

Bicycle facility design guidelines

Purpose

This note provides information on the latest guides to assist planners and engineers to design facilities that meet the needs of bicycle riders. The primary reference source is Austroads' *Guide to Traffic Engineering Practice, Part 14 - Bicycles*. It is referred to as *Part 14* throughout this note.

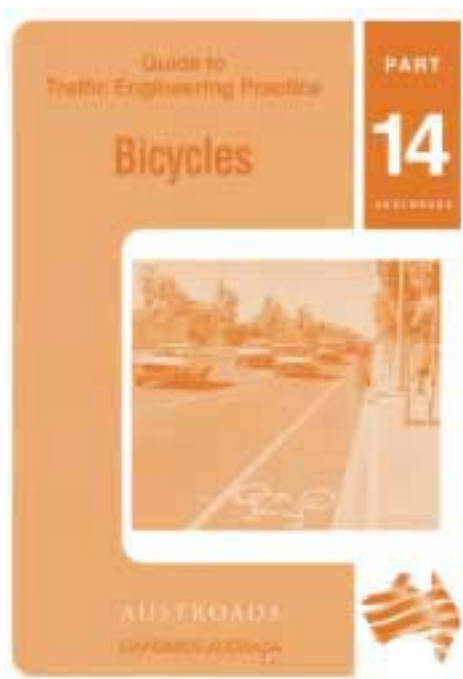
Introduction

Well designed bicycle facilities benefit bicycle riders, pedestrians and motorists. The benefits of providing exclusive on-road bicycle lanes or sealed shoulders include:

- improved safety for all users including pedestrians where space is clearly allocated to bicycles
- improved on-road space for emergency stopping requirements, allowing motorists to escape potential crashes or avoid potential collisions with road side furniture
- improved sight stopping distance at curves and for vehicles entering the roadway from a driveway or side street
- increased pavement life, especially where sealed shoulders are added to rural roads reducing edge breaks and the ravelling effects caused by motor vehicles.¹

Austroads' Part 14

In 1999, Austroads produced and published an updated edition of its *Guide to Traffic Engineering Practice: Part 14 - Bicycles*.



Part 14 contains the agreed national guidelines for designing bicycle facilities. It covers a wide range of design issues for bicycle riders including:

- planning for cycling
- roads
- road intersections
- bike paths and shared bike/pedestrian facilities
- provision for cyclists at structures such as bridges
- traffic control devices
- construction and maintenance
- guidelines for bicycle parking and other end-of-trip facilities.

Part 14 is an important reference for anyone involved in designing facilities for bicycle riders.

Bicycle planning in Australia continues to evolve with new and improved ideas on how to better provide for people who cycle. As these ideas evolve, so do the design guidelines. Extensive consultation has taken place in the six years between this and the previous edition of *Part 14*.

Aim

This series of notes has been designed to assist planners and engineers to provide for cycling in their local area.

The Cycle Notes should be read in conjunction with:

- *Guide to Traffic Engineering Practice, Part 14 - Bicycles* (Austroads, 1999), and
- *Queensland Manual of Uniform Traffic Control Devices, Part 9 Bicycle Facilities*.

Contents

- Austroads Part 14**
- Queensland's guiding principles for the application of Part 14**
- Standards for bicycle facilities**
 - Bicycle facility signing and marking (Queensland)
 - Bicycle parking facilities
- Obtaining copies of these documents**

Bicycle facility design guidelines

Innovative design issues covered by this document include:

- bicycle lanes adjacent to angle parking
- descriptions of signs, line marking and logos required for clearway bicycle lanes
- head start storage areas at intersections
- path terminations and road crossings
- preferred fencing adjacent to paths
- bicycle safety audits
- signing and delineating for bike riders through construction and maintenance works.

Queensland's guiding principles for the application of Part 14

While *Part 14* has been adopted as a national guide for the design of bicycle facilities, there is a note of caution regarding the implementation of *Part 14* in Queensland.

Some practices set out in *Part 14* are more applicable in other parts of Australia than in Queensland. For example, multilane storage facilities at signalised intersections are not applicable in Queensland (see Figure 5-15(b) of *Part 14*). Conversely, there could be practices appropriate to Queensland conditions endorsed by relevant state or local governments that do not appear in *Part 14*.

Where designs from *Part 14* have not previously been used in Queensland, road users may need education on how the facility works.

Standards for bicycle facilities

There are two standards relating to traffic engineering that apply to bicycle facilities.

Bicycle facility signing and marking

Queensland Manual of Uniform Traffic Control Devices, Part 9 - Bicycle Facilities aims for uniformity in the signing and marking of bicycle facilities. This standard sets out the traffic control devices used to designate bicycle facilities. The manual is currently being reviewed to incorporate recent additions to Australian Standard AS1742.9.

Bicycle parking facilities

Australian Standard AS2890.3, Manual of Parking Facilities Part 3: Bicycle Parking Facilities defines the three classes of bicycle parking that are

acceptable in Australia. Racks that support the bicycle by only one wheel do not meet the requirements of the Standard and should not be used. Sections of *AS2890.3* are reproduced in *Part 14*.

Other bicycle facilities design documents

Other specifications and standard details have been developed by some local governments and Main Roads. Brisbane City Council has developed a number of cycling facilities. Main Roads' *Interim Road Planning and Design Manual* also incorporates a section on the needs of bicycle riders and pedestrians.

Obtaining copies of these documents

To obtain a copy of Austroads' Part 14, contact:
ARRB Transport Research
Ph: (03) 9881 1547

To obtain a copy of AS2890.3 Manual of Parking Facilities Part 3: Bicycle Parking Facilities, contact:
Standards Australia
Ph: (07) 3216 1355

To obtain a copy of the Qld MUTCD, contact:
Department of Main Roads Queensland
Ph: (07) 3834 5488
Note: Part 9 of the MUTCD (on Bicycle Facilities) cannot be purchased separately.

Other references

1. List of advantages compiled by Matthew Zoll, Chair, Tuscon-Pima.

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**This Cycle Note is published by
Queensland Transport's State Cycle Unit**