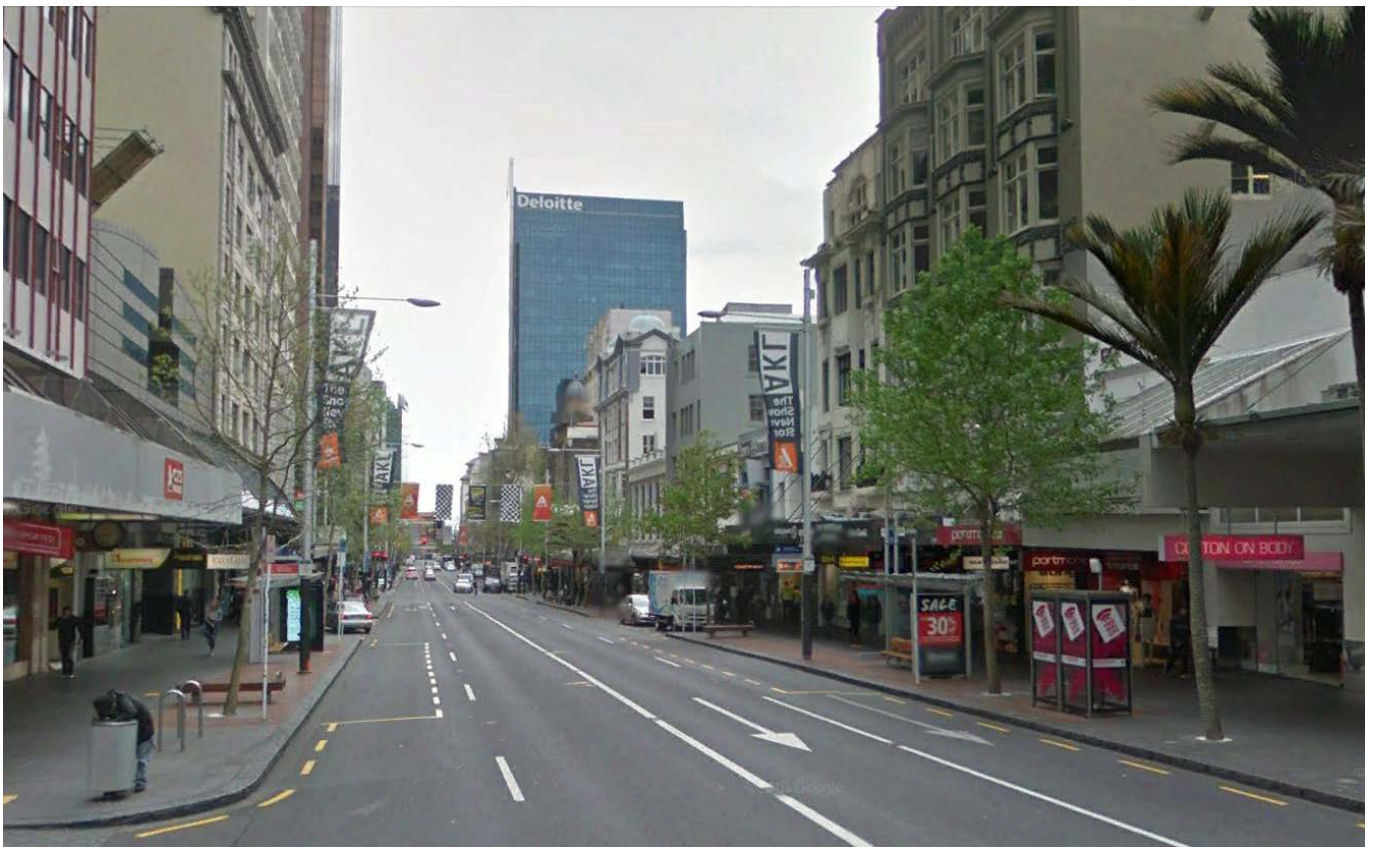


Technical note - Level 2 low speed (2LS) roads

Issued: 3 June 2016

Effective: 1 August 2016



Introduction of 2LS roads

The mandate for change

At the 1 October 2014 meeting of the CoPTTM Governance Group (CGG) the following project was set as a priority 1 project.

Project	Rationale
Produce a policy for low speed level 2 roads.	Develop a low speed level 2 layout distance table and guidelines for signs and vehicles. Include sign sizes for level 2 urban roads.

Actions since that date include:

- Development of a discussion document which also incorporated changes as a result of the introduction of the One Network Road Classification (ONRC)
- Consultation with contractors, consultants and RCAs affected by the introduction of 2LS roads
- Feedback has been reviewed and incorporated
- This technical note has been produced
- CGG has reviewed this technical note prior to issue.

This technical note will become effective from 1 August 2016.

Changes will be incorporated into CoPTTM during the December 2016 update.

Risk assessment

Risk	Mitigation
Manoeuvring of oversize vehicles (TMA) causes congestion which increases the likelihood of frustration for the road users and a potential for reactive movements increasing the risk of collisions.	Use smaller vehicles for setup of worksites and operate from outside the lane wherever possible.
TTM crew unprotected on rear deck of the vehicle 'signs truck' used to carry the TTM equipment (eg signs and delineation) during installation and removal of worksites. Attenuator pad does not provide full protection from potential injury following an impact.	TTM crew to only be on the rear deck of the 'signs truck' when it is stationary and not in the live lane.
Attenuator pad removed from rear of shadow vehicle increases risk to road user.	2LS only to be applied to lower speed (less than 65km/h) roads which reduces the potential level of injury.

Changes to align to the ONRC

1. Levels of road

- 1.1. The CoPTTM AADT guidelines provided to RCAs for each level of road have been revised to align to the AADT levels included in the ONRC.

Note: These AADT levels are guidelines, not automatic change points.

Level	AADT guidelines	Comments
Level LV low risk	<250vpd	
Level LV	<500vpd	
Level 1	<15,000vpd Urban <10,000vpd Rural	
Level 2 low speed	>15,000vpd	<65km/h May have a central median division with at grade access
Level 2	>15,000vpd Urban >10,000vpd Rural	May have a central median division with at grade access
Level 3	>10,000vpd	Roads with permanent central median division with limited access (eg Motorways and expressways)

- 1.2. The numbers on this table are indicative and not compulsory. RCAs may retain the road at the existing level.
- 1.3. Congestion on many roads is an increasing problem especially for roads on the cusp between level 1 and level 2 usages. RCAs may choose to limit work access to these roads during times of congestion such as peak periods. For consistency, a road should not change level from peak to off-peak periods.
- 1.4. RCAs may allow the use of level 1 signs on 2LS roads.

Relaxations for 2LS (less than 65km/h) roads

2. Level 2LS worksite layout distances

- 2.1. Use level 1 layout distances (but not all of the reductions for road environment constraints).
- 2.2. Add a column for 40km/h or less.
- 2.3. If permitted *by the RCA*, a **10m taper** (with cones at 1m centres) may be used when there are road environment constraints (eg intersections and commercial accesses).

Permanent speed limit or RCA-designated operating speed (km/h)		≤40	50	60	
Traffic signs					
A	Sign visibility distance (m)	40	50	60	
B	Warning distance (m)	40	50	80	
C	Sign spacing (m)	20	25	40	
Safety zones					
D	Longitudinal (m)	10	10	15	
E	Lateral (m)	1	1	1	
Tapers					
G	Taper length (m) [#]	25 [*]	30	50	
K	Distance between tapers (m)	30	40	50	
Delineation devices					
Cone spacing in taper (m)		2.5	2.5	2.5	
Cone spacing: Working space (m)		5	5	5	
<p>* <i>If allowed by the RCA</i>, a 10m taper (with cones at 1m centres) may be used on roads ≤40 when there are road environment constraints (eg intersections and commercial accesses).</p> <p># On all roads where shoulder width is less than 2.5m and the activity does not affect the live lane, a 10m shoulder taper is permitted (with at least 5 cones at no greater than 2.5m centres). A taper of 30m (with cones at 2.5m centres) must be used where manual traffic control (stop/go), portable traffic signals or priority give way are employed.</p>					
Lane widths					
Speed (km/h)		30	40	50	60
F	Lane width (m)	2.75	2.75	3.0	3.0

Except for delineation device spacings, which are maximum values, the distances specified in the above tables are minimum values.

3. Lane merges

- 3.1. TSLs are not required if there is only one merging taper - but there must be positive traffic management (eg cones for 1 sign spacing immediately prior to the taper).
- 3.2. 'Distance to' notification not required on lane drops.
- 3.3. One RD6L/R sign is to be used at the narrowest point of the taper with an option for a second RD6L/R at the widest point of the taper.
- 3.4. The T144 is mandatory if a TSL is used.

4. Working on berm or shoulder

- 4.1. Allow exemption in C8.1.2.2 Shoulder closures on level LV and level 1 roads to be used on 2LS roads including parking/special use lanes.

5. Size of signs used

- 5.1. Level 1 or level 2 signs and stands to be used as directed by the RCA.
- 5.2. Signs are to be gated in the following situations:
 - Two-way two-lane roads Gated signs not required, except for TSLs
 - Multilane roads Gated signs required.
- 5.3. Parking management will be required to ensure signs are visible.
- 5.4. If RCAs are allowing level 1 signs to be used they may also provide guidance for when level 2 signs should be used (eg increased risk, lack of visibility).

6. Vehicles used to set up, maintain, modify or remove TTM

- 6.1. Only the work vehicle will be required when TTM set out is outside the edgeline. No shadow vehicle will be required when the work vehicle can park legally.
- 6.2. Once the signs/cones for the worksite have been unloaded to the side of the road and the advance warning sign has been installed the work vehicle may act as a shadow vehicle while the taper is being installed.
- 6.3. In situations where the work is on the lane a vehicle will be required to shadow workers whether they are on the rear of a work vehicle or on the ground as they place, modify or remove TTM equipment.
- 6.4. A shadow vehicle will be required if the work vehicle is working on the live lane outside of the static closure.
- 6.5. A TMA is not required on the work or shadow vehicles.
- 6.6. Workers can work on the off traffic side or at least 10m in front of a vehicle (but no further than 30m ahead of that vehicle).
- 6.7. Workers cannot access the rear of the work vehicle unless there is a shadow vehicle.

7. Workers on rear of work vehicle

- 7.1. Workers may only be on the rear of the work vehicle when it is stationary and off the live lane.
- 7.2. Where there is no space for the work vehicle to pull over onto the shoulder, workers must unload from the off traffic side of the work vehicle. If it is necessary to stand on the rear of the work vehicle, the work vehicle must be stationary and a shadow vehicle must be used.

8. Level of qualification required to take charge of 2LS worksites

- 8.1. The qualified person on site must be L2/3 STMS.

9. Use of 2LS TMDs included in CoPTTM

- 9.1. The attached 2LS TMDs can be used in TMPs (eg GTMPs).
- 9.2. More TMDs will be included in CoPTTM at a later date.

Examples of 2LS TMDs

ONE-WAY TWO-LANE DIVIDED OR TWO-LANE ROAD		
G2LS-1	Left-lane closure	Permanent speed less than 65km/h
TWO-WAY TWO-LANE ROAD		
G2LS-2	Work vehicle is outside the edgeline	Permanent speed less than 65km/h

TMD G2LS-1

Static operations

ONE-WAY TWO-LANE DIVIDED OR TWO-LANE ROAD

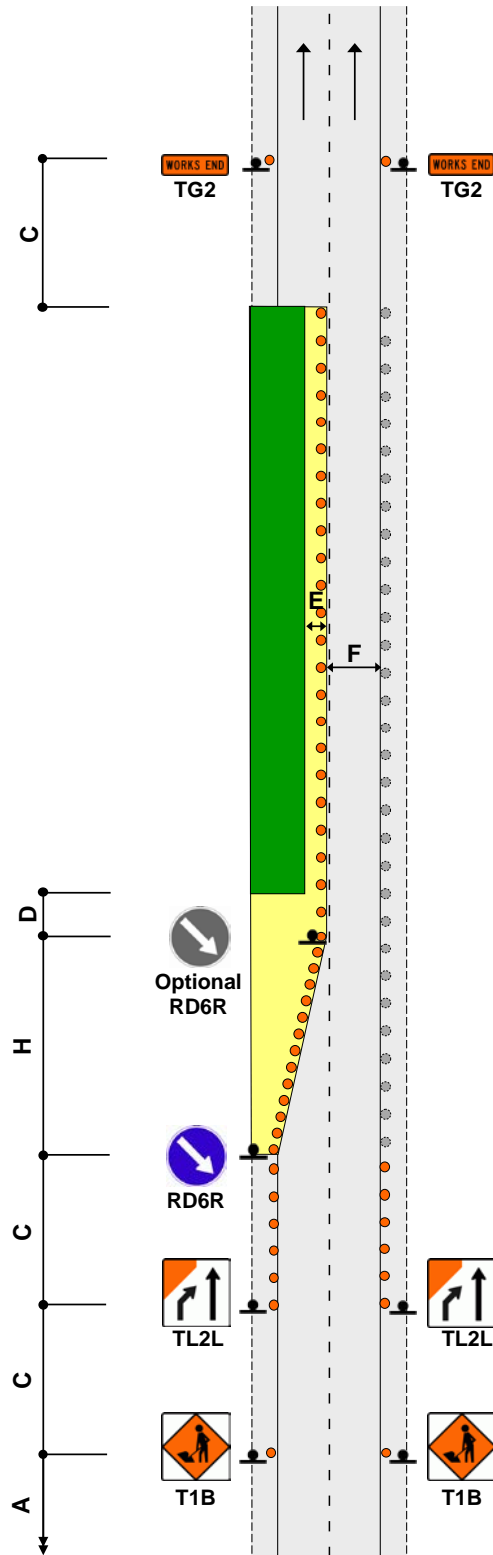
Left-lane closure

Permanent speed less than 65km/h

G2LS-1

Notes

1. RCA may approve use of level 1 signs and stands



TMD G2LS-2

Mobile operations

TWO-WAY TWO-LANE ROAD

Work vehicle is outside of the edgeline

Permanent speed less than 65km/h

G2LS-2

Notes

1. This layout may also be used on multi-lane roads
2. The T1B sign and supplementary plates must be repeated throughout the length of the worksite at intervals no greater than 4km
3. The static signs may be replaced by an AWVMS if used as a tail pilot
4. RCA may approve use of level 1 signs and stands

