

TWEED SHIRE COUNCIL

DEVELOPMENT DESIGN SPECIFICATION

D9

CYCLEWAY AND PATHWAY DESIGN

VERSION 1.3

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.

Safety

Level of Service

D9.03 REFERENCE AND SOURCE DOCUMENTS

In cases of conflict or contradiction, unless otherwise specified, the provisions of this Specification will prevail over all reference documents and prevail over all Tweed Shire Council Standard Drawings.

(a) Council Specifications

DCP-A5	-	Subdivision Manual
D1	-	Road Design
D13	-	Engineering Plans (Subdivisions)
CP22	-	Section 94 Contributions Plan No. 22 "Cycleways"

(b) Australian Standards

AS 1428	-	Design for access and mobility
AS 1742	-	Manual for uniform traffic control devices
AS 1742.9	-	Bicycle facilities
AS 1742.10	-	Pedestrian control and protection
AS 2890	-	Parking facilities
AS 2890.3	-	Bicycle parking facilities

(c) Other

AUSTROADS	-	Guide to Road Design Part 6A: Pedestrian and Cyclist Paths
	-	Cycling Aspects of Austroads Guides
Tweed Shire Bicycle Plan Report by GH & D		May 1997

(d) Tweed Shire Council Standard Drawings that apply to this section:

S.D. 013	Footpath & Cycleway Details
S.D. 014	Standard Kerb Ramp Details
S.D. 016	Bike Path Slowdown Control – 'Z' Chicane

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. The process of *subdivision design* will determine the general subdivision lot layout; road, pathway and cycleway networks; and is dealt with in DCP-A5.

Development Design Specification D1 – ROAD DESIGN provides requirements for the provision of pathways and cycleways in standard road cross sections.

Council also has specific requirements for cycleways and pathways in Council's Bicycle Plan. The Designer will need to enquire about such requirements and provide for any nominated paths within the development proposal.

***Subdivision planning,
provision in road cross sections,
regional bicycle plan***

2. The Designer should familiarise himself with cycleway geometric design requirements in terms of:

Geometric Design

- (a) width
- (b) grade
- (c) stopping sight distance
- (d) change in grade
- (e) horizontal curvature
- (f) crossfall and drainage
- (g) superelevation
- (h) sight distance on horizontal curves

AUSTROADS Guide

These requirements are discussed in the AUSTROADS Guide.

3. Footpaths and cycleways adjacent to roads shall be protected from illegal encroachment by moving or parked vehicles by the provision of vertical faced kerb or other suitable physical barriers.

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

Note: The Australian Road Rules 1999 provide for use of roadway footpaths by juvenile cyclists. Council expects that designers will include relevant safety and geometric requirements in normal street cross section design.

2. Common alternative cycleway types include:

On Road

Off Road

Shared Parking/Bicycle Lanes

Shared Bicycle/Pedestrian Pathway

Wide Kerbside Lanes

Segregated Pathway

Shared Traffic Lanes

Exclusive Cycleway

Exclusive Bicycle Lane

Sealed Shoulder

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

***AUSTRROADS
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

5. For visibility and safety reasons, roadside footpaths shall be located at least one metre from property boundaries at vehicle access points.

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***

(a) acceptable widths and clearances

(b) types of cycleways and pathways

(c) handrails

(d) bicycle bridges

(e) approach ramps, etc.

2. Suitable kerb ramps satisfying the requirements of the Disability Discrimination Act 1992 and AS 1428 shall be provided at kerb crossing points.

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 and AS 1742.10 and are subject to Local Traffic Committee approval. **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**
- (a) seats
 - (b) standby areas
 - (c) secure bicycle parking
 - (d) 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. Cycleways and pathways shall be designed to comply with AUSTROADS and TSC requirements as referenced below: **Design
Standards**
- Path width - refer S.D.013
- Crossfall - refer S.D.013
- Horizontal Clearances - refer AUSTROADS Guide to Road Design Part 6A
- Grade - refer AUSTROADS Guide to Road Design Part 6A
- Integration with other cross sectional elements and services - refer D1, Tables D1.7 and D1.8

D9.11 DOCUMENTATION

1. See Development Design Specification D13 for details of required documentation and plans. **D13**

SPECIAL REQUIREMENTS

D9.12 FOOTPAVING

- (a) Concrete is the preferred material for cycleway and pathway pavement construction. For details on concrete cycleway/pathway pavement design requirements see *Standard Drawing S.D.013 Footpath and Cycleway Details*.
- (b) Pavers may be considered for approval provided they are placed on a concrete slab for the extent of this surface treatment in the public realm.
- (c) Stamped concrete has been found to have inconsistent depth and texture and is not permitted, due to pedestrian safety and liability issues.

- (d) Stencilled concrete may be considered for approval provided the texture is safe for pedestrians and cyclists.