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	IPWEA Mid North Coast Working Party Review,.	D09	A,O,M	HC	Jan 2001

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.

Safety

Level of Service

D9.03 REFERENCE AND SOURCE DOCUMENTS

(a) Council Specifications

D1
- Geometric Road Design
- Council shared cycleway/footpath plan

(b) Australian Standards

AS 1742	-	Manual of uniform traffic control devices.
AS 2890.3	-	Bicycle parking facilities
SAA HB69.14	-	Guide to traffic engineering practice – Bicycles
AS1428	-	Design for access and mobility
AS/NZS1158	-	Road lighting

(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.
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- A guide to the design of new pavements for light traffic – January 1998.

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

Soil Conservation of NSW
- Coastal Dune Management

NSW National Parks and Wildlife Service

- Walking Track Construction Guidelines

D9.04 CONSULTATION

1. The Designer is encouraged to consult with Council and relevant authorities prior to and during the preparation of cycleway and pathway design.

Landscape Designers Public Authorities

D9.05 PLANNING CONCEPTS

1. Council may provide specific requirements for cycleways and pathways in Council's Subdivision Code as well as in a regional or local strategic bicycle and pedestrian access mobility 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.

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,

AUSTROADS

drainage pit grates etc for on road cycleways. ***Guide***

3. Common pathway types include:

Exclusive Pedestrian Pathways
Shared Bicycle/Pedestrian Pathways

By definition pedestrian pathways are "off road". Pedestrian facilities routinely designed adjacent to roadways are termed footpaths and are designed to meet criteria outlined in the specification D1 – "Geometric Road Design (Urban and Rural)" and typically related to road cross section detailing. ***Footpaths***

4. Pathways by definition diverge from the road alignment either within the road reserve or across land reserves. Pathways can be provided in conjunction with overland floodways. ***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 AUSTROADS Guide provides 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. ***Signs Pavement Marking***

3. Signage and pavement markings for cycleways and pathways should be shown on the signage and pavement marking plan submitted with the Construction Certificate application.

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

- lighting

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	Dual Use Pathway
Path Width	2.0m	1.2m	2.0m
Formation Width	3.0m	2.0m	3.0m
Crossfall min. max.	2 % 5 %	2 % 2 %	2 % 2 %
Clearance Horiz.	2.5m	1.2m	2.5m
Grade max.	2% for 450m 5% for 90m 10% for 30m	2% for 140m 3% for 70m 4% for 40m 5% for 30m	2% for 140m 3% for 70m 4% for 40m 5% for 30m

2. Designers are also required to provide details of the proposed pavement design for the cycleway / pathway. When considering pavement design, the designer should take into account the loadings expected on the pathway, particularly whether vehicular traffic is likely, the strength of the subgrade material, environmental conditions and the type of material the cycleway/pathway is to have as its wearing surface. As a minimum it will be expected that a 100 mm base layer of compacted fine crushed rock / roadbase be provided. Designers considering cycleways / pathways that also act as emergency vehicle and or delivery vehicle pathways will be required to design the pavement in accordance with AUSTROADS " A guide to the design of new pavements for light traffic". Consultation with Council will be required to determine an acceptable design traffic for each individual situation. ***Pavement Design***

3. The preferred wearing surface for cycleways is concrete however, with Council approval asphaltic concrete may be considered. The choice of wearing surface for pedestrian pathways will depend on their location and purpose. Concrete will be the preferred surface however, with Council approval other surfaces, which could include but not be limited to asphaltic concrete, pavers, decomposed granite and natural gravel, will be considered. ***Surface Type***

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.

SPECIAL REQUIREMENTS

D9.12 BEACH ACCESS TRACKS / WALKING TRAILS

1. Beach access tracks across coastal dunal systems shall be constructed in accordance with the Soil Conservation of NSW's "Coastal Dune Management" guide. ***Beach Access Tracks***

2. Walking trails through and or across bushland reserves, headlands, state forests etc should be designed and constructed in accordance with the NSW National Parks and Wildlife Services' "Walking Track Construction Guidelines". Particular attention should be given to drainage in the design of walking trails to eliminate erosion problems and minimise the environmental impact of the trail. ***Walking Trails***

D9.13 RESERVED

D9.14 RESERVED

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