

7.04 Movement Networks

Amendment history

Version Number	Date Adopted by Council	Commencement Date	Amendment Type
1	15/11/2011	15/06/2012	New
2	27/09/2016	24/10/2016	Amended

Savings provisions

Any development application lodged but not determined prior to this section coming into effect will be determined taking into consideration the provisions of this section.

Land to which this section applies

This section applies to all land to which the Newcastle Local Environmental Plan 2012 applies and to land outside of the Port of Newcastle lease area to which State Environmental Planning Policy (Three Ports) 2013 applies.

Development (type/s) to which this section applies

This section applies to all development involving new movement networks or modifications to existing movement networks, including roads, pedestrian or cycle paths.

Related sections

The following sections of this DCP **will** also apply to development to which this section applies:

- Section 7.03 Traffic, Parking and Access.

Applicable environmental planning instruments

The provisions of the Newcastle Local Environmental Plan 2012 also applies to development applications to which this section applies.

In the event of any inconsistency between this section and the above listed environmental planning instrument, the environmental planning instrument will prevail to the extent of the inconsistency.

Note 1: Additional environmental planning instruments may also apply in addition to those listed above.

Note 2: The *Environmental Planning and Assessment Act 1979* enables an environmental planning instrument to exclude or modify the application of this DCP in whole or part.

Associated technical manual/s

- *Guide to Traffic Engineering Practice*, 1999, Austroads Standards Australia
- *Disability Standards for Accessible Public Transport*, 2002, Commonwealth of Australia
- *Transport Stops, Shelters and Seating Guidelines*, 2008, Newcastle City Council
- *Newcastle Cycling Strategy and Action Plan*, 2012, Newcastle City Council
- *Guidelines for the Selection of Road Names*, November 2007, Newcastle City Council
- *NSW Bicycle Guidelines*, Roads and Traffic Authority of NSW
- *Model Agreement for Local Councils and Utility/Service Providers*, 2009, Streets Opening Conference, www.streetsopening.com.au
- *Guide to Codes & Practices for Streets Opening*, 2009, Streets Opening Conference, www.streetsopening.com.au

Additional information

- *Planning Guidelines for Walking and Cycling*, 2004, Department of Infrastructure, Planning and Natural Resources

Definitions

A word or expression used in this development control plan has the same meaning as it has in Newcastle Local Environmental Plan 2012, unless it is otherwise defined in this development control plan.

Other words and expressions referred to within this section are defined within Part 9.0 – Glossary, of this plan, and include:

- **Carriageway** - that portion of a road or bridge devoted to the use of vehicles, inclusive of shoulders and auxiliary lanes.
- **Footpath** - the paved area in a footway.
- **Footway** - that part of the road reserve between the carriageway and the road reserve boundary, reserved for the movement of pedestrians and legal cyclists. It may also accommodate utilities, footpaths, stormwater flows, street lighting poles and plantings.
- **Road/street reserve** - the land incorporating the full width from property line to opposite property line.

Aims of this section

1. To ensure the movement network has clear structure and that street blocks facilitate safe and efficient internal and external pedestrian, cyclist and vehicular movements.
2. To ensure that road design: reflects the functions of the road and the needs of road users; is based on sound engineering practices; meets relevant Australian Standards, Austroads publications and RTA design guidelines as appropriate.

7.04.01 Network

Objectives

1. Provide for streets that fulfil their designated functions within the network; accommodate utility services and drainage systems; and create a safe and attractive environment.
2. Encourage walking and cycling.
3. Ensure speed reduction techniques are used to achieve desired speeds.

Controls

The following controls apply to development that involves construction of new roads and/or modifications of the existing movement network

1. The movement network has a clear structure; provides physical distinctions between each road and pathway type; and is consistent with Council's adopted road hierarchy, as defined in *Table 1*.
2. Internal and external connectivity is enhanced through use of a modified grid pattern that minimises cul-de-sacs and dead end streets.
3. Development provides a logical extension of infrastructure and linkages to adjoining existing and potential developments.
4. The movement network incorporates appropriate paths and routes that encourage walking and cycling within the neighbourhood and to local activity centres.
5. Public open space, drainage reserves, ecological habitat and riparian corridors are separated from development by a perimeter road. Generally Council does not support lots proposed to have rear boundaries against such areas.
6. The design features of local roads encourages responsible driver behaviour and restrain traffic volumes and speed.
7. The orientation and placement of the movement system makes best use of:
 - (a) opportunities for connectivity
 - (b) the existing streetscape
 - (c) the location of existing and proposed activity centres
 - (d) the natural topography and vegetation
 - (e) opportunities for views and vistas
 - (f) natural drainage and open space systems.
8. The road layout maximises solar access to lots. Roads generally running east-west and north-south are preferred.
9. Development is suitably located on the road hierarchy.

10. The road and lot layout facilitates passive surveillance of open space areas.
11. New allotments proposing access from a classified road require the concurrence of Council and the RTA.
12. The road network caters for the extension of existing or future public transport routes.
13. The movement network incorporates cycle routes identified in the 'Newcastle Cycling Strategy and Action Plan'.

A. Road design

Objectives

1. Design the road network so that street blocks facilitate safe and efficient internal and external pedestrian, cyclist and vehicular movements and public transport, while optimising orderly lot layouts and energy efficiency.
2. Ensure that road design: reflects the function of the road and the needs of road users; is based on sound engineering practices; and meets relevant Australian Standards, Austroads publications and RTA design guidelines as appropriate.

Controls

Controls applying to development proposing construction of new roads and/or modification or extension of existing roads

1. The road hierarchy should be designed in accordance with the requirements of *Table 1*.
2. The design features of each road should convey its primary function.
3. The road reserve width should be sufficient to cater for all road functions including: parked vehicles; safe and efficient movement of all users; and the location, construction and maintenance of public utilities.
4. The alignment and geometry of roads identified for bus routes should allow for efficient movement of buses and provision of accessible transport stops.
5. The carriageway width of roads identified as bus routes should allow for movement of buses unimpeded by parked cars and safely accommodate cyclists.
6. Where cul-de-sacs/dead end streets are incorporated into the road design:
 - (a) they should serve no more than 10 lots
 - (b) the end of the cul-de-sac should be clearly visible from the cross-street
 - (c) consideration should be given to on-street parking and the design vehicle.
7. Development should cater for the orderly provision and extension of footpaths, kerb and guttering and associated works.

8. Street name signs are to be erected at the junction of all roads in the subdivision, in accordance with Council guidelines. Proposed street names are to be submitted with the development application and should be selected in accordance with the 'Guidelines for the Selection of Road Names'.
9. The alignment and width of proposed roads, which extend existing roads, are generally to conform to existing construction.
10. On sloping land, road and allotment design should provide for dwellings to be generally parallel with contours to minimise earthworks. Roads and allotments are to be configured to:
 - (a) minimise earthworks and retaining walls
 - (b) minimise potential privacy and overshadowing impacts
 - (c) optimise solar access, where slopes face south.

Table 1: Road Types and Dimensions

Street Type	Maximum Traffic Volume	Maximum Traffic Speed	Design ESA	Road Reserve (See Note 1)	Carriage-way	Footway (Verge) (See Note 2)	Footpath/ Shared Pathway (See Note 3)	Kerbing (See Note 4)	Design Considerations
Sub-arterial Road	≥5,000vpd	≥60 km/h	1 x 10 ⁸	24.6m	15.6m	2 x 4.5m	2 x 1.2m (min)	Upright	Standards for sub-arterial roads are subject to negotiation with Council and will be dependent on the type of development and speed environment.
Residential Subdivision									
Collector Road (On-road cycleway)	≥3,000vpd	50km/h	8 x 10 ⁵	23.6m	14.6m	2 x 4.5m	2 x 1.2m (min)	Upright	Carriageway width is based on 2 x 3.3m travel lanes and 2 x 4m parking/cycle lanes.
Collector Road (On-road cycleway and off-road shared pathway)	≥3,000vpd	50km/h	8 x 10 ⁵	24.1m (min)	14.6m	1 x 5.0m 1 x 4.5m (min)	1 x 2.5m (min) 1 x 1.2 (min)	Upright	Requirement for shared pathway both sides is subject to negotiation with Council.
Collector Road (On-road cycleway; no parking)	≥3,000vpd	50km/h	8 x 10 ⁵	18.6m	9.6m	2 x 4.5m	2 x 1.2m (min)	Upright	Carriageway width is based on 2 x 1.5m lanes and 2 x 3.3m travel lanes.
Local Road (Bus route)	3,000vpd	50km/h	5 x 10 ⁵	18.6m	9.6m	2 x 4.5m	2 x 1.2m (min)	Upright	Carriageway width is based on 2 x 2.3m parking lanes (not marked) and 5m travel way.
Local Road (Non bus route, lots on both sides of road)	2,000vpd	50km/h	5 x 10 ⁵	17.0m	8.0m	2 x 4.5m	2 x 1.2m (min)	Upright	
Local Road (Non bus route, lots on one side of the road)	2,000vpd	50km/h	5 x 10 ⁵	14.0m	8.0m	1 x 4.5m 1 x 1.5m	1 x 1.2m (min)	Upright	Wider footway is to be located on dwelling side of road.
Industrial Subdivision									
Collector Road		50km/h	5 x 10 ⁸	23.6m	14.6m	2 x 4.5m	1 x 1.2m (min)	Upright	Carriageway width is based on 2 x 4m parking/cycle lanes and 2 x 3.3m travel lanes.
Local Road		50km/h	5 x 10 ⁸	21.0m	12.0m	2 x 4.5m	1 x 1.2m (min)	Upright	Carriageway width is based on 2 x 2.5m parking lanes and 2 x 3.5m travel lanes (not marked).

NOTES:

- Road reserve width does not include allowance for median.
- Footpath/shared pathway is to be set 1.8m from face of kerb.
- If shared pathway is required by Council, minimum width is 2.5m and footway containing shared pathway is to be increased to 5.0m, with corresponding increase in road reserve. Requirement for shared pathway will be determined based on consideration of various factors including land use, nearby attractors, activity levels, network connectivity and whether the route is identified as an off-road shared pathway in the Newcastle Bike Plan.
- Upright kerbing is required unless alternative, best practice WSUD treatments are agreed by Council.

Table 1: Road types and dimensions

ROAD TYPES AND DIMENSIONS		
<p>FOOTPATH 1.2m MINIMUM</p> <p>4.5 15.6 4.5</p> <p>24.6</p>		Sub-arterial Road
<p>FOOTPATH 1.2m MINIMUM</p> <p>4.5 14.6 4.5</p> <p>23.6</p>		Residential Collector Road (On-road cycleway)
<p>SHARED PATHWAY 2.5m MINIMUM</p> <p>FOOTPATH 1.2m MINIMUM</p> <p>5.0 14.6 4.5</p> <p>24.1</p>		Residential Collector Road (On-road cycleway and off-road shared pathway)
<p>FOOTPATH 1.2m MINIMUM</p> <p>4.5 9.6 4.5</p> <p>18.6</p>		Residential Collector Road (On-road cycleway; no parking)
<p>FOOTPATH 1.2m MINIMUM</p> <p>4.5 9.6 4.5</p> <p>18.6</p>		Residential Local Road (Bus route)
<p>FOOTPATH 1.2m MINIMUM</p> <p>4.5 8.0 4.5</p> <p>17.0</p>		Residential Local Road (Non bus route, lots on both sides of road)
<p>FOOTPATH 1.2m MINIMUM</p> <p>4.5 8.0 1.5</p> <p>14.0</p>		Residential Local Road (Non bus route, lots on one side of road)
<p>FOOTPATH 1.2m MINIMUM</p> <p>4.5 14.6 4.5</p> <p>23.6</p>		Industrial Collector Road
<p>FOOTPATH 1.2m MINIMUM</p> <p>4.5 12.0 4.5</p> <p>21.0</p>		Industrial Local Road

PLEASE REFER TO NOTES - TABLE 1

B. Pedestrian and cycle paths

Objectives

1. Maximise opportunities for walking and cycling.
2. Where possible, provide bike paths physically separated from traffic.

Controls

Controls applying to all development to which this section applies

1. Dedicated cycle paths are provided in accordance with the 'Newcastle Cycling Strategy and Action Plan'.
2. Pedestrian and cycle paths comply with relevant Australian Standards, including AS1428 (Design for access and mobility), Austroads publications and RTA guidelines as appropriate.
3. Pedestrian and cycle paths:
 - (a) are located and designed to complement the environment and reduce conflict with motor vehicles and other road users
 - (b) provide a shorter route (in length) than the alternative car route, between activity nodes and recreation areas
 - (c) include hazard warning, tactile ground surface indicators (TGSIs), directional and interpretive signage
 - (d) include support facilities such as bicycle parking, parking rails, access ramps, signage, seating, drinking water fountains.

C. Public transport

Objectives

1. Increase the opportunity for choice in mode of transport and facilitate efficient and accessible public transport services.

Controls

The following controls apply only to major development in greenfield areas

1. Location and design of transport stops are in accordance with Council's 'Transport Stops, Shelters and Seating Guidelines' (May, 2008) and the 'Disability Standards for Accessible Public Transport' (Commonwealth of Australia, 2002).
2. Routes for bus services are designed in accordance with *Table 1*.
3. Bus routes are direct and safely accessible from a majority of residences.
4. The proponent shows evidence of consultation with Transport NSW and public transport service providers for the area and prepares an application for increased route kilometres to ensure that public transport services commence with development.