

CTOC TTM Local Operating Procedures (LOPs)_v1

This document outlines the Christchurch Traffic Operations Centre (CTOC)'s view on Temporary Traffic Management (TTM) applications within the Christchurch city urban boundaries. The NZTA Code of Practice for Temporary Traffic Management (COPTTM) is the primary reference standard, and this LOPs document explains variations that CCC and NZTA consider to be acceptable for our city. Roads within Christchurch are classified as Level LV, 1 or 2. Relevant sections of COPTTM and other documents are referenced.

The LOPs are intended to be applied to both to CCC roads and NZTA State Highways to become the 'new normal' approach. Justification will be required if TMP Designers wish to apply the traditional COPTTM approach.

The LOPs clarify RCA expectations and outline differences to traditional COPTTM practice. Details not mentioned, are expected to follow standard COPTTM practice. Please aggregate the LOPs together into each TMP to achieve maximum benefit and consistency throughout Christchurch.

Where differences to CCC's Construction Standards Specification (CSS) exist, this LOPs document takes precedence.

TMPforChch

All TMPs must be submitted through the www.tmpforchch.co.nz website.

CITTM 1.1 Omission of TG2 WORKS END signs Ref C3.2.2 (diagram), C3.2.5

TG2 WORKS END signs may be omitted on all worksites.

The 'End of Works' zone is redefined as: *"The last sign or TTM device used"*. Where a TSL has been deployed, the 'End of Works' zone will usually be defined by the Permanent Speed Limit reinstatement signs. Where a TSL has not been deployed, it will usually be defined by the last TTM device (eg cone) used in the Direction and Protection zone around the workarea.

CITTM 1.2 Side Road Signage Ref Section F Layout Diagrams, C3.2.2 (diagram), C3.2.3

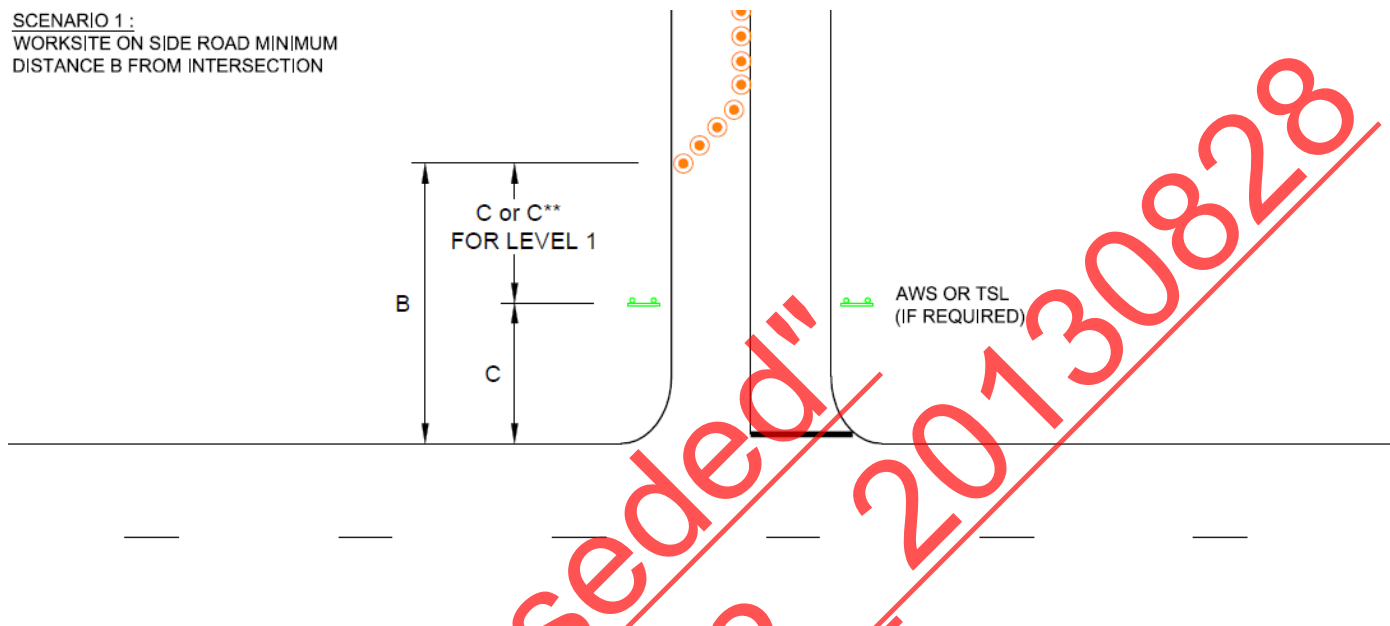
In Scenarios 1, 3 & 4 below, T1 ROAD WORKS signs may be omitted from the main road.

The 'Advance Warning' zone definition in COPTTM is not considered to need amendment to reflect the omission of T1 signs for side road TMPs. Other Advance Warning signs still meet the COPTTM definition.

Scenario 1: Worksite on Side Road a Minimum Distance of B from Intersection Ref F2:19

- T1 ROAD WORKS and TG2 WORKS END signs to be omitted from the main road.
- For Level 1 roads, refer to Diagram F2:19 for C** Table. A minimum Warning Distance B of 50m should be provided wherever possible, and especially if cornering speeds are above 35kph.
- For Level 2 roads, use C as per Level 2 Layout Distances Table.

SCENARIO 1:
WORKSITE ON SIDE ROAD MINIMUM
DISTANCE B FROM INTERSECTION

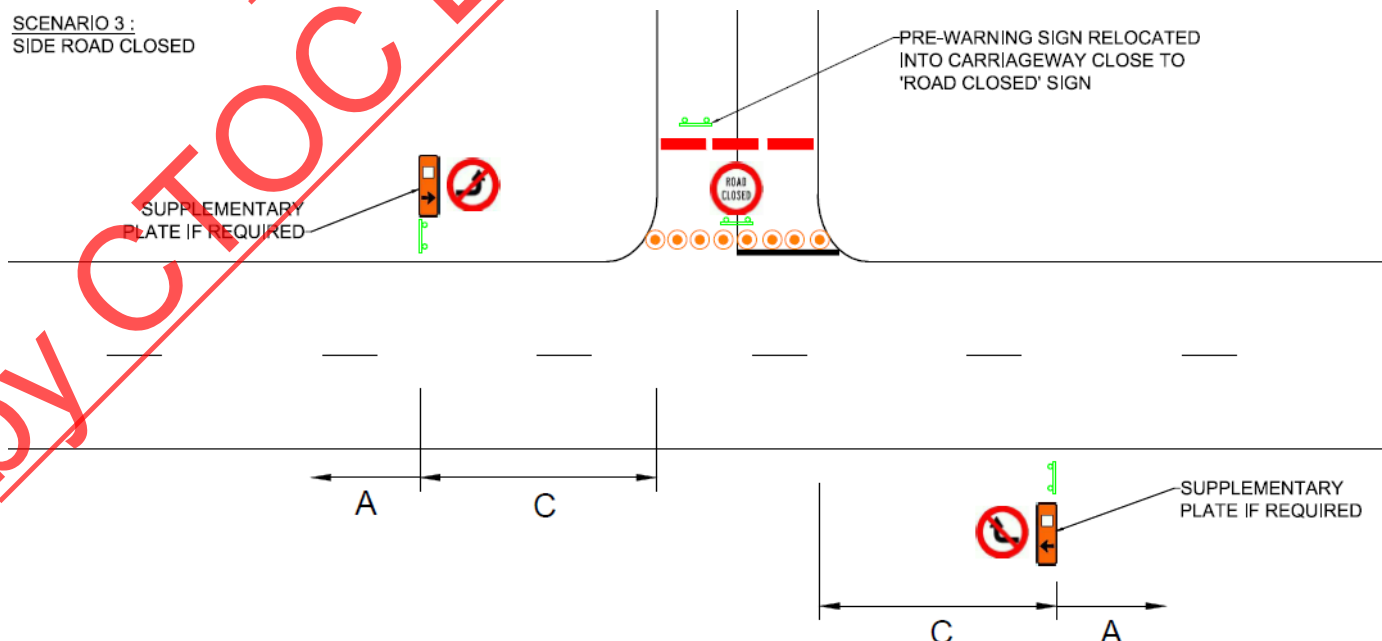


Scenario 2: Worksite on Side Road close to Intersection (less than Distance B) Ref F2:20
TBA

Scenario 3: Side Road Closed Ref F2:25

- T1 ROAD WORKS and TG2 WORKS END signs to be omitted from the main road.
- Deploy 2 sets of Advance Warning Signs (AWS):
 - RG7/8 NO RIGHT/LEFT TURN, with supplementary TDA6 FOLLOW ↑ (if appropriate).
 - RG16 ROAD CLOSED at intersection.

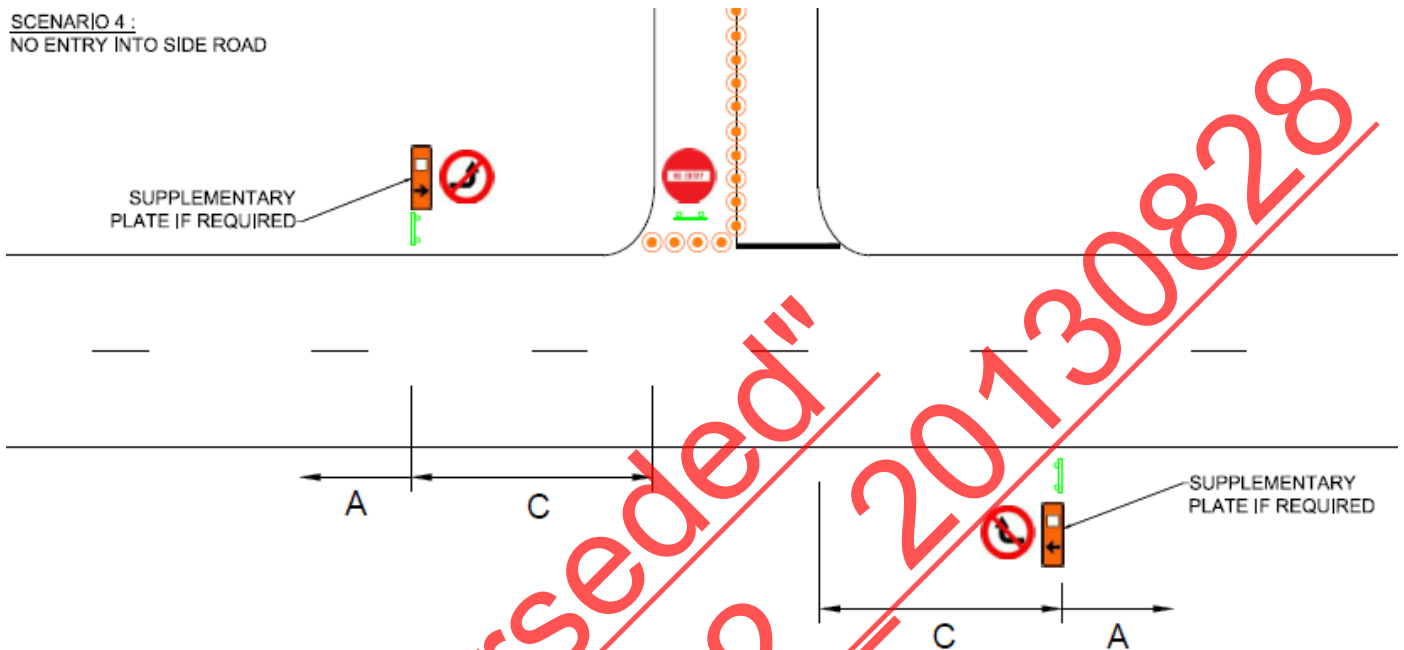
SCENARIO 3:
SIDE ROAD CLOSED



Scenario 4: Side Road is Exit Only (Entry closed)

- T1 ROAD WORKS and TG2 WORKS END signs to be omitted from the main road.
- Deploy 2 sets of Advance Warning Signs (AWS):
 - (i) RG7/8 NO RIGHT/LEFT TURN, with supplementary TDA6 FOLLOW ↑ (if appropriate).
 - (ii) RD2 NO ENTRY at Intersection.

SCENARIO 4 :
NO ENTRY INTO SIDE ROAD



CITTM 2 **Temporary Speed Limits** Ref C4, E2 App B

Temporary Speed Limits (TSLs) must be appropriate to provide an acceptable level of safety at the site, but to not unduly delay traffic. They should not be used in every situation, only where TSLs can be justified and where road users can understand the need to slow down.

Clause 5.2(2)(b) of the Land Transport Rule: Setting of Speed Limits 2003 requires TSLs to be "at least 20kph less than the Permanent Speed Limit (PSL)" in roadwork situations. This prevents use of 40kph TSLs on 50kph PSL roads. Until this constraint can be removed, please use the following guidance:

On 50kph PSL roads, if the site can be safely traversed at 35kph or more with only minor alteration to normal driving behaviour, then 30kph TSLs should NOT be used. This will normally require the following conditions to be met:

- Deficiencies are no more than minor.
- Good visibility is available (greater than Warning Distance B (50m minimum for Level 1, and 75m minimum for Level 2 roads)).
- Hazards are clearly recognisable on approach to the site, so that road users naturally slow down to a suitable speed.
- The type of work presents low-severity accident risk to workers and road users.

If conditions at the site necessitate traffic speeds of 35kph or less for safety reasons, then a posted TSL of 30kph or less should be deployed. This may be necessary where:

- Major deficiencies exist (tight geometrics, narrow lanes, rough / unsealed surface etc).
- Visibility is restricted below Warning Distance B (50m minimum for Level 1, and 75m minimum for Level 2 roads).
- Hazards are not clearly recognisable when approaching at the permanent speed limit.
- The type of work presents high-severity accident risk to workers and road users, for example repeated work on foot close to a live traffic lane.

Refer to the TSL decision matrix in COPTTM E2 Appendix B for further guidance in determining appropriate speed limits. If a TSL is adopted, then supporting TTM techniques should be included in the TMP to validate it to approaching road users. Techniques include side friction, threshold treatments, chicanes, barricades, speed feedback signs etc.

CITTM 1.3 **Signage Gating** Ref C3.3.1

Gating is not required on two-lane two-way, and any other 'single approach lane per direction' roads, except for Temporary Speed Limit (TSL) signs that must still be gated.

(Gating is required as per normal on roads with multi-lane approaches).

CITTM 1.4 **Cone Mounted KEEP LEFT / RIGHT signs** Ref B1.4.2

400mm diameter RD6L/R KEEP LEFT/RIGHT (single) arrows may be mounted onto cones in low risk situations, to assist in guiding traffic around the worksite.

(The start and end of lane closure tapers and chicanes must be delineated with Level 1 or 2 size signs as per normal).

Traffic Delays Ref C16, Guideline for TTM Efficiency, SWIF Flowchart

Traffic impact must be considered during development of each TMP, and a suitable balance of safety, construction efficiency and network impact be proposed by the TTM methodology. The TMP Designer must identify if traffic volumes are likely to exceed the available capacity at the site, and along detour routes.

COPTTM C16 and the Guideline for TTM Efficiency provide tools for TMP Designers to use. More detailed Network Modeling and Area-Wide Works Coordination may be necessary to provide assurance of the expected capacity.

TMPs must summarise the assessment undertaken, identify when network efficiency impact is likely to occur, and outline appropriate mitigation measures to minimize impact.

Mitigation Measures when Network Impact Unavoidable Ref Mitigation Measures Flowchart

When Network Impacts are unavoidable, mitigation measures must be considered, planned and delivered alongside the TMP. Specific details of Communication and Notification Strategies do not need to be included in the TMP, but the TMP must at least outline the measures being planned.

Barrier Systems Ref B12 & C18, SHGDM Section 7.3

Where barrier systems are proposed as a safety device for worksite protection, the following elements must be clearly explained in the TMP:

- Test Level in terms of NCHRP 350 or AASHTO MASH. The proposed product must be included in NZTA's authorised product list.
- Layout details:
 - Upstream End Treatment
 - Flare sections
 - Protection Zone (Length of Need)
 - Downstream End Treatment (if required)
 - Offset to live lanes
 - Delineation*
 - Transition details (if required)
 - Deflection Distance (Clear Zone)

A close-up scale drawing and cross-sections are recommended to fully explain the proposed barrier system configuration.

- How key elements will be installed so that performance will replicate crash-tested performance**. Any differences to the crash-tested configuration may result in the system performing poorly and being non-compliant with NZTA M23: 2009. We recommend that barrier system components be installed in accordance with manufacturer instructions wherever practicable.
- Maintenance standards proposed for the barrier system. Note that water-filled systems may require higher levels of attention than other types.

* The minimum Delineation expected for barriers used to channel traffic at speeds less than 65kph is reflective markers (chevrons) at 10m spacing. Additional delineation will be necessary for any worksites with a speed limit higher than 65kph, or where significant risks exist.

** Where the crash-tested configuration (especially deflection distances) cannot be provided, the TMP must explain why the configuration is proposed, the expected performance, and any mitigation measures to be adopted to manage risks.

"Superseded"
by CTOC LOP v2 20130828