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C10 Transport, Access and Parking

A. General Objectives

- a) To integrate transport planning and land use to promote sustainable development and greater use of public transport systems;
- b) To minimise the impacts of traffic generating developments and manage road safety issues;
- c) To ensure that access paths and driveways are integrated in the design of developments and minimise impacts on road systems;
- d) To provide appropriate parking for all development whilst promoting more sustainable transport use;
- e) To facilitate connections and accessibility for those using non vehicle transport by providing appropriate facilities to improve amenity and safety;
- f) To facilitate bicycle connections and provide appropriate bicycle facilities to improve amenity and safety; and
- g) To ensure that access is provided for all people with diverse abilities.

B. Other Relevant Sections of this DCP

This section should be read in conjunction with all other relevant sections of this DCP. In particular, the following sections cover issues which overlap with transport, access and parking.

C. Other Relevant Information

Other relevant information includes:

- Planning Guidelines for Walking and Cycling (December 2004) NSW Department of Infrastructure, Planning and Natural Resources; Roads and Traffic Authority
- Improving Transport Choice – Guidelines for planning and development (August 2001) NSW Department of Urban Affairs and Planning; Transport NSW; Roads and Traffic Authority
- Healthy By Design: a planners' guide to environments for active living (June 2004) National Heart Foundation (Victorian Division).
- Guide to Traffic Generating Developments (2002) Roads and Traffic Authority (as updated). The Roads and Maritime Services (RMS) Technical Direction (TDT 2013/04a) Guide to Traffic Generating Developments Updated Traffic Surveys.
- Australian Standards AS2890, AS1428, AS1158 and AS4287. The Roads and Maritime Services (RMS) Australian Standard Supplement to Australian Standard AS2890 Parking Facilities Part 1 – 6.

- State Environmental Planning Policy (Infrastructure) 2007
- State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004
- Final Draft Penrith Integrated Transport and Land Use Strategy (2008) Penrith City Council
- Penrith Accessible Trails Hierarchy Strategy (PATHS)
- Draft Interim Guidelines: Transport Management and Accessibility Plans, Ministry of Transport and Roads and Traffic Authority - www.transport.nsw.gov.au

10.1. Transport and Land Use

A. Background

This section of the DCP seeks to maximise the benefits to the community of an effective and well-used public transport system by promoting planning and development outcomes that will support and sustain public transport use, improve community health, and which will achieve the more effective integration of land use and public transport infrastructure.

B. General Objectives

- a) To develop a coherent urban system of compact walkable neighbourhoods with relatively intense, mixed use town centres;
- b) To provide a highly-interconnected street network that clearly distinguishes between arterial routes and local streets, establishes good internal and external access for residents, maximises safety, encourages walking and cycling, supports public transport and minimises the impact of through traffic;
- c) To reduce travel demand including the number of trips generated by development and the distances travelled, especially by car;
- d) To promote and facilitate the use of public transport as a more sustainable alternative to the private car for personal travel;
- e) To ensure that transit infrastructure is effectively integrated with other development, to maximise safety, security and convenience for transit users; and
- f) To promote and facilitate walking and cycling within transit oriented precincts by establishing and maintaining high levels of amenity, safety and permeability in the urban form.

C. Controls

- 1) A *Transport Management and Accessibility Plan* (TMAP) is to be prepared for all significant developments (see Appendix F3 – Submission Requirements for further details). The TMAP is to address the objectives and controls in this section.
- 2) New development that will have potential significant public transport patronage (especially residential, commercial and employment generating uses) is to be located close to existing or proposed transport nodes or networks.
- 3) A range of uses are to be provided or integrated in mixed-use areas to provide a range of services in a single location and minimise the need for additional travel.
- 4) Public transport use is to be enhanced by providing good pedestrian connections from places of residence or employment to transport networks or nodes.

10.2 Traffic Management and Safety

A. Objectives

- a) To provide safe and efficient travel routes for all vehicles in the Penrith LGA;
- b) To reduce the number of vehicle and pedestrian accidents per capita;
- c) To ensure the safety of cyclists, pedestrians and passing traffic during construction of development;
- d) To cater for current and future growth of vehicle traffic usage;
- e) To encourage the orderly and economic provision of road and intersection works;
- f) To ensure that existing roads and intersections are upgraded to provide a satisfactory level of service consistent with the volume and nature of traffic generated by the proposed development; and
- g) To avoid new direct access to and from arterial, sub-arterial and other major roads.

B. Controls

1) Traffic Studies

Traffic studies may be required for some developments. Check with Council about whether a traffic report is required to support your proposal.

- a) Development applications for major development proposals should be accompanied by an appropriate *Traffic Report* (see Appendix F3 – Submission Requirements for further details). The Traffic Report should detail the assessed impact of projected pedestrian and vehicular traffic associated with the proposal, with recommendations on the extent and nature of the traffic facilities necessary to preserve or improve the safety and efficiency of the adjacent road system.
- b) A Traffic Report must be provided for applications required to be referred to the Roads and Maritime Services (RMS) under Column 2 and a *Traffic Impact Statement* for Column 3 of SEPP (Infrastructure) 2007.
- c) Depending on the scale, type and nature of the use proposed, Council may determine that a Traffic Report or Traffic Impact Statement is required for certain development which is not listed under Column 2 or 3 of SEPP (Infrastructure) 2007.
- d) Any Traffic Report or Traffic Impact Statement is required to address the following issues:
 - i) The objectives of this section relating to transport and land use;
 - ii) The objectives of this section relating to traffic management and safety;
 - iii) The objectives and controls of this section relating to traffic generating developments; and
 - iv) The issues set out in Appendix F3 – Submission Requirements of this DCP.

- e) Any development identified in Schedule 3 of *State Environmental Planning Policy (Infrastructure) 2007* is either referred to RMS (Column 2 developments) or Council's Local Traffic Development Committee (Column 3 developments) for assessment and conditions as required.

2) Road Safety

- a) Each development should demonstrate how it will:
 - i) Provide safe entry and exit for vehicles and pedestrians which reflect the proposed land use, and the operating speed and character of the road;
 - ii) Minimise the potential for vehicular/pedestrian conflicts, providing protection for pedestrians where necessary;
 - iii) Not restrict traffic flow or create a hazard to traffic on roads in the vicinity of the development;
 - iv) Provide suitable off-street parking facilities to accommodate vehicles generated by the development; and
 - v) Identify the need, where apparent, for any additional on-street traffic facilities or road works which may be required to maintain the safe and efficient movement of vehicles and pedestrians.
- b) Where feasible, vehicle access for developments should be from service roads/lanes.
- c) The design of direct vehicular access to developments should consider the traffic impacts on the surrounding road network. This may require the provision of deceleration, acceleration, right turn lanes and road widening, as necessary.
- d) Provision must be made for all vehicles to enter and leave properties in a forward direction other than for single dwellings.
- e) The layout and design of parking areas must minimise vehicle to pedestrian impacts, especially where heavy vehicle access to loading docks is proposed.

3) Traffic Generating Development

- a) New access points off arterial, sub arterial or other major roads is to be avoided where alternate access opportunities exist.
- b) Any development identified in Schedule 3 of *State Environmental Planning Policy (Infrastructure) 2007* is either referred to RMS (Column 2 developments) or Council's Local Traffic Development Committee (Column 3 developments) for assessment and conditions as required.

10.3. Key Transport Corridors

A. Background

This section seeks to identify key transport corridors in the City of Penrith that have specific functions, character or requirements that need to be protected when approving development along those corridors. Section C1 'Site Planning and Design Principles' provides more guidance on what is required in areas with particular scenic and landscape values.

Key transport corridors that need to be protected include:

- Andrews Road
- Castlereagh Road
- Cranebrook Road
- Christie Street
- Dunheved Road
- Elizabeth Drive
- Erskine Park Road
- Gipps Street/Werrington Road
- Great Western Highway
- Greendale Road
- Londonderry Road
- Luddenham Road
- Mamre Road
- Mulgoa Road
- Park Road
- Richmond Road
- The Northern Road
- Lenore Drive
- Main Western Railway Corridor.

B. Objectives

- a) To protect the character of certain transport corridors in the City of Penrith; and
- b) To ensure that development is appropriately setback from transport corridors.

C. Controls

1) Character of Key Transport Corridors

- a) Applicants need to ensure that the proposed development is in character with each of the key transport corridors.
- b) Access driveways and development in proximity to the key transport corridors need to protect the landscape character and any heritage values, and ensure traffic safety.

2) Development Setbacks from Transport Corridors

- a) A minimum setback of 100m is required from Mulgoa Road where development is proposed in rural or environmental zones.
- b) A minimum setback of 30m is required from all other key transport corridors where development is proposed in rural or environmental zones.

10.4 Roads

A. Objectives

- a) To regulate the key characteristics of new streets to provide traffic safety and efficient traffic flow, appropriate parking provision, appropriate pedestrian and cycle provision, and suitable verge and road reserve widths in accordance with each road's function and use within the general road hierarchy;
- b) To ensure public safety from criminal elements by considering the NSW Police 'Safer by Design' or 'Crime Prevention Through Environmental Design' principles and protocols;
- c) To minimise construction and maintenance costs, and avoid the need for future property acquisition;
- d) To maintain flexibility to allow for future changes in land use patterns;
- e) To ensure noise from all sources is within acceptable limits; and
- f) To incorporate appropriate traffic calming measures.

B. Controls

1) Controls for all roads

- a) Proposed roads must comply with the road configurations set out in Table C10.1. These configurations apply to private and community title roads as well as all public roads.
- b) In special circumstances where it can be clearly demonstrated that the road configurations in Table C10.1 are not appropriate, then the following key principles must be applied to any alternative proposal:
 - i) Road and lane widths must allow for two-way movement and turning movements of design vehicles, including consideration for buses, heavy vehicles, garbage trucks and emergency vehicles;
 - ii) Verge widths must consider requirements for utilities, street tree planting, footpaths, shared paths and urban design outcomes;
 - iii) Adequate on-street parking must be provided;
 - iv) Adequate turning paths must be provided for all design vehicles at intersections and for property access;
 - v) Road widths must be set to minimise kerbside restrictions and regulatory signage;
 - vi) Sufficient width must be provided for specialist drainage functions; and
 - vii) Life cycle costs for construction and maintenance must be minimised.

Table C10.1: Road Configurations

Street/Road Type	Parking Lane Provision (m)	Width of Dedicated Travel Lanes – Both directions (m)	Verge widths (m)	Road Reserve (m)	Concrete Pathway 1.5m wide
Local	2 x 2.5	3	2 x 3.8	15.6	Both sides ⁽⁹⁾
Collector	2 x 2.5 ⁽⁴⁾	7 ⁽⁴⁾	2 x 4.8	21.6 ⁽⁴⁾	Both sides ⁽⁴⁾
Distributor	2 x 3.95 ⁽⁶⁾	7 ⁽⁶⁾	2 x 4.8	24.5	Both sides
Industrial	2 x 3.0 ⁽⁴⁾	7 ⁽⁴⁾	2 x 3.8	20.6 ⁽⁴⁾	Both sides ⁽⁴⁾
Rural	n/a	7	2 x 6.0 ⁽⁷⁾	19	n/a

Notes:

- 1) *It is not intended that this table address all road configurations. The characteristics and requirements for other roads will be assessed on merit as part of any development proposal. Special consideration will need to be given to other road configurations such as laneways, access ways, commercial precincts and roads fronting schools.*
- 2) *Road configurations shall allow for widening at horizontal curves and intersections to allow for the turning paths of design vehicles without encroachment upon nominal centrelines of the road network.*
- 3) *Additional widening will be required for the provision of specialist drainage functions within the road reserve.*
- 4) *Additional widening may be required on collector and industrial roads to provide for cyclists in accordance with the Australian Road Design Guidelines. Provision for cyclists will be dependent on Penrith City Council's cycleway strategy and the surrounding cycle network.*
- 5) *Where required additional widening will be required for the provision of central medians, indented bus bays and Planning for Bushfire Protection requirements.*
- 6) *Parking and travel lanes for distributor roads allow for on-road cycle ways.*
- 7) *Rural residential roads for lots less than or equal to one hectare will generally be treated as local roads without the requirement for pedestrian pathways.*
- 8) *Verge widths adjacent to open space shall be a minimum of 3.8m.*
- 9) *Pathways are required on the dwelling side only.*
- 10) *Kerb types shall be consistent with Penrith City Council's Engineering Design Guidelines.*

Local road means a road or street used primarily for property access. Local roads include laneways, access ways and rural residential roads for lots typically less than or equal to 1 hectare.

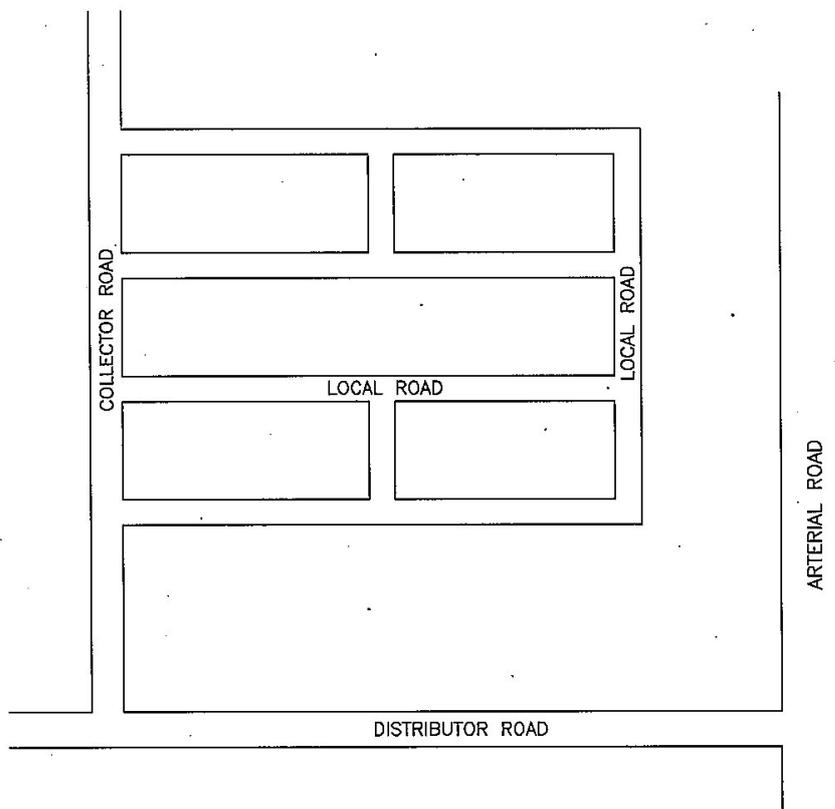
Collector road means a road which collects and distributes traffic in an area, as well as providing direct property access.

Distributor road means a road connecting arterial roads to areas of development.

Industrial road means a road providing access to industrial zoned land and for other development which generates frequent truck movements.

Rural road means a road providing access to rural areas and properties typically exceeding one (1) hectare.

Figure C10.1: Road Hierarchy



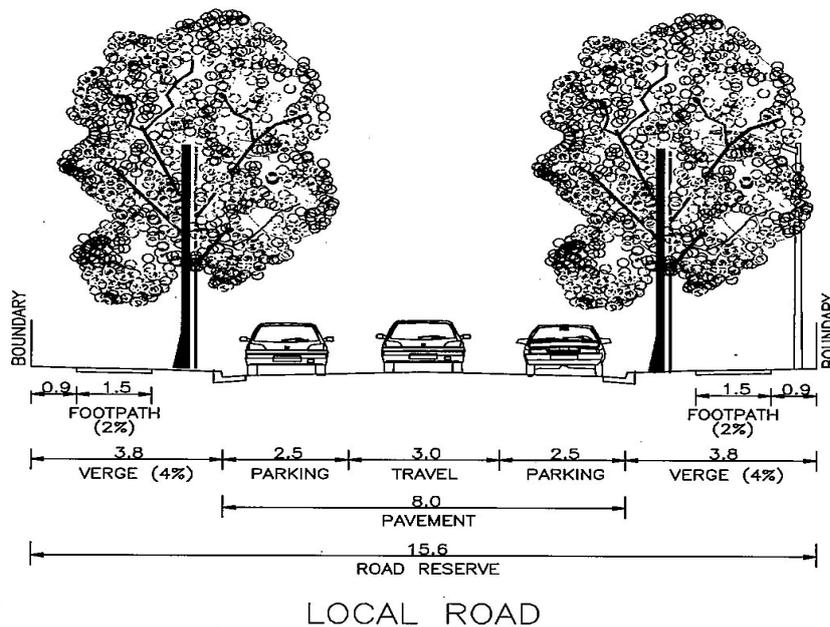
2) Local roads

a) Local roads are to achieve the following performance objectives:

- i) Direct access to residential properties and interconnectivity with other local roads and collector roads;
- ii) Provide for heavy vehicles and emergency vehicles, including circulation and manoeuvring of garbage trucks;
- iii) Ensure only occasional, minor delays or the need for driver co-operation due to vehicles parking on both sides of the road;

- iv) Provide adequate on-street parking;
 - v) Provide pedestrian pathways on both sides of the road; and
 - vi) Provide lighting in accordance with relevant Australian Standards.
- b) Roads are to be designed in accordance Penrith City Council's Engineering Design Guidelines and conditions of development consent with reference to Figure C10.2.
- c) Further controls may be applied as part of a development consent based on the individual circumstances of any proposed layout with reference to the adjoining road network.

Figure C10.2: Local Road

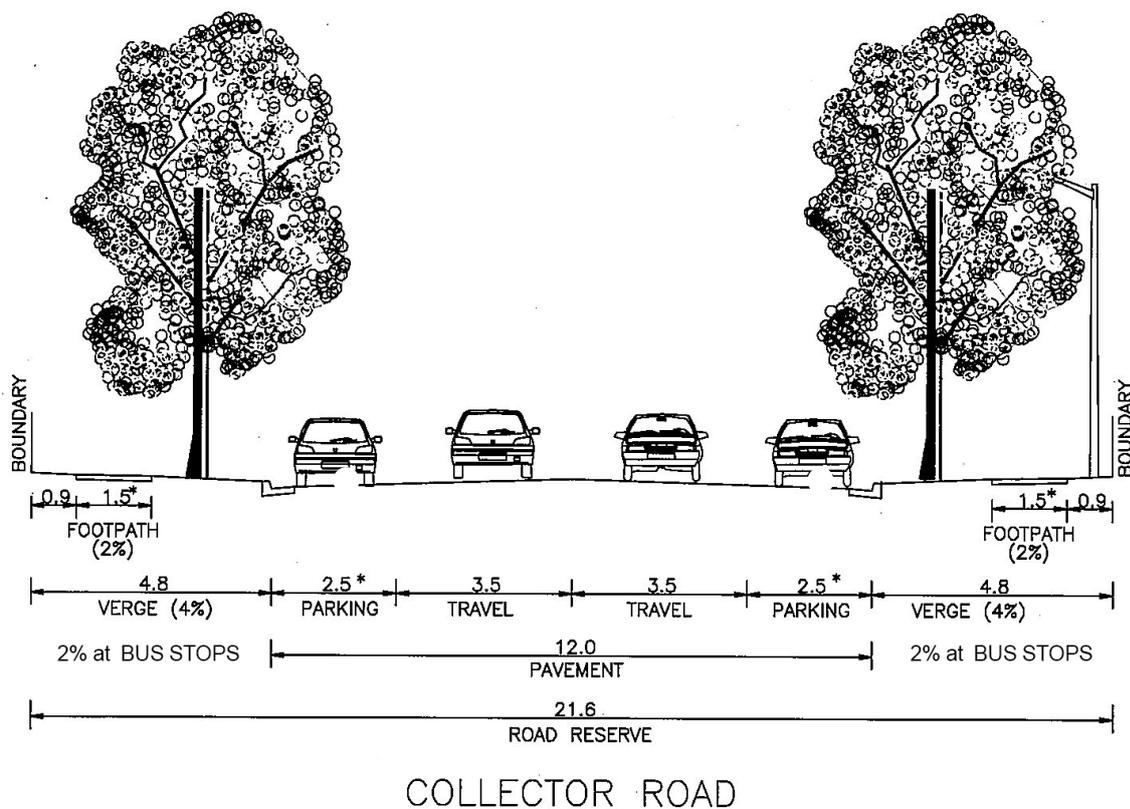


3) Collector roads

- a) Collector roads are to achieve the following performance objectives:
- i) Provide high accessibility for all road users;
 - ii) Be at a scale consistent with the higher order role these roads play in the overall road network;
 - iii) Provide for local bus services within the road lane widths;
 - iv) Provide an off-road shared path. On road cycle ways will be considered in some circumstances;
 - v) Provide pedestrian pathways on both sides of the road with safe crossing points;
 - vi) Integrate pedestrian and cycle pathways with the surrounding network;
 - vii) Provide lighting in accordance with relevant Australian Standards;
 - viii) Provide for turning paths of heavy vehicles at intersections;

- ix) Provide dedicated on-street parking on both sides of the road; and
 - x) Be able to comfortably accommodate the co-location of on-street bus stops, DDA compliant boarding points, bus shelters and pathways.
- b) Roads are to be designed in accordance Penrith City Council's Engineering Design Guidelines and conditions of development consent with reference to Figure C10.3.
- c) Further controls may be applied as part of a development consent based on the individual circumstances of any proposed layout with reference to the adjoining road network.

Figure C10.3: Collector Road

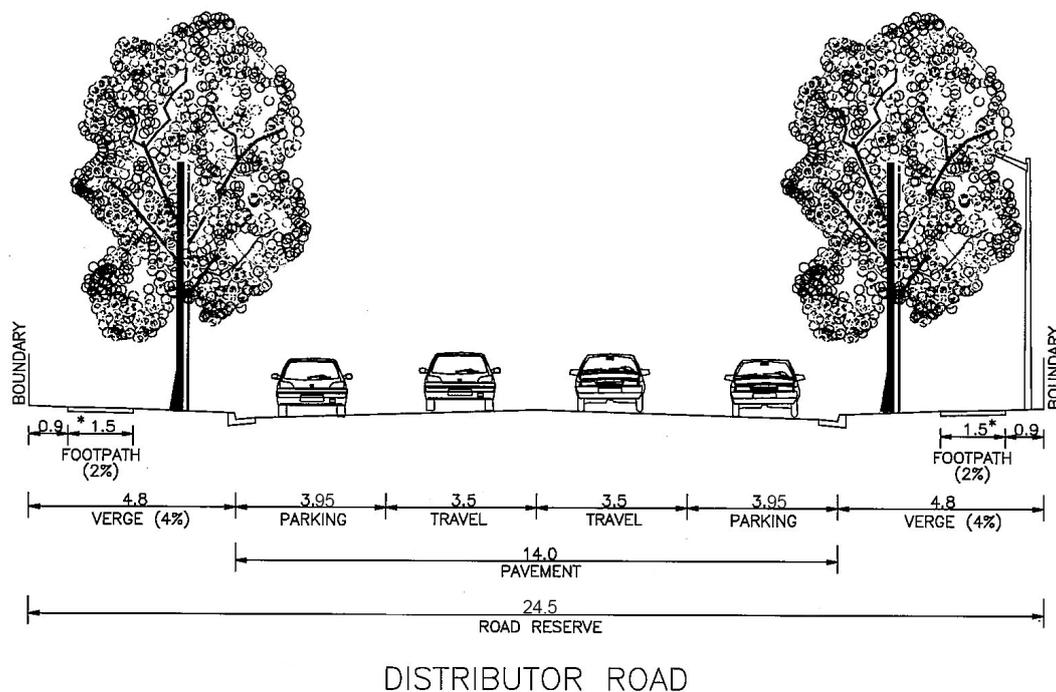


4) Distributor roads

- a) Distributor roads are to achieve the following performance objectives:
- i) Provide high accessibility for all road users;
 - ii) Be at a scale consistent with the higher order role these roads play in the overall road network;
 - iii) Provide for heavy vehicles and buses within the road lane widths;
 - iv) Provide on-road cycle ways (cycleway widths are to be designed from the lip of gutter);

- v) Provide pedestrian pathways on both sides of the road;
 - vi) Provide for turning paths of heavy vehicles at intersections;
 - vii) Provide dedicated on-street parking or additional lanes dependant on traffic volumes; and
 - viii) Be able to comfortably accommodate the co-location of bus shelters and pathways.
- b) Roads are to be designed in accordance Penrith City Council's Engineering Design Guidelines and conditions of development consent with reference to Figure C10.4.
- c) Further controls may be applied as part of a development consent based on the individual circumstances of any proposed layout with reference to the adjoining road network.

Figure C10.4: Distributor Road

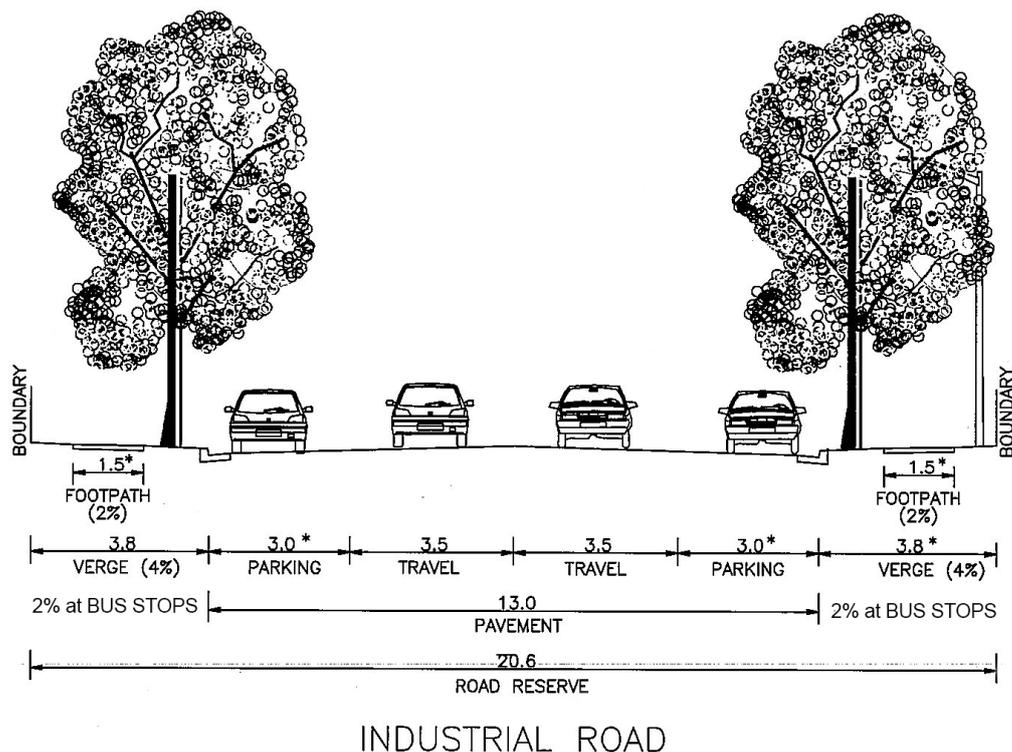


5) Industrial roads

- a) Industrial roads are to achieve the following performance objectives:
- i) Provide direct access to industrial properties and interconnectivity with the adjoining road network;
 - ii) Provide for all classes of heavy vehicles and appropriate circulation;
 - iii) Provide dedicated on-street parking on both sides of the road;
 - iv) Provide a shared path or on road cycle ways; and
 - v) Provide lighting in accordance with relevant Australian Standards.

- b) Roads are to be designed in accordance Penrith City Council's Engineering Design Guidelines and conditions of development consent with reference to Figure C10.5.
- c) Further controls may be applied as part of a development consent based on the individual circumstances of any proposed layout with reference to the adjoining road network.

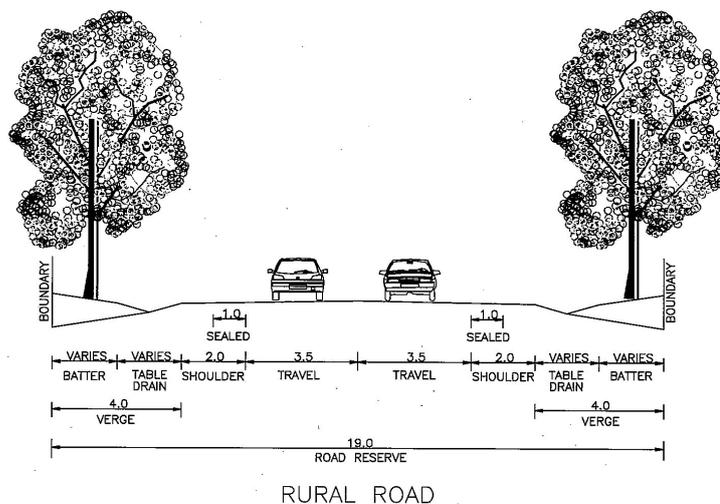
Figure C10.5: Industrial Road



6) Rural roads

- a) Rural roads are to achieve the following performance objectives:
 - i) Provide direct access to residential/rural properties and interconnectivity with the adjoining road network;
 - ii) Provide for all classes of heavy vehicles; and
 - iii) Provide lighting in accordance with relevant Australian Standards.
- b) Roads are to be designed in accordance Penrith City Council's Engineering Design Guidelines and conditions of development consent with reference to Figure C10.6.
- c) Further controls may be applied as part of a development consent based on the individual circumstances of any proposed layout with reference to the adjoining road network.

Figure C10.6: Rural Road



10.5. Parking, Access and Driveways

10.5.1. Parking

A. Background

This section of the DCP provides a set of principles to be used when assessing the need for car parking requirements in the City of Penrith. Minimum parking requirements have been set by Council to ensure that development functions efficiently and there is limited impact on street parking and congestion.

Car parking required by this DCP must be provided for onsite unless the consent authority is satisfied that adequate car parking is provided elsewhere.

Council owned public car parking is not to be included as part of a building's gross floor area.

B. Objectives

- a) To ensure the provision of an appropriate number of vehicular spaces having regard to the activities present and proposed on the land, the nature of the locality and the intensity of the use;
- b) To require parking areas to be designed and constructed in accordance with the Australian Standards for efficient and safe vehicle circulation and parking;
- c) To reduce pedestrian and vehicle conflicts on development sites.
- d) To facilitate an appropriate level of on-site parking provision to cater for a mix of development types;
- e) To minimise the visual impact of on-site parking;

- f) To provide adequate space for parking and manoeuvring of vehicles (including service vehicles and bicycles);
- g) To enable the conversion of above ground parking to other future uses; and
- h) To support the complementary use and benefit of public transport and non-motorised modes of transport such as bicycles and walking.

C. Controls

1) Provision of Parking Spaces

- a) Parking provided on site is to meet AS 2890 and where appropriate, AS 1428.
- b) For any proposed development, Council will require the provision of on-site car parking to a standard appropriate to the intensity of the proposed development as set out in Table C10.2 below.
- c) Within rural zones, the range of possible uses of land is very broad. Car parking is to be provided in accordance with Table C10.2: Car Parking Rates. If parking rates for the use is not listed, it will be the applicant's responsibility to demonstrate that adequate parking is provided.
- d) For commercial developments providing employment for 20 people or more, bicycle parking is to be in secure and accessible locations, and provided with weather protection. The following associated facilities are to be provided:
 - i) Change and shower for cyclists and are to be conveniently located close to the bicycle storage areas.
 - ii) Where the building is to be strata-titled, the bicycle storage facilities and shower/change facilities are to be made available to all occupants of the building.
- e) For existing developments, a new use must not commence or the floor area increased until the required car park spaces have been provided on the site, corresponding to the land use outlined in Table C10.2.
- f) In the absence of specific requirements relevant to particular developments, the parking requirements in the RTA's "Guide to Traffic Generating Developments" (as updated) and Australian Standard AS 2890.1 and 2 - 2004 should be referred to as a guide. In the absence of all data, the applicant should revert to the use of first principles.
- g) Where relevant, development shall provide on-site loading facilities to accommodate the anticipated heavy vehicle demand for the site.
- h) Stacked parking will not be permitted for visitor spaces for any development.
- i) Stacked parking in commercial or industrial development may be permitted for employee spaces only, provided the number of stacked spaces does not account for more than 10% of the total required parking spaces.
- j) Car parking above ground level is to have a minimum floor to ceiling height of 2.8m so it may be adapted to another use in the future.

- k) Car parking and associated internal manoeuvring areas provided over and beyond the requirements of this DCP shall be calculated as part of the development's gross floor area.
- l) Where possible, natural ventilation is to be provided to underground parking areas with ventilation grilles and structures that are:
 - i) integrated into the overall façade and landscape design of the development;
 - ii) located away from the primary street façade; and
 - iii) oriented away from windows of habitable rooms and private open space areas.
- m) Proposals for basement parking areas are to be accompanied with a geotechnical report prepared by an appropriately qualified professional and any other supporting information to the Development Application.
- n) For all residential development at least one car parking space for each dwelling shall be covered the second space may be "stacked" or "tandem" or located on a driveway.

Table C10.2: Car Parking Rates

Type of Development	Parking Requirement
Residential	
Dwelling House	2 spaces per dwelling – stack or tandem parking acceptable
Dual Occupancy	2 spaces per dwelling (2 or more bedrooms) – stack or tandem parking acceptable
Multi Dwelling Housing	<p>On-site resident parking for each dwelling:</p> <p>1 car space per 1 bedroom</p> <p>1.5 car spaces per 2 bedrooms or part thereof</p> <p>2 car spaces per 3 or more bedrooms</p> <p>In addition, visitor parking is to be provided for developments that have 5 or more dwellings: 1 space for every 5 dwellings (or part thereof)</p>
Residential Flat Buildings	<p><u>On-site resident parking for each dwelling:</u></p> <p>1 space per 1 or 2 bedrooms</p> <p>2 spaces per 3 or more bedrooms</p> <p>1 space per 40 units for service vehicles</p> <p>In addition, visitor parking is to be provided for developments that have 5 or more dwellings: 1 space per every 5 dwellings, or part thereof.</p> <p>1 space for car washing for every 50 units, up to a maximum of 4</p>

Type of Development	Parking Requirement
	spaces per building.
Commercial	
Bowling Alleys, Squash Courts	3 spaces per lane or court
Bulky Good Premises	1 per 50m ² of gross floor area
Business and office premises	St Marys Town Centre– 1 space per 60m ² GFA Penrith City Centre –1 space per 100m ² GFA (Please see “Other Site Specific Requirements” at the end of this table for additional requirements for parking provision in the Penrith City Centre.) All other areas – 1 space per 40m ² GFA.
Child Care Centres/Pre Schools	1 space per 10 children plus 1 per employee plus provision for any dwelling. Note: Where a child care centre/pre-school is not located in or immediately adjoining a residential area, a submission to vary the above parking rates will be considered.
Entertainment Facilities/Function Centres	1 space per 3.5 seats or 1 space per 3.5m ² of gross floor area, whichever is the greater
Fitness Centre including Gym	7 spaces per 100m ² GFA
Health Consulting Rooms/ Medical Centres	3 spaces per health care professional practising at any one time plus 1 space per receptionist/support staff, plus 1 space per associated dwelling.
Hospitals	1 space per 3 beds plus 1 space per 2 employees
Hotel or motel accommodation	1 space per unit plus 1 space per manager plus 1 space per 6 employees
Place of public worship	1 space per 4 seats or 1 space per 6m ² of gross floor area, whichever is the greater
Pubs/Registered Clubs	1 space per 4m ² of bar floor area plus 1 per 6m ² lounge and dining room
Restaurants, reception and function rooms	1 space per 6m ² of seating area, plus 1 space per employee
Retail Premises	Penrith City Centre and St Marys Town Centre – 1 space per 30m ² GFA

Type of Development	Parking Requirement
	(Please see "Other Site Specific Requirements" at the end of this table for additional requirements for parking provision in the Penrith City Centre.)
Retail Premises Shop	<p>Supermarkets – 1 space per 10m² of floor area that is to be used for retailing activities</p> <p>Other neighbourhood and specialty shops – 1 space per 30m² GFA</p>
Service Stations and Convenience Stores	6 spaces per work bay plus 4 spaces per 100m ² of gross floor area of convenience store
Vehicle Sales or Hire Premises	1 space per 100m ² of display area plus 1 space per employee, plus 6 spaces per work bay
Industrial	
Freight Transport Facilities	1 per transport vehicle present at peak vehicle accumulation plus 1 per 2 employees
Industries, including ancillary office	1 space per 75m ² of gross floor area or 1 space per 2 employees, whichever is the greater
Vehicle Body Repair Workshops/ Vehicle Repair Stations	3 spaces per 100m ² of gross floor area or 6 per work bay, whichever is the greater
Warehouses or distribution centres, including ancillary office	1 space per 100m ² of gross floor area (except as otherwise specified in this Table)
Other Uses	In accordance with RMS Guidelines or if there are no parking guidelines for a specific use, then a site specific car parking analysis will be required. This may require the applicant to submit a car parking report from a suitably qualified traffic consultant.
Accessible Parking	
Accessible car spaces should be in accordance with the Access to Premises Standards, Building Code of Australia and AS2890.	
Bicycle Parking	
Bicycle parking in accordance with the suggested bicycle parking provision rates for different land use types in the document 'Planning Guidelines for Walking and Cycling' (NSW Government 2004). Bicycle parking spaces should comply with AS2890.3:1993 Bicycle Parking Facilities.	
Other Site Specific Requirements	

Type of Development	Parking Requirement
	<p>Penrith City Centre – A maximum 60% of the total number of commercial parking spaces required by a development, other than for service vehicles, car washing bays and parking spaces allocated to people with a disability, are to be provided on-site.</p> <p>The balance of the total required number of spaces not provided on-site would need to be subject to a contribution under an adopted Contribution Plan or as set by the terms of a Voluntary Planning Agreement.</p> <p>Oakdale South Industrial Estate</p> <p>Car parking shall be provided in accordance with the following rates (unless evidence is provided in accordance with Part C10, Section 10.5.1, C1) f) of the Penrith DCP:</p> <ul style="list-style-type: none"> • 1 space per 300m² of warehouse gross floor area (GFA); • 1 space per 40m² of office GFA; and • 2 disabled spaces for every 100 car parking spaces. • Underground / basement car parking is not permitted at Oakdale South Industrial Estate.

2) Additional Controls for Developments within the Commercial Core and Mixed Use zones

- a) On-site parking is to be accommodated in basement parking except to the extent provided for below:
 - i) Up to 25% of the required parking can be provided above ground, where: it is located at least 16 metres behind a building alignment that addresses a public street or public space and/or fronting a service lane with appropriate screening (refer to Figure C10.7 and C10.8).
 - ii) Any additional parking provided above ground will count towards gross floor area for the purposes of calculating Floor Space Ratio.

Figure C10.7: Aboveground parking must be screened by an active edge to the public domain

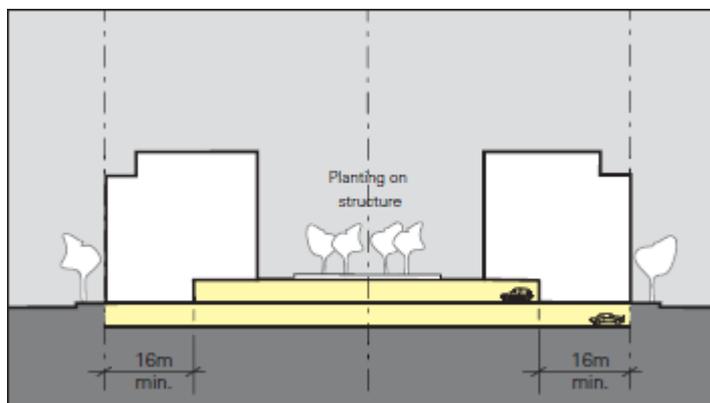
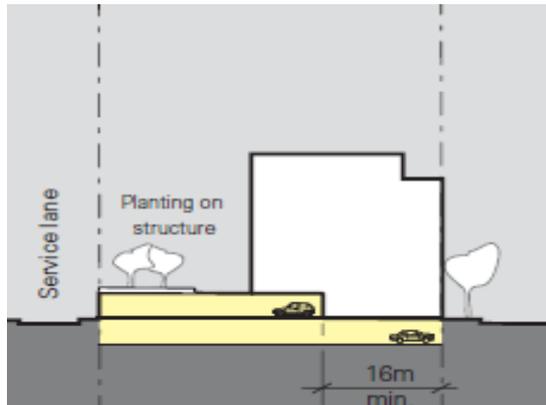


Figure C10.8: Aboveground parking may be located adjacent to a lane, with appropriate screening to reduce the impact on the public domain



3) Additional Controls for Residential Developments

- a) On-site parking for residential developments, including the residential component in a mixed use development, is to be accommodated wholly in a basement parking area unless the applicant can demonstrate to Council's satisfaction that the site's unique conditions prevent the parking from being located in a basement structure.
- b) If on-grade car parking is proposed, the location and adequacy of the parking area must not adversely impact on the amenity of the adjoining neighbourhood. The parking area is to:
 - i) be located on the side or rear of the site, and is not visible from the street and street frontage;
 - ii) be landscaped or screened so that cars parked in the parking area are not visible from adjoining buildings or the street/ street frontage; and
 - iii) allow safe and direct access to the building entry points.

4) Waiver or Reduction of Parking Spaces

- a) Council has the discretion to waive or reduce the number of car spaces required for a particular site if the reduced provision can be justified in a Traffic Impact Statement, in terms of:
 - i) Proximity to public transport nodes;
 - ii) Opportunity to share parking with another use; or
 - iii) An empirical assessment of car parking.
- b) Council may consider a monetary contribution in lieu of parking shortfall in certain circumstances where a waiver or reduction of parking spaces cannot be justified. All such cases will be considered on their individual merit and the contribution will be based on the current parking rate in respect of off-street parking demand generated by the development but not satisfied on the site. The parking contribution will be based on the actual cost of providing additional parking off site.

5) Design of Parking and Manoeuvring Areas

- a) Car space dimensions must comply with the relevant Australian Standards.
- b) The movement of pedestrians throughout the car park should be clearly delineated and be visible for all users of the car park to minimise conflict with vehicles. The car parking and manoeuvring layout should be in accordance with the provisions of AS 2890.1 - 2004.
- c) Provision of parking spaces for disabled persons should be in accordance with the Access to Premises Standards, the Building Code of Australia and AS2890.
- d) Council will require all car parking areas to be constructed of hard standing, all weather material, with parking bays and circulation aisles clearly delineated.
- e) Vehicle access is to be integrated into the building design as to be visually recessive.
- f) It will be necessary for the method of treating and minimising runoff from parking and access areas to be addressed as part of any development application (See the section entitled 'Stormwater and Drainage' in the Water Management Section).
- g) For development in the R4 High Density Residential zone, use semi-pervious materials for all uncovered parts of driveways and parking areas to assist with stormwater infiltration.
- h) Large car parking areas (more than 5 vehicles) should be visually separated from access roads and from the buildings they serve by planting and other landscaping and should not be visually prominent from public roads, either through separation or screening.
- i) All vehicles must be able to enter and leave the site in a forward direction without the need to make more than a three point turn.
- j) Council may require the provision of internal directional signs to assist site visitors in locating parking areas.
- k) For residential development, other than a single residence, the minimum space width shall provide for full door opening in accordance with Table B1 of AS2890.1 – 2004.
- l) The design of the car park should ensure that passive surveillance is possible and, where appropriate, incorporate active measures such as cameras and security patrols. Car parks should be designed to minimise dark areas through the provision of appropriate lighting.
- m) Access to security parking shall be designed to ensure the access mechanism is accessible to the vehicle driver on the entry side of the driveway.
- n) Provision should be made for all vehicles to enter and exit a secure (i.e. boom-gated) area in a forward direction.
- o) Visitor parking should be provided outside the secured parking areas.
- p) The design of car parks should ensure adequate separation of staff/visitor parking and loading dock circulation areas for heavy vehicles.
- q) Vehicular ramps less than 20m long within developments and parking stations must have a maximum grade of 1 in 5 (20%). Ramp widths must be in accordance with AS2890.

- r) Access ways to underground parking should be sited to minimise noise impacts on adjacent habitable rooms, particularly bedrooms.
- s) Loading docks associated with the development shall be provided on-site, with all loading and unloading activities occurring on-site.
- t) All loading and unloading areas are to be:
 - i) integrated into the design of developments,
 - ii) separated from car parking and waste storage and collection areas,
 - iii) located away from the circulation path of other vehicles,
 - iv) provided separately for commercial/retail and residential uses, where part of a mixed use development, and
 - v) designed for commercial vehicle circulation and access complying with AS 2890.2.
- u) Vehicular access to the loading / unloading area(s) is preferred off rear lanes, side streets and right of ways. Where appropriate, consider a single vehicular access point for the loading/unloading area(s) and waste collection area(s).
- v) Secure multi-deck car parks should incorporate communication devices such as:
 - i) Intercoms at boom gates;
 - ii) Public address systems;
 - iii) Telephones; or
 - iv) Emergency alarms.
- w) To ensure users of secure multi-deck car parks are easily able to determine the location of exit and access points, security intercoms or similar and appropriate signage are to be included.
- x) All surfaces in the car park should be painted in light coloured paint or finished in light grey concrete to reflect as much light as possible.
- y) All potential entrapment points should be avoided, e.g. under stairs, blind corners and wide columns. Adequate lighting and mirrors should be used when certain design features are unavoidable.
- z) Access, parking, manoeuvring and loading facilities for commercial and industrial development shall be in accordance with AS 2890.2 - 2004 and accommodate vehicle types as outlined in Table C10.3.
- aa) Council may require a development to cater for vehicles larger than the minimum specified above where the development is for uses such as a transport depot, warehouse, etc. All service vehicles must enter and exit the development site in a forward direction.

Table C10.3: Minimum design vehicle requirements for commercial and industrial developments - minimum design vehicle requirements

Site Area	Design Vehicle
Up to 1,500m ²	Medium Rigid Vehicle (MRV)
1,500m ² to 4,000m ²	Heavy Rigid Vehicle (HRV)
Greater than 4,000m ²	Articulated Vehicle

Additional guidelines for the design of car parking areas can be found within the Policies, Guidelines and Procedures for Traffic Generating Development published by the RMS.

10.5.2. Access and Driveways

A. Objectives

- a) To ensure satisfactory arrangements are made for access to any development or new allotment created by subdivision;
- b) To require that access internal to the development is adequate to accommodate traffic generated by the development;
- c) To minimise the impact of vehicle access points on the quality of the public domain;
- d) To minimise the impact of driveway crossovers on pedestrian safety and streetscape amenity;
- e) To minimise stormwater runoff from uncovered driveways and parking areas;
- f) To ensure that access ways and driveways provide safe access from a property to a public road; and
- g) To ensure driveways do not negatively impact on pedestrian mobility.

B. Controls

1) General Requirements

- a) The road access to the site should provide for safe entry to and exit from the site. All vehicles must enter/exit the site in a forward direction. (This does not apply to single dwellings).
- b) The entry and exit from the site should provide for appropriate traffic sight distance in both directions, in accordance with the provisions of AS2890.1 and 2 - 2004 for car parking and commercial vehicles respectively.
- c) The design of the development driveway should take into consideration the traffic volumes of the surrounding road network.
- d) Driveways should be:

- i) Provided from lanes and secondary streets rather than the primary street, wherever practical;
 - ii) Located taking into account any services located within the road reserve, such as power poles, drainage inlet pits and existing street trees;
 - iii) Setback a minimum of 6m from the perpendicular of any intersection of any two roads; and
 - iv) Located to minimise noise and amenity impacts on adjacent residential development.
- e) The driveway crossing and access roads shall be designed in accordance with the provisions of AS2890.1 and 2 - 2004 for car parking and commercial vehicles respectively.
 - f) Driveway widths must comply with the relevant Australian Standards.
 - g) Driveway grades, vehicular ramp width/grades and passing bays must be in accordance with the relevant Australian Standard (AS2890.1).
 - h) Access to basement parking shall have an entry threshold a minimum of 300mm above the top of the kerb. The threshold shall be increased within areas of flooding or local overland flows to a minimum of 300mm above the flood level. The design of the development shall ensure that floodwater cannot enter the car park in a 1% Annual Exceedance Probability (AEP) flood event.
 - i) The required threshold should be set within the property to prevent cross fall greater than 4% within the footway area.
 - j) No direct access will be permitted to the M4 Western Motorway.

2) Design

- a) For rural subdivisions, the width of sealed surface shall be determined at the time of subdivision taking into consideration the intensity of use, landscaping proposals, servicing requirements and drainage design. Roads should be designed to enhance the rural character and long stretches of straight road should be avoided.
- b) All driveways (including in rural and environmental zones) are to be sealed from the point of the public road up to and including the hard-stand parking areas.
- c) The design of rural driveways shall ensure that stormwater is not impounded, concentrated or redirected onto adjoining properties.

3) Construction Standards

- a) Roads shall be constructed to Council's standards in consultation with Council's Engineering Services Unit and Council's 'Guidelines for Engineering Works - Development and Subdivision'.
- b) Design drawings should be accompanied by details of the erosion and sediment control measures that are to be implemented during construction.

4) Dedication

- a) New road reservations and rights-of-way shall be dedicated or created at no cost to Council.

5) Access to Allotments Created in Subdivision

- a) New allotments must have direct access to dedicated public roads.
- b) Where battle-axe subdivision is supported, the following controls apply:
 - i) The battle-axe width is generally to be a minimum of 10m. Where two battle axe developments adjoin reciprocal rights-of-carriage way may be permitted;
 - ii) The battle-axe handle is to be stabilised or sealed depending on the anticipated intensity of use; and
 - iii) The line of any sealed or stabilised area within the battle-axe handle should be varied and landscaped where appropriate to avoid a 'gunbarrel' appearance.
- c) Passing bays will be required for the following:
 - i) Entry/exit of all properties;
 - ii) Access handles;
 - iii) More than one allotment; and
 - iv) Change in direction of the access handle.
- d) Bushfire requirements must be considered when designing access roads for subdivisions of land which is classified as 'bushfire prone land'. Access arrangements must include adequate provision for turning areas and emergency access.

6) Responding to Topography

- a) Natural contours should be followed when designing and constructing driveways. Driveways should be located to retain as much of the property's vegetation as practicable.
- b) Any new private access roads or driveways that connect to a public road should be sealed with asphalt or another suitable surface from the public road to prevent erosion and minimise dust and dirt transfer.

10.6. Pedestrian Connections

A. Objectives

- a) To provide a safe, convenient and legible movement network for people with diverse abilities, including those using wheelchairs, mobility scooters, people with prams, small children, elderly people and people with temporary injuries, between residences and points of attraction within and beyond the development;

- b) To design street networks to optimise personal mobility access to centres, schools, public transport stops and stations, and other destinations;
- c) To design major routes as 'integrator arterials' with extensive and frequent opportunity for pedestrians to move safely along and across them;
- d) To design and detail new developments to promote and support personal mobility to daily activities;
- e) To provide pedestrian pathways through parks for recreation purposes wherever practicable; and
- f) To provide walking routes along predictable pathways of travel, including approaches to schools, parks and shopping precincts.

B. Controls

- 1) Footpaths should have ramps at all kerb corners for wheelchairs and pram access and cater for all people with diverse abilities in line with current Australian Standards.
- 2) Street lighting in accordance with the provisions of AS1158 should be present in all urban streets, while on rural traffic routes in general only intersections will be lit. Refer to Section C8 'Public Domain, for further information about lighting.
- 3) Pedestrian crossing distances in local streets should be shortened through kerb extensions and tight turning radii, which can cause vehicular traffic to slow to negotiate the tighter corners.
- 4) To enable comfortable passage for all people with diverse abilities, footpaths must be:
 - i) Provided on both sides of the road in urban areas;
 - ii) A minimum of 1.5m wide along collector and all lower order streets; and
 - iii) A minimum of 2.5m on approach routes to predictable destinations such as schools, parks and shopping precincts. (Three metre paths or wider are preferred).
- 5) Where street trees are not required to provide protection from passing cars for people on footpaths, a minimum outer nature strip of 0.5m on both sides of the street should be provided. Kerbs should be 'barrier' not 'rollover' design.
- 6) A durable, non-slip surface and even paving is to be designed and constructed for minimum maintenance. Continuous pathways, uninterrupted by variations in surface material must be provided.
- 7) Gradients from pathways to streets are to be minimal, safe and comfortable for people with limited mobility and those using wheelchairs, prams and trolleys in line with current Australian Standards.
- 8) Gradients and ramps must be aligned with desired paths of travel for pedestrians and cyclists.
- 9) A smooth transition from ramps to roads is to be provided for people using wheelchairs or prams. Ramps should be designed in accordance with appropriate design guidelines

and be as wide as the pathway or marked crossing point to eliminate squeeze points at transition areas.

- 10) Reconstructed driveways/pathways are to achieve a useable cross slope for a width of 915mm. Cars must slow to negotiate the two steeper ramps on either side of the pathway crossing, but will not 'bottom out' at these angles. (Source: Preiser. W and Ostroff E (2001) *Universal Design Handbook* McGraw-Hill).

10.7 Bicycle Facilities

A. Objectives

- a) To encourage bicycle use by providing sufficient number of secure and accessible bicycle parking spaces with new developments.

B. Controls

1. Cycleways

- a) All cycle routes and facilities are to be consistent with the relevant requirements of "Austroads Cycling Aspects of Austroads Guides" and Roads and Maritime Services' "Bicycle Guidelines" including line-marking, signage and logos and Council policies regarding bicycle access.
- b) The minimum width of off-street shared cycle and pedestrian pathways is to be 2.5m on local routes with a minimum of 3m on major connector routes.
- c) Pedestrian and cycle routes and facilities in public spaces are to encourage way finding and be convenient, safe, well lit, clearly defined, functional and accessible to all.
- d) Shared paths and pedestrian refuge islands are to be designed to be fully accessible by all in terms of access points and gradients, in accordance with Australian Standard 1428:1-4.

2. Provision of Bicycle Parking Spaces

- a) For commercial developments providing employment for 20 people or more, bicycle parking is to be in secure and accessible locations, and provided with weather protection, in accordance with AS2890.3:1993 Bicycle Parking Facilities.
- b) The following associated facilities are to be provided:
 - i) Change and shower facilities for cyclists are to be conveniently located close to the bicycle storage areas; and
 - ii) Where the building is to be strata-titled, the bicycle storage facilities and shower/change facilities are to be made available to all occupants of the building.
- c) Applicants should comply with the suggested bicycle parking provision rates for different land use types in the document 'Planning Guidelines for Walking and Cycling' (NSW Government 2004).

3. Design of bicycle spaces

a) Bicycle parking spaces must:

- i) Be provided in accordance with AS2890.3:1993 Bicycle Parking Facilities;
- ii) Be located to provide convenient access from surrounding bicycle routes and main building entrances;
- iii) Not interfere with reasonable access to doorways, loading areas, access covers, furniture, services and infrastructure;
- iv) Not cause a hazard; and
- v) Be adequately lit during periods of use.

4. Bicycle Rails, Storage and Signage

a) A bicycle rail must:

- i) Be securely fixed to a wall or to the floor or ground;
- ii) Be in a highly visible location for bicycle security (when not in a compound);
- iii) Be of a shape that allows a cyclist to easily lock the bicycle frame and wheels; and
- iv) Be located to allow easy access to park, lock and remove the bicycle.

b) A bicycle compound or a bicycle locker must:

- i) Be located to provide convenient access to other bicycle facilities including showers and change rooms;
- ii) Be fully enclosed;
- iii) Be able to be locked; and
- iv) If outside, provide weather protection for the bicycle.