Darwin Shared Path & Bicycle Lane Technical Notes

1. Bicycle Parking – Location, Design and Provision Rates

Objective

The objective of the *Darwin Shared Path & Bicycle Lane Technical Notes* is to provide direction and guidance for the planning and delivery of cycling facilities within the City of Darwin area. These technical notes are also intended to provide information for other stakeholders including the NT Government, cycling groups and the community.

References

Throughout this document, references have been made to the following technical standards and guidelines:

- AS 2890.3-2015 *Parking Facilities Part 3: Bicycle Parking*
- Austroads *Guide to Road Design Part 6A: Pedestrian and Cyclist Paths* (2009)
- Austroads *Guide to Traffic Management Part 11: Parking* (2008)
- Austroads *AP-R527-16 Bicycle Parking Facilities: Guidelines for Design and Installation* (2016)
- Queensland Transport *Bicycle Parking Facilities*

The technical note should be read in conjunction with these documents.

Introduction

This technical note provides information and guidance on the provision of bicycle parking facilities. The information is compiled from multiple sources detailing good design practice and common location, design and provision requirements adopted throughout Australia.

Bicycle parking facilities are an essential infrastructure requirement for all cyclists. The provision of secure bicycle parking in conveniently located areas incentivises cycling and encourages sustained transport mode shift.

The design envelope considered for bicycle parking is 1.2m x 1.8m x 0.5m (height x length x width). Larger bicycles (e.g. cargo bicycles or bicycles with trailers) may not fit within this design envelope and therefore consideration should be given to providing a larger design envelope for these larger bikes where possible.

Location

It is important that bicycle parking facilities be located in areas that are safe, secure and easily accessible. The following characteristics provide an indication of good locations and practices for bicycle parking.

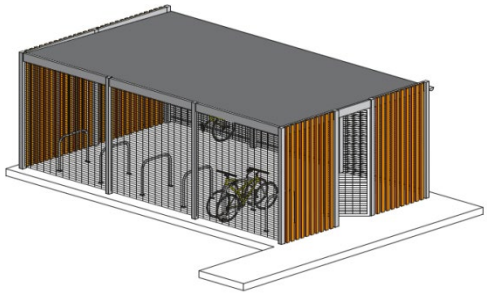
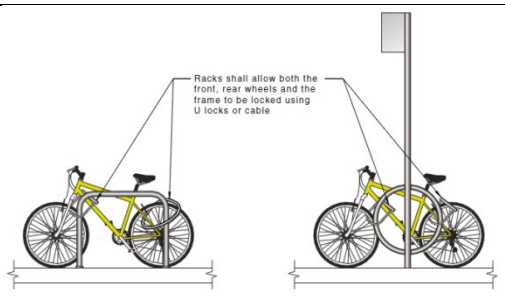
- Located at or within close proximity of key destinations and sites such as train/bus stations, shopping centres, work places, etc
- Easily accessible by cyclists (for details of appropriate path widths, grades and radii see Austroads *Guide to Road Design Part 6A: Pedestrian and Cyclist Paths*)

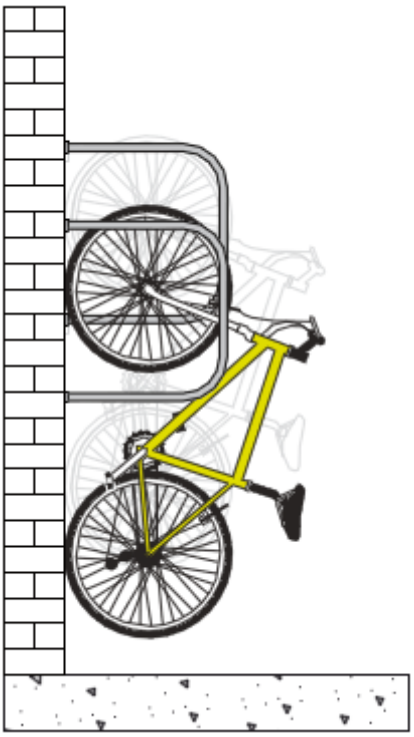
- Adequate passive security and surveillance (i.e. within view of the public and/or CCTV cameras) with reference to standard CPTED (Crime Prevention through Environmental Design principles)
- Appropriate levels of lighting within the bicycle parking area (for details see Australian Standard *AS 1158.1 lighting category C2*)
- Located at areas away from traffic or any physical obstructions which may result in conflicts
- If possible, under cover away from any weathering effects
- Facilities are well maintained
- Parking provided in clusters, not dispersed across the site. This improves identification and wayfinding.
- Bicycle parking shall be provided on sealed surface (either asphalt or concrete)

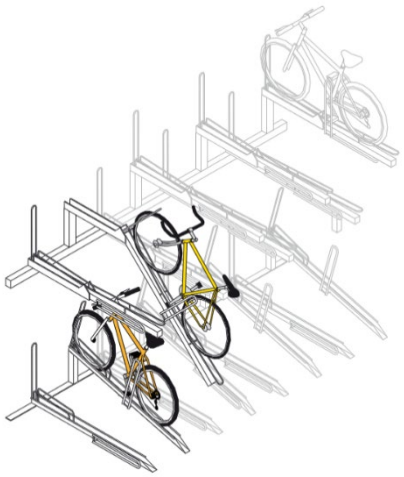
Types of bicycle parking facilities

There are numerous types of bicycle parking facilities available which provide varying levels of security and amenity, each with their own advantages and disadvantages.

The table below summarises the most common devices used along with the applicable level of security (consistent with AS 2890.3) and the typical applications of these devices. It should be noted that the listed bicycle parking type is provided for guidance only.

Bicycle parking type	Description	Example and Typical Application	Security level
Bicycle parking sheds	Bicycle parking sheds provide a lockable structure where users require authorised access (in the form of a key or passcode) and are responsible for locking their bicycle within the enclosure.	 Typical usage includes commuter parking in office buildings and public transport nodes. Bicycle parking sheds are generally appropriate for long-stay parking. These sheds may be located further from primary access points, but should be along the approach routes to the destination.	B (Moderate)
Bicycle parking rails	These are the most common type of bicycle parking devices and are available with a large range of different designs to accommodate users. They are cost effective and can be	 Bicycle rails	C (Lowest)

	implemented in almost any location including alongside footpaths or within secure on-site shelters.	can be used for both on-street and off-street bicycle parking. On-street parking means the parking space is located on the street verge. Off-street parking means that the parking is located elsewhere than on the street (e.g. within a building forecourt). The decision of where to located parking should be related to the type of bicycle infrastructure provided. On-road bike lanes are best served by on-street bike parking, while off-street shared and dedicated bike paths are best served by off-street rails. These rails are ideal for short-stay parking, located immediately adjacent to access points and in high traffic areas. The types of bicycle should also be considered when deciding the location of bicycle parking.	
Vertical wall mounted bicycle rails	Vertical wall mounted bicycle rails allow bicycle to be secured vertically. This maximises the number of bike racks that can be implemented which is especially useful for shelters or within buildings with a limited amount of available space.	 Typically used when space is of concern and to maximise the number of bicycle parking available on site. Spacing and layout is critical to the function of vertical (hanging) bicycle rails – installation must be to manufacturers requirements.	B (Moderate)

Multi-tier racking system	Multi-tier bicycle parking systems are best used where supervision and/or assistance is available, such as a staffed bicycle parking station. Each individual parking unit shall be counterbalanced or other assistance provided to support the use of this system.	 Typically used when space is of concern and to maximise the bicycle parking available on site.	B (Moderate)

Bicycle Provision

The bicycle provision rate for a specified land use shall be provide in accordance to the local government requirements within the specified area as well as NTG Planning Scheme requirements. If a provision rate is not provided for the specified land use, guidance is available from Austroads *Guide to Traffic Management Part 11: Parking Commentary 2* for bicycle parking provision rates for several different types of land uses.

Land use	Employee/resident parking spaces	Class	Visitor/shopper parking spaces	Class
Amusement parlour		1 or 2	2 plus 1 per 50 m^2 gfa	3
Apartment house	1 per 4 habitable rooms	1	1 per 16 habitable rooms	3
Art gallery	1 per 1500 m^2 gfa	2	2 plus 1 per 1500 m^2 gfa	3
Bank	1 per 200 m^2 gfa	2	2	3
Café	1 per 25 m^2 gfa	2	2	3
Community centre	1 per 1500 m^2 gfa	2	2 plus 1 per 1500 m^2 gfa	3
Consulting rooms	1 per 8 practitioners	2	1 per 4 practitioners	3
Drive-in shopping centre	1 per 300 m^2 sales floor	1	1 per 500 m^2 sales floor	3
Flat	1 per 3 flats	1	1 per 12 flats	3
General hospital	1 per 15 beds	1	1 per 30 beds	3
General industry	1 per 150 m^2 gfa	1 or 2	–	3
Health centre	1 per 400 m^2 gfa	1or 2	1 per 200 m^2 gfa	3
Hotel	1 per 25 m^2 bar floor area 1 per 100 m^2 lounge beer garden	1 1	1 per 25 m^2 bar floor area 1 per 100 m^2 lounge beer garden	3
Indoor recreation facility	1 per 4 employees	1 or 2	1 per 200 m^2 gfa	3
Library	1 per 500 m^2 gfa	1 or 2	4 plus 2 per 200 m^2 gfa	3
Light industry	1 per 1000 m^2 gfa	1 or 2	–	3
Major sports ground	1 per 1500 spectator places	1	1 per 250 spectator places	3
Market	–	2	1 per 10 stalls	3
Motel	1 per 40 rooms	1	–	3
Museum	1 per 1500 m^2 gfa	1	2 plus 1 per 1500 m^2 gfa	3
Nursing home	1 per 7 beds	1	1 per 60 beds	3
Office	1 per 200 m^2 gfa	1 or 2	1 per 750 m^2 over 1000 m^2	3
Place of assembly	–	2	–	3
Public hall	–	1 or 2	–	3
Residential building	1 per 4 lodging rooms	2	1 per 16 lodging rooms	3
Restaurant	1 per 100 m^2 public area	1 or 2	2	3
Retail show room	1 per 750 m^2 sales floor	1	1 per 1000 m^2 sales floor	3
School	1 per 5 pupils over year 4	2	–	3
Service industry	1 per 800 m^2 gfa	1	–	3
Service premises	1 per 200 m^2 gfa	1	–	3
Shop	1 per 300 m^2 gfa	1	1 per 500 m^2 over 1000 m^2	3
Swimming pool	–	1 or 2	2 per 20 m^2 of pool area	3
Take-away	1 per 100 m^2 gfa	1	1 per 50 m^2 gfa	3
University/Inst. of Tech	1 per 100p/t students 2 per 100f/t students	1 or 2 2	– –	3

SOURCE: AUSTROADS GUIDE TO TRAFFIC MANAGEMENT PART 11: PARKING COMMENTARY 2