DEVELOPMENT DESIGN SPECIFICATION

D9

CYCLEWAY AND PATHWAY DESIGN

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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

(b) Australian Standards

AS 1742 - Manual of uniform traffic control devices.
AS 2890.3 - Bicycle parking facilities

(c) Other

AUSTROADS

- Guide to Road Design Part 6A: Pedestrian and Cyclist Paths
- 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 is encouraged to 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

2. The Designer should familiarise himself 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; 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 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***

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

Table D9.1

	Cycleway	Pathway	Dual Use Pathway	Remarks
Path Width	2.0	1.2m	2.5m	
Formation Width	3.0m	2.0m	3.5m	
Crossfall min. max.	2.5 % 5 %	2.5 % 5 %	2.5 % 5 %	
Clearance Horiz.	2.5m	1.2m	2.5m	
Thickness	100 mm unreinforced	100 mm unreinforced	100 mm unreinforced	SL72 mesh at veh crossing points or designated veh access
Joint Spacing	6.0m	3.6 m	6.0 m	'Conolly Key Joint' or equivalent
Concrete Grade	25 MPa	25 MPa	25 MPa	

D9.11 DOCUMENTATION

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

a. All plans for cycleways/pathways are to be presented at the reduction ratio 1:500. ***Plans***

b. 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.

c. Longitudinal Sections will be required for all off-road cycleways where the longitudinal grade or natural crossfall exceeds 10%. ***Long Sections***

d. Longitudinal Sections will have reduction ratios of 1:500 horizontal and 1:100 vertical.

e. 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***

f. A typical cross section will be detailed to indicate pavement materials and layer depths.

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