

NEW SOUTH WALES

DEVELOPMENT DESIGN
SPECIFICATION

D9

**CYCLEWAY AND PATHWAY
DESIGN**

**DESIGN SPECIFICATION D9
CYCLEWAY AND PATHWAY DESIGN**

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DEVELOPMENT DESIGN SPECIFICATION D9 CYCLEWAY AND PATHWAY DESIGN

GENERAL

D9.01 SCOPE

1. This Specification sets out requirements to be used in the design of various types of cycleways and pathways.
2. All relevant design principles contained in the AUSTROADS Guide referenced below must be integrated in the design of cycleways and associated infrastructure. This Specification serves as a companion document to the AUSTROADS Guide extended to incorporate basic requirements for pathways.

AUSTROADS

D9.02 OBJECTIVES

1. This Specification aims to set standards and document requirements related to the provision of cycleways and pathways which encourage pedestrian activities and cycling for transportation and recreational purposes. Cycleways and pathways are to be safe and convenient and shall maintain a satisfactory level of service for all pathway users including users with disabilities and limited mobility.

Safety

**Level of
Service**

D9.03 REFERENCE AND SOURCE DOCUMENTS

(a) Council Specifications

- D1 - Geometric Road Design

(b) Australian Standards

- | | | |
|---------------------------|---|--|
| AS 1742 | - | Manual of uniform traffic control devices. |
| AS 2156.1 | - | Walking tracks, Classification and signage |
| AS 2156.2 | - | Walking tracks, Infrastructure design |
| AS 2890.3 | - | Bicycle parking facilities |
| SAA HB69.14 | - | Guide to traffic engineering practice – Bicycles |
| AS Collection 005 | - | Access and mobility – People with disabilities |

(c) Other

- | | | |
|-----------|---|--|
| AUSTROADS | - | Guide to Traffic Engineering Practice - PART 13 Pedestrians, PART 14 Bicycles. |
| | - | Planning and Designing for Bicycles - NAASRA (now AUSTROADS) Technical Report June 1988. |

- Ministry of Transport, Victoria - State Bicycle Committee
- Planning and Design of Bicycle Facilities,

D9.04 CONSULTATION

1. The Designer must consult with Council, the Developer's Landscape Architects/Designers and relevant authorities prior to and during the preparation of cycleway and pathway design.

**Landscape
Designers
Public
Authorities**

D9.05 PLANNING CONCEPTS

1. Council will provide specific requirements for cycleways and pathways in Council's Subdivision Code as well as in a regional or local strategic bicycle plan. The Designer will need to enquire about such documents and comply with requirements defined.

***Subdivision
Code and
Bicycle Plan***

- The Designer should be familiar with cycleway geometric design requirements in terms of:

***Geometric
Design***

- width
- grade
- stopping sight distance
- change in grade
- horizontal curvature
- crossfall and drainage
- superelevation
- sight distance on horizontal curves

***AUSTROADS
Guide***

These requirements are discussed in the AUSTROADS Guide.

3. The Designer shall incorporate all the requirements for disabled access as appropriate for pathway design in accordance with any Council Policy or Development Control Plan on Access and Mobility and AS Collection 005.

***Disabled
Access***

D9.06 CYCLEWAY AND PATHWAY TYPES

1. Cycleways can be provided on road and off road. The AUSTROADS Guide provides detailed descriptions, warrants, widths, pavement marking etc for the majority of these cycleways.

***On Road Off
Road***

2. Common alternative cycleway types include:

On Road

Shared Parking/Bicycle Lanes
Wide Kerbside Lanes
Shared Traffic Lanes
Exclusive Bicycle Lane
Sealed Shoulder

Off Road

Shared Use Bicycle/Pedestrian Pathway
Separated Pathway
Exclusive Cycleway

The AUSTROADS Guide provides advice on the suitability of pavement conditions, drainage pit grates etc for on road cycleways.

***AUSTROADS
Guide***

3. Common pathway types include:

Exclusive Pedestrian Pathways
Shared Use Bicycle/Pedestrian Pathways

By definition pedestrian pathways are "off road" in that pedestrian facilities routinely

Footpaths

designed adjacent to roadways are termed footpaths and are designed to meet criteria outlined in Council's Subdivision Code and typically related to road cross section detailing.

4. Pathways by comparison diverge from the road alignment either within the road reserve or across land reserves. Pathways can be provided in conjunction with overland floodways or retention basins.

Land Reserves

D9.07 PROVISIONS FOR CYCLEWAYS AND PATHWAYS AT STRUCTURES

1. Designers shall consider the best way to provide for the uninterrupted movement of cyclists and pedestrians at proposed and existing structures wherever possible. Structures include bridges and underpasses over rivers, roads or railways. The reference and source documents provide information on:

**Bridges
Underpasses**

- acceptable widths and clearances
- types of cycleways and pathways
- handrails
- bicycle bridges
- approach ramps
- etc.

D9.08 SIGNAGE AND PAVEMENT MARKING

1. The Designer shall provide adequate signposting design for cycleways and pathways.

2. Signs and pavement marking will provide for the safe and convenient use of the facility. The signs and pavement marking will comply with AS 1742.9 Bicycle facilities.

Compliance

D9.09 END OF JOURNEY FACILITIES

1. Consideration must be given to the design of adequate facilities at common destinations of cyclists and pedestrians so as to encourage cycleway and pathway usage.

2. Such facilities could include:

- seats
- standby areas
- secure bicycle parking
- picnic facilities

Facilities

3. Bicycle parking installation design should meet appropriate criteria discussed in the AUSTROADS Guide and be fabricated to meet AS 2890.3.

Parking

D9.10 MINIMUM DESIGN STANDARDS

1. Notwithstanding the guidelines provided in this Specification and referenced documents the following minimum standards have been determined as shown in Table D9.1.

Table D9.1 Minimum Design Standards

		Cycleway	Pathway	Shared Use Pathway
Path Width		2.0m	1.2m	2.0m
Formation Width		3.0m	2.0m	3.0m
Crossfall	min. max.	1:40 1:20	1:40 1:20	1:40 1:20
Grade	max.	2% for 450m 5% for 90m 10% for 30m	NA	2% for 140m 3% for 70m 4% for 40m 5% for 30m

D9.11 DOCUMENTATION

1. The following listing outlines Council's minimum requirements for presentation of cycleway and/or pathway designs.

- All plans for cycleways/pathways are to be presented at the reduction ratio 1:500. **Plans**
- The cycleway plan sheet may be incorporated into the road plan where clarity permits. Specific details are to be provided at reduction ratio 1:200.
- Longitudinal Sections will be required for all off-road cycleways where grades exceed 4%. **Long Sections**
- Longitudinal Sections will have reduction ratios of 1:500 horizontal and 1:100 vertical.
- Cross Sections will be presented at 1:100 reduction ratio (natural) and transition tables will be required where cross falls vary or superelevation is provided. **Cross Sections**
- A typical cross section will be detailed to indicate pavement materials and layer depths.

2. All Drawings shall be in accordance with the minimum drafting requirements in the Specification for QUALITY ASSURANCE REQUIREMENTS FOR DESIGN.

SPECIAL REQUIREMENTS

D9.12 RESERVED

D9.13 RESERVED

D9.14 RESERVED