



**WESTERN AUSTRALIA
DEVELOPMENT DESIGN
SPECIFICATION**

D9

**CYCLEWAY AND PATHWAY
DESIGN**

Amendment Record for this Specification Part

This Specification is Council's edition of the AUS-SPEC generic specification part and includes Council's primary amendments.

Details are provided below outlining the clauses amended from the Council edition of this AUS-SPEC Specification Part. The clause numbering and context of each clause are preserved. New clauses are added towards the rear of the specification part as special requirements clauses. Project specific additional script is shown in the specification as italic font.

The amendment code indicated below is 'A' for additional script 'M' for modification to script and 'O' for omission of script. An additional code 'P' is included when the amendment is project specific.

Amendment Sequence No.	Key Topic addressed in amendment	Clause No.	Amendment Code	Author Initials	Amendment Date
1	<i>Minimum Design Standards</i>	<i>D9.10</i>	<i>M,A</i>	<i>AW</i>	<i>February 2001</i>

**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 AUSTRROADS Guide referenced below must be integrated in the design of cycleways and associated infrastructure. This specification serves as a companion document to the AUSTRROADS Guide extended to incorporate basic requirements for pathways.

AUSTRROADS

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 2890.3 - Bicycle parking facilities
 AS2156.1 - Walking tracks, Classification and signage
 AS2156.2 - Walking tracks, Infrastructure design
 AS Collection 005 - Access and mobility - People with disabilities
 SAA HB69.14 - Guide to traffic engineering practice - Bicycles

(c) Other

AUSTRROADS - Guide to Traffic Engineering Practice - PART 13 Pedestrians, PART 14 Bicycles.
 - Planning and Designing for Bicycles - NAASRA (now AUSTRROADS) Technical Report June 1988.
 Bikewest - Guidelines for the Design of Bicycle Facilities.
 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**

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

2. 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 Bicycle/Pedestrian Pathway
Segregated 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 Bicycle/Pedestrian Pathways

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

Footpaths

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 cater 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.

***Signs
Pavement
Marking***

D9.09 END OF JOURNEY FACILITIES

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

2. Such facilities could include:

Facilities

- seats
- standby areas
- secure bicycle parking
- picnic 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

CYCLEWAY AND PATHWAY DESIGN

documents the following minimum standards have been determined as shown in Table D9.1.

Table D9.1 Minimum Design Standards

		Cycleway	Pathway	Dual Use Pathway
Path Width		2.0m	1.5m	2.0m
Formation Width		3.0m	2.0m	3.0m
Crossfall	min.	1:50	1:50	1:50
	max.	1:40	1:40	1:40
Grade	max.	2% for 450m 5% for 90m 10% for 30m	NA	2% for 140m 3% for 70m 4% for 40m 5% for 30m 7% for 10m

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