

Clear Zone Policy



1 Document Information

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Author	Manager Technical Services
Owner <i>(Relevant director)</i>	Director of Engineering and Technical Services
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2 Summary

This policy stipulates the minimum clear zone widths and treatment of hazards within the clear zone that are to be progressively implemented across Cabonne's road network.

3 Approvals

Title	Date Approved	Signature
Director of Engineering & Technical Services		

4 History

Minute No.	Summary of Changes	New Version Date
14/03/10	First adopted	18 March 2014
18/05/20	Readopted as per s165(4)	22 May 2018

5 Reason

It is generally accepted that clear zones prescribed in various road design guides are generally unattainable off the highway network due to financial, physical and environmental constraints.

6 Scope

This policy applies to all rural roads for which Council is the Roads Authority

The scope of assessment has been limited to roads that have a 100km/h speed limit as they constitute the majority of road length and are considered to be the highest risk due to vehicles travelling at higher speed.

7 Associated Legislation

Environmental Planning and Assessment Act 1979

Local Government Act 1993

National Parks and Wildlife Act 1974

Native Vegetation Act 2003

Noxious Weeds Act 1993

Roads Act 1993

Rural Fires Act 1997

Rural Lands Protection Act 1998

Threatened Species Conservation Act 1995

Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)

8 Definitions

AADT Average Annual Daily Traffic

Clear Zone A clear zone is the area of adjacent to the traffic lane that should be kept free from features that would be potentially hazardous to errant vehicles. The clear zone is a compromise between the recovery area for every errant vehicle, the cost of providing that area and the probability of an errant vehicle encountering a hazard. The clear zone should be kept free of non-frangible hazards where economically and environmentally possible. Alternatively, hazards within the clear zone should be treated to make them safe or be shielded by a safety barrier.

Crash An event or series of events resulting from a vehicle colliding with a person, object or another vehicle, likely to cause property damage, serious injury or death to vehicle occupants or to persons struck.

Errant Vehicle A vehicle that leaves the travelled path and runs off the side of the road or onto the median.

Hazard (Roadside) Any object or feature located between the edge of traffic lane and road reserve boundary, or within a median, that could cause significant personal injury (including fatal injury) to vehicle occupants when impacted by an errant vehicle.

9 Responsibilities

9.1 General Manager

The General Manager has responsibility for the overall control and implementation of the policy.

9.2 Directors and Managers

Directors and Managers are responsible for the control of the policy and procedures within their area of responsibility.

9.3 Councillors

Councillors are responsible for adopting the policy and ensuring that sufficient resources are applied to implement the policy.

10 Related Documents

Document Name	Document Location

11 Policy Statement

Background

Cabonne Council is responsible for the care and management of 1,925km of roads within its Local Government Area. These roads are of varying standards and carry traffic volumes from less than 5 vehicles per day to over 2,000 vehicles per day. The majority of these roads are rural roads where the default speed limit of 100km/h applies and contains millions of roadside hazards of varying risk ratings. It is not economically possible to treat or remove all of these hazards and therefore a risk evaluation process must be developed and used to determine priorities for these works.

In managing the road network, one of Cabonne's main objectives is to optimize the safety to road users within the limits of Council's available resources. A large percentage of motor vehicle accidents on rural roads are single vehicle run off road incidents (in Cabonne 73% of accidents from 2005 to June 2011) with a significant number of these resulting in vehicle rollovers or collision with roadside objects such as trees or poles. 48% injury crashes, 2% fatal, remainder (50%) vehicle towed-away but no casualty. Run-off road crashes, typically involving a single vehicle, account for about 30% of all serious casualties (and a higher proportion of fatalities) in Cabonne.

The risk of collision with these objects is reduced by providing a clear zone distance from the edge of the traffic lane so that in the event of a crash, the consequence of the crash is reduced (i.e. less likely to have a casualty).

The generally accepted clear zone widths are set out in the design standard *Austroads Guide to Road Design Part 6 – Roadside Design, Safety and Barriers, Table 4.1*. The table indicates that for a 100km/hr road and a fill batter slope of 6:1 to flat and carrying less than 750 vehicles per day (the majority of the Cabonne road network), a clear zone of 5.5m either side of the roadway is required. This increases if the cut or fill batter is steeper up to 7.5m and is greater on curves and corners of the road, depending on the curvature of the road, and greater still for higher traffic volumes.

This width may be practical when designing and constructing in greenfield sites, but retrofitting existing roads to this value is not achievable due to road reserves being only 20m wide and the extent of native vegetation within the road reserve that Council had a legal responsibility to protect.

This policy aims to set a compromise between these design standards and what is achievable with additional resources, based on the relative risk associated with lower traffic volumes.

Road Classifications

Cabonne Council's road classifications were confirmed in the adoption of the Asset Management Plan for Transport (2010) with the Integrating, Planning and Reporting documents in 2012 and are set out below in Table 1: Road Hierarchy.

Table 1: Road Hierarchy

	Road Classification	Typical Warrants
MR	Regional Roads	Gazetted Main Roads designated by RMS as Regional Roads.
E	Sub-Arterial Road	Rural >200 VPD Urban >1000 VPD
F	Distributor Road	Rural 100-200 VPD Urban 500-1000 VPD
G	Collector Road	Rural 50-100 VPD Urban 10-50 VPD
H	Collector Road	Rural 10-50 VPD Urban 100-250 VPD
I	Local Access	Rural <10 VPD Urban <100 VPD
J	Minimal Access	Rural/Urban <2 VPD

Traffic volume is used as the key variable in determining the probability (likelihood) of an accident and therefore it is necessary to set the maximum projected traffic volumes for a particular class of road.

Table 2: Typical Traffic Volumes

	Road Classification	Design AADT
MR	Regional Roads	1500
E	Sub-Arterial Road	500
F	Distributor Road	200
G	Collector Road	100
H	Collector Road	50
I	Local Access	10
J	Minimal Access	2

Clear Zone Widths

The clear zone is measured from the outside of the travelling lane. The width of the clear zone required is directly related to the slope of the ground and as the majority of Cabonne area is relatively flat and most roads have been constructed in a fill scenario, it has been assumed that the batter slopes within the clear zones will be 4:1 or flatter. Treatments for areas where the batter

slope is steeper than 4:1 or the road is constructed in cut would be considered on a case-by-case basis.

The width of the clear zone is also directly related to alignment and for the following calculations it is assumed that the alignment is straight or has curve radii of 900m or more. Treatments for curves of smaller radii are would be considered case-by-case depending on the radius of the curve.

The Clear Zone widths are set out below in Table 3: Clear Zone Widths are adopted for use on roads managed by Cabonne Council.

Table 3: Clear Zone Widths

	Road Classification	Minimum Clear Zone (m)
MR	Regional Roads	Austroroads Guide to Road Design – Part 6
E	Sub-Arterial Road	5
F	Distributor Road	4
G	Collector Road	3
H	Collector Road	2
I	Local Access	2
J	Minimal Access	2

For the lower classified roads with minimum clear zones of 2m the actual Clear Zone width will often be determined by the need to maintain drainage along the edge of the road formation. Sufficient width will need to be kept clear to allow maintenance of drains.

Hazard Treatments

Types of Hazards

- Fill Batters >4:1
- Cut batters > 5:1
- Trees > 100mm diameter
- Utility poles
- Drainage and irrigation structures, including culverts
- Curves
- Unsealed shoulders on regional and sub-arterial roads

Hazard Control Hierarchy

The following approaches should be taken with hazards identified in the clear zone (in priority order):

1. Remove the hazard
2. Redesign the hazard to make it traversable
3. Relocate the hazard
4. Replace the hazard to it breaks or is impact absorbing
5. Shield the hazard with an appropriate barrier
6. As a last resort, delineate the hazard.