrian barrier fencing should also be considered to ensure safety of pedestrians utilising the stopping opportunities – including children. In particular pedestrian fencing should be considered between the seated areas / playgrounds / facilities and the internal circulating roads and between the rest area and Bruce Highway corridor.

Attachment A: Heavy Vehicle Strategic Locations

The strategic heavy vehicle rest area locations for the Bruce Highway are:

- Brisbane
- Gympie (Curra)
- Gin Gin
- Calliope
- Rockhampton
- Waverley Creek
- Mackay
- Bowen
- Townsville
- Tully, and
- Cairns.

