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## Roundabout metering signals - information

### Introduction

The Land Transport Rule: Traffic Control Devices Amendment 2010 Rule replaced the method of 'metering' a roundabout with effect from 1 April 2011. Metering is a method for controlling a roadway entering a roundabout. The intent is to manage the entering flow of traffic on that roadway because it periodically:

- receives a disproportionate level of priority, causing major delays on one or more other entering roads
- causes queues on another leg across a nearby level crossing which must be cleared for an approaching rail vehicle
- may hinder the passage of emergency vehicles through the roundabout
- may impose delays on public transport movements through the roundabout seriously impacting on service reliability.

While technically feasible (as demonstrated in Queensland, Australia) the method previously specified in the Land Transport Rule: Traffic Control Devices (TCD Rule) was relatively expensive and cumbersome to install and maintain. No systems of that type have been installed in New Zealand. The state of Victoria demonstrated an alternate form of control that has been used successfully at a number of locations within New Zealand. This form of metering is now described in the TCD Rule and outlined in this note.

### Operation

The system involves installing a standard set of signals on the approach road requiring control at least 30 m in advance of the roundabout. The signal display is normally green but, when critical queue lengths occur and/or a rail vehicle, emergency vehicle or public transport vehicle is detected on a specific leg of the roundabout, the signal changes through yellow to red in the normal sequence.

When the signal changes to green or is resting in green, drivers proceed to the roundabout and apply the normal roundabout give way rules.

### Use of pedestrian signals

In some cases, the metering has been achieved with the use of a mid-block pedestrian traffic signal. In this case, the TCD Rule requires the pedestrian traffic signals operate as a staged crossing (ie, a central pedestrian refuge is provided, and each half of the roadway is separately controlled). Where the vehicle display for traffic approaching the roundabout shows a yellow or red signal, the display for traffic leaving the roundabout remains green unless a pedestrian has been detected on that side of the road.

In this situation, traffic on the half of the road on the departure side of the roundabout is stopped only when a pedestrian is crossing.

### Traffic signs

#### *Roundabout give way sign*

To reduce the likelihood of a driver mistakenly thinking the green signal gives him or her priority to enter the roundabout, it is necessary to stress the requirement to give way.

The TCD Rule requires the standard 'give way roundabout' sign to be mounted on a reflectorised, fluorescent yellow-green backing board that provides a border of at least 150mm.

#### *Roundabout may change signal sign*

Where a mid-block pedestrian signal is used the signals may change to red when pedestrians are not present. To avoid reduced compliance, a sign advising drivers that the signals may operate by demand at the roundabout rather than any traffic situation in the immediate vicinity of the signals is required by the TCD Rule.

This 'roundabout may change signal' sign is placed on each signal pole.

The sign may be installed in other situations. It would be desirable, for example, where there is any possible confusion that the signals are operated by vehicles entering or leaving nearby driveways.

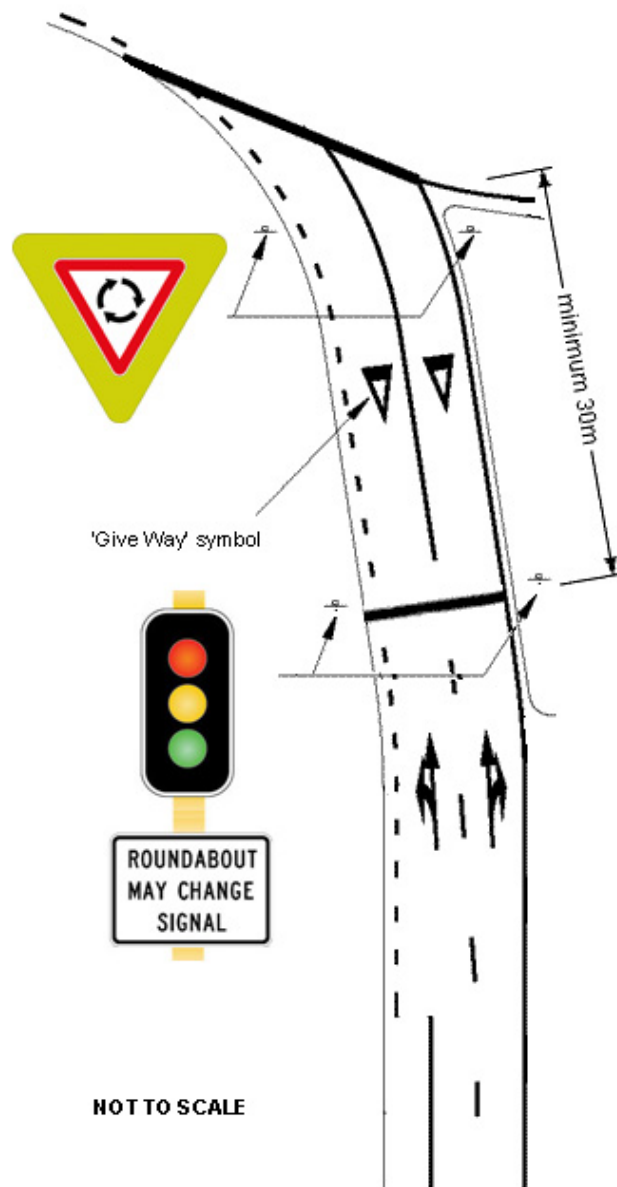


Figure: Example layout for roundabout metering

### Signalised roundabouts

It is important to note the TCD Rule does not prohibit the installation of roundabout signals. Roundabout signals differ from the roundabout metering signals described here as they control circulating traffic on the roundabout as well as controlling movement of traffic into the roundabout.