WAKA KOTAHI
NZ TRANSPORT AGENCY

TRAFFIC MANAGEMENT OPERATIVE HANDBOOK

WAKA KOTAHI - NZ TRANSPORT AGENCY

VERSION 2.0

Participant name:

New Zealand Government

Disclaimer

The NZ Transport Agency has endeavoured to ensure material in this document is technically accurate and reflects legal requirements. However, the document does not override governing legislation. The NZ Transport Agency does not accept liability for any consequences arising from the use of this document. If the user of this document is unsure whether the material is correct, they should refer directly to the relevant legislation and contact the NZ Transport Agency.

More information

If you have further queries, call our contact centre on 0800 699 000 or write to us:

NZ Transport Agency
Private Bag 6995
Wellington 6141

Contents

ABOUT THE TRAFFIC MANAGEMENT OPERATIVE TRAINING

Outcomes of the Traffic Management Operative training

The Traffic Management Operative (TMO) training includes this workshop, on-job coaching from a TTM Mentor and assessment.

At the end of the training you will be able to:

On category A and B road environments:

- Maintain existing static worksites within the current phase while the STMS is away from worksite. This applies to:
  - All roads with permanent speeds of 60km/h or less
  - Two-way two-lane roads with permanent speeds of 70km/h or more.

On category A and B road environments (all speed limits)

- Setup, maintain and remove TTM at a static worksite provided all TTM equipment is either:
  - Out of the live lane, or
  - Over a kerb and channel, or
  - Outside an edgeline, or
  - Outside the edge of seal.

On category A road environments (60km/h or less)

- Setup, maintain and remove TTM at a static worksite provided:
  - The work activity is carried out on the berm or footpath
  - The associated work vehicle is parked in a legal car park
  - The vehicle is only accessed from the off-traffic side

  Note: Advance warning T1A Road Works and TG2 Works End are optional.

On category A and B road environments

- Undertake inspection activities
  - As a planned activity
  - Part of installing, maintaining and removing TTM.

Your previous role: TTM Worker

In your previous role you followed instructions of the STMS to:

- Install and remove signs and cones
- Control alternating flow (eg stop/go)
- Act as a spotter.

You were also responsible for your own safety

Building on your existing skills

During your time as a TTM Worker you will have learnt the following:

- Importance of following instructions from the STMS
- Be able to work in a physical environment
- The need for good communication skills and being able to deal with people.

Skills you will need as a TMO

As a TMO you will need the following skills and attitudes:

- Able to lead a team
- Able to understand and apply your responsibilities (decide what you can do and when to call the STMS)
- Able to identify and manage risk at the worksite by completing ongoing risk assessments.

Key messages from the training

The TMO role is all about safety for you, the crew and ALL road users

If the signs and cones are on the lane, then the TMO can only mind the worksite when the STMS is away from the worksite. The STMS must return to worksite to make changes.

Other key messages include:

- Keep all safety (no go) zones clear
- Your TMO role takes priority over all other activities
- Paperwork is important – record what you've done
- You are the leader of traffic management at the worksite when the STMS is absent.

When responsible for a worksite the TMO needs to recognise when something is unsafe and either:

- Contact the STMS, or
- If within their responsibility, do something about it.

About TMO and STMS warrants

TMO and STMS warrants are based on categories of road environment.

Each road environment deals with a different type of risk.

Categories of road environment

There are different risk profiles depending on the road environment you are working in.

Considerations on low speed roads:

- Pedestrians and pedestrian crossings
- Cyclists and cycle lanes
- Shared pedestrian and cyclist paths
- Restricted parking areas in the form of bus stops, loading zones, taxi stands, coupon parking, resident parking etc
- Higher number of intersections and accessways
- Many distractions.

Considerations on high speed roads:

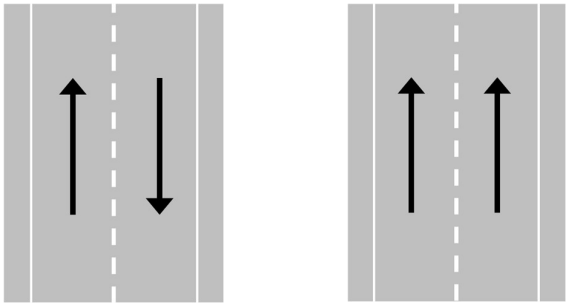
- Higher speed – longer stopping distances
- More heavy vehicles
- Visibility of the worksite (vertical and horizontal curves)
- Shoulder and pull over areas
- Slower driver reaction time.

Category A: Low speed roads (60km/h and less)

- Includes LV, L1 and L2 low speed roads
- Using either type A or B signs

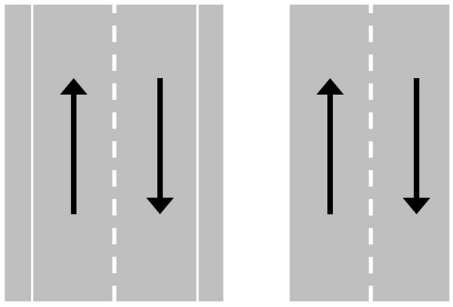
Type A Type B

- Includes two-way two-lane and multi-lane roads.



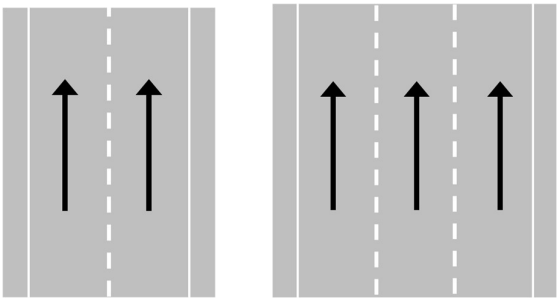
Category B: High speed two-way two-lane roads (70km/h and more)

- Includes LV, L1 and L2 high speed roads
- Using both type A and B signs (depending on requirements)
- Includes roads with or without shoulders.

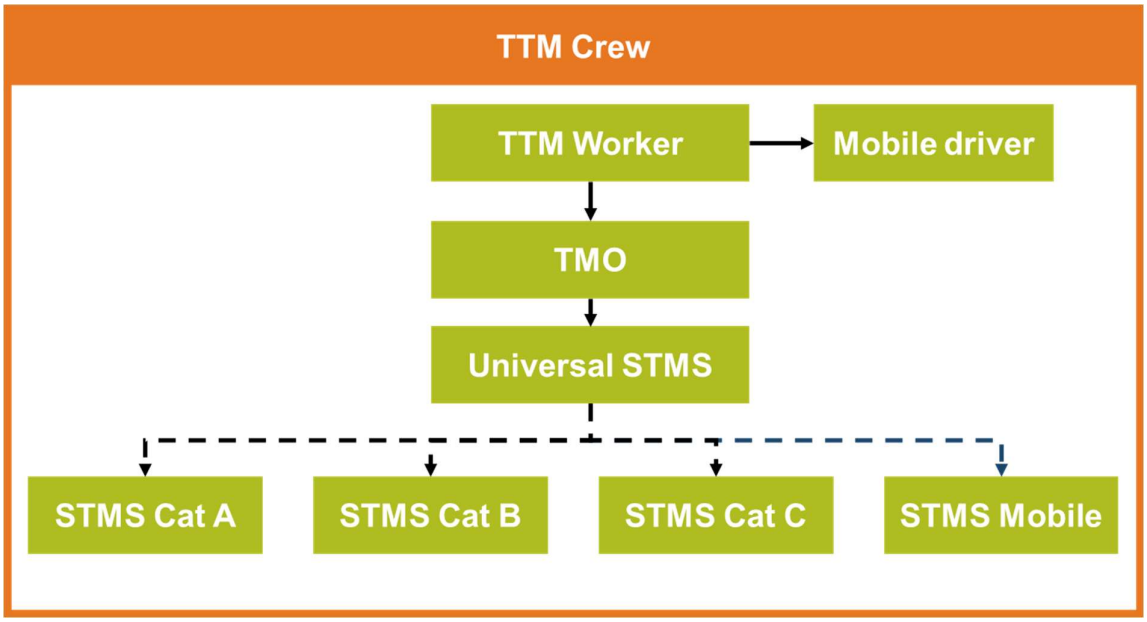


Category C: High speed multi-lane roads (70km/h and more)

- Includes high speed L1, L2 and L3 multi-lane roads
- Using both type A and B signs (depending on RCA requirements).



Career path for TTM crew



Training, mentoring and assessment

3 key parts of the learning are:

- Training
- Mentoring
- Assessment.

Waka Kotahi warrants

The NZ Transport Agency warrants are either non-practising or practising

Warrant	Explanation
Non-practising	Successfully completed the workshop.
Practising	Successfully completed the workshop **and assessed as competent.**

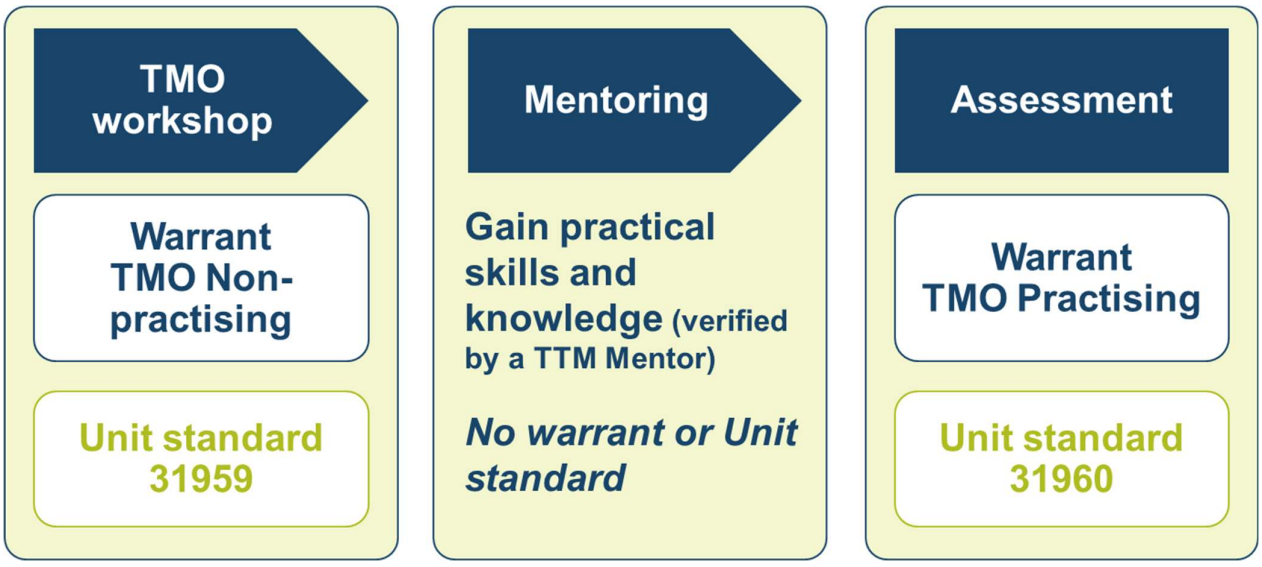
Unit standards

Here are the Temporary Traffic Management unit standards.

Learning block	Unit standard	Title
TTM Worker	**31958**	Explain the role of and operate as a TTM worker on the worksite under temporary traffic management.
TMO Non-practising	**31959**	Demonstrate knowledge of stakeholders and operational requirements for temporary traffic management.
TMO Practising	**31960**	Maintain the worksite under temporary traffic management.
Universal STMS	**31961**	Explain the requirements for the worksite under temporary traffic management.
STMS Non-practising	**31962**	Explain the requirements for the worksite under temporary traffic management for a road environment as defined in CoPTTM.
STMS Practising	**31963**	Operate as a practising Site Traffic Management Specialist (STMS) within a road environment as defined in CoPTTM.

A person who achieves all of the unit standards can be awarded the NZ Certificate in Temporary Traffic Management at a Worksite.

TMO warrants and unit standards



TMO ROLE AND RESPONSIBILITIES

The STMS and TMO roles

If worksite is on the lane

STMS role

- Set up worksite
- Handover to TMO

TMO role

- Monitor worksite
- Complete ongoing risk assessment
- Brief visitors to worksite
- Monitor alternating flow
- Monitor TTM continuously and document 2 hourly inspections
- Contact STMS when required
- Communicate with people
- Install and remove TTM if out of the lane
- Complete inspection activities

STMS role

- Inspect worksite once a day
- Make changes to worksite
- Remove the worksite

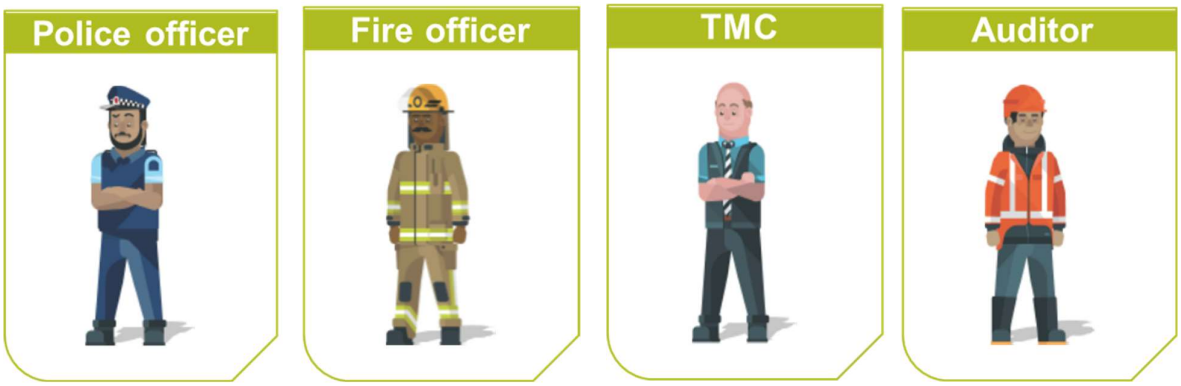
TMO reports to an STMS

Make sure you can communicate with the STMS at all times

If worksite is on the lane and STMS is absent, delegated TMO is responsible for…

- TTM Workers
- Alternating flow operators
- TTM at site

TMO must follow the instructions of…



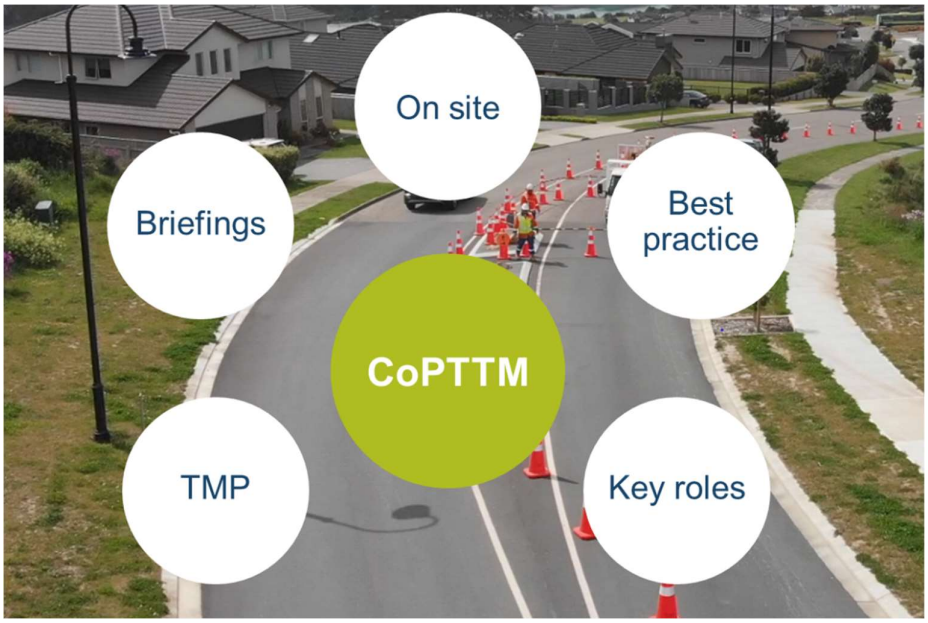
Leadership

The TMO role is about leadership and caring for and looking after people

Promote healthy living

Hydration	Ensure you and the crew are drinking water regularly during the day.
Stretch before lifting	Encourage the crew to stretch before lifting anything.
Manage fatigue	Watch for signs of fatigue. **Fatigue can reduce the person's concentration, slow their reactions and make it difficult for them to make good decisions.**

ABOUT CoPTTM



Best practice

- How we do things
- Industry approved
- Consistent standards

Key roles

Contractor	RCA
TTM Planner	Engineer (new construction)
STMS	TMC
TMO/TC	TMP Approver
TTM Worker	Auditor

TMP

Traffic management plan
Developed by TTM Planner
Based on risk assessment
Shows the safe TTM setout for worksite
Approved by TMP Approver
Must be at attended worksites at all times

Briefings

STMS briefings
Toolbox briefing
Visitor briefing
Briefing of delegated TMO
Handover to another STMS

TMO briefings
Visitor briefing

Onsite activities

TMO
Mind worksites that are on the lane
Install, maintain and remove roadside and shoulder activities
Complete inspection activities
Complete the on-site record

ABOUT TTM AT A WORKSITE

TTM	Comments	Example
Mobile operations	An operation that moves along the road, stopping occasionally for no more than 10 mins (normally protected by vehicles with signs mounted on them).	
Amber flashing beacon	Amber flashing beacons are mounted on vehicles and alert road users that **work is happening** and that there is changed driving conditions ahead. They are also used when entering or leaving a closure, during inspection activities and during installation/removal of TTM (eg installing a worksite).	
Static operations	An operation that is contained within a fixed area (normally protected by signs and cones).	
Temporary signs	Signs provide warnings and direct road users (drivers, cyclists and pedestrians) safely through the worksite.	

TTM	Comments	Example
Advance warning	Every worksite has to have advance warning to alert road users that there is an altered road environment ahead.	
Temporary speed limit (TSL)	A reduced temporary speed applied to a section of road. TSL signs are gated across the road (a sign on each side of the road) on all roads that carry more than 500vpd. On longer worksites, repeater (reminder) TSL signs are placed at least every 400m throughout the TSL area. Signs to reinstate the permanent speed limit are also gated on all roads that carry more than 500vpd.	
Delineation devices	Used to mark tapers and to form temporary traffic lanes to divert road users away from the working space. Cone bars help guide pedestrians.	 
Positive TTM	TSL signs by themselves do not slow road users down. If a TSL is installed, normally some form of positive TTM will also be installed to slow road users slow. A common form of positive TTM is a cone threshold (cones on the side of the road and cones in the lane). This narrows the lane width which tends to slow road users.	

TTM	Comments	Example
Taper	A row of delineation devices (normally cones) used to shift traffic across the road around the working space.	
Centreline cones	A row of cones separating 2 lanes of traffic. These cones will normally be used when lanes are shifted across the carriageway to make room for a working space.	
Safety (no-go) zones	Areas around the working space that separate road users from road workers. The safety (no-go) zones are always to be kept clear. There is to be no working or stockpiling of materials or equipment in these areas. TTM equipment may be placed in the safety (no go) zones. TTM crew can only be in these safety (no go) zones if there is a spotter watching for risks from approaching traffic.	

TTM	Comments	Example
Footpath and cycle lane diversions	A diversion or alteration of a marked or inferred pedestrian or cycleway when the normal route cannot be used.	
Temporary barriers	Used to protect a working space by redirecting an impacting vehicle and minimising injury.	

TRAFFIC MANAGEMENT PLAN (TMP)

The TMP sets out how the TTM at a worksite is to be managed. It sets out how workers and road users are to be kept safe while the work takes place. You need to read the TMP so you understand how to do your job safely, and in compliance with the RCA and CoPTTM requirements.

Important parts of the TMP

When TMO is delegated responsibility for the worksite, they will need to refer to the TMP to get important information. Important parts of the TMP include:

Item	Comments
Planned work programme	• Often work has to be completed by a set time and the road returned to normal operating conditions. • This will be shown in the TMP (normally in the planned work programme section). • Therefore, it is important to monitor the progress of work within the working space. The STMS should provide you with the key times that work needs to be completed by. • If the work crew fall behind the schedule, let the STMS know as this may have impacts on the TTM at the worksite.
Proposed traffic management methods - Attended (day)	• This section provides a description of the procedures that the need to be followed to set the worksite up, maintain it and remove it.
Positive traffic management measures	• This provides a list of the approved techniques for encouraging passing motorists to lower their speed when passing the working space. • With the STMS approval, the TMO will be able to apply some of these techniques.
Contingency plans	• Contingency plans tell you what to do if a major or minor incident occurs at the worksite *(covered in more detail in the Managing incidents and crashes section of this handbook).* • The contingency plan can also include instructions on what to do for other potential issues at the worksite.
On-site monitoring plan – Attended (day and/or night)	• This identifies how often the different items of TTM equipment at the worksite need to be checked to make sure that they are still working as planned. • Normally this is continuously monitored with a formal check completed at least every 2 hours.
Traffic management diagram (picture)	• The TMP also includes a diagram or picture showing how the TTM at the worksite is to be set out.

RISK ASSESSMENT

Hazards, risks and controls

How do you control a hazard to reduce risk?

TMO role in safety

- Your role as TMO is to:
  - Look out for new hazards that need to be addressed
  - Look for any changes to existing hazards.

- Remember, when responsible for a worksite the TMO needs to recognise when something is unsafe and either:
  - contact the STMS, or
  - if within their responsibility, do something about it.

STATIC ROADSIDE AND SHOULDER ACTIVITIES

When TMOs can install and remove TTM at a worksite

The TMO can **install, maintain and remove** TTM for static roadside and shoulder activities subject to the following conditions:

For all activities	There MUST be an approved TMP for the activity. The TMO must be briefed by the STMS.
Roadside activities on category A road environments	The TMO can **install, maintain and remove** a static roadside worksite provided: • The work activity is to be carried out on the roadside or on a footpath • The associated work vehicle is legally parked • The work vehicle is only accessed from the non-traffic side.
Shoulder activities	The TMO can **install, maintain and remove** TTM at a static shoulder worksite provided **ALL** associated TTM equipment is either: • Out of the live lane, or • Outside of an edgeline, or • Outside of the edge of seal.

Typical activities that **can** be completed as **static roadside or shoulder activities** include:

- Cleaning bus stop shelters
- Emptying rubbish bins
- Checking roadside cabinets and terminals
- Accessing aerial wires and terminals using a ladder
- Cleaning windows or facades
- Installing a letter box or constructing a fence
- Mowing a berm
- Gardening
- Concrete repairs
- Deliveries.

ROADSIDE ACTIVITIES
Work on berm and/or footpath
Permanent speed 60km/h or less

F2.5
TMO Installation and removal

Notes

The TMO can **install, maintain and remove** a static worksite provided:

- The work activity is to be carried out on the roadside or on a footpath
- The work vehicle is legally parked
- The work vehicle is only accessed from the non-traffic side

The T1A Roadworks and TG2 Works End signs are optional

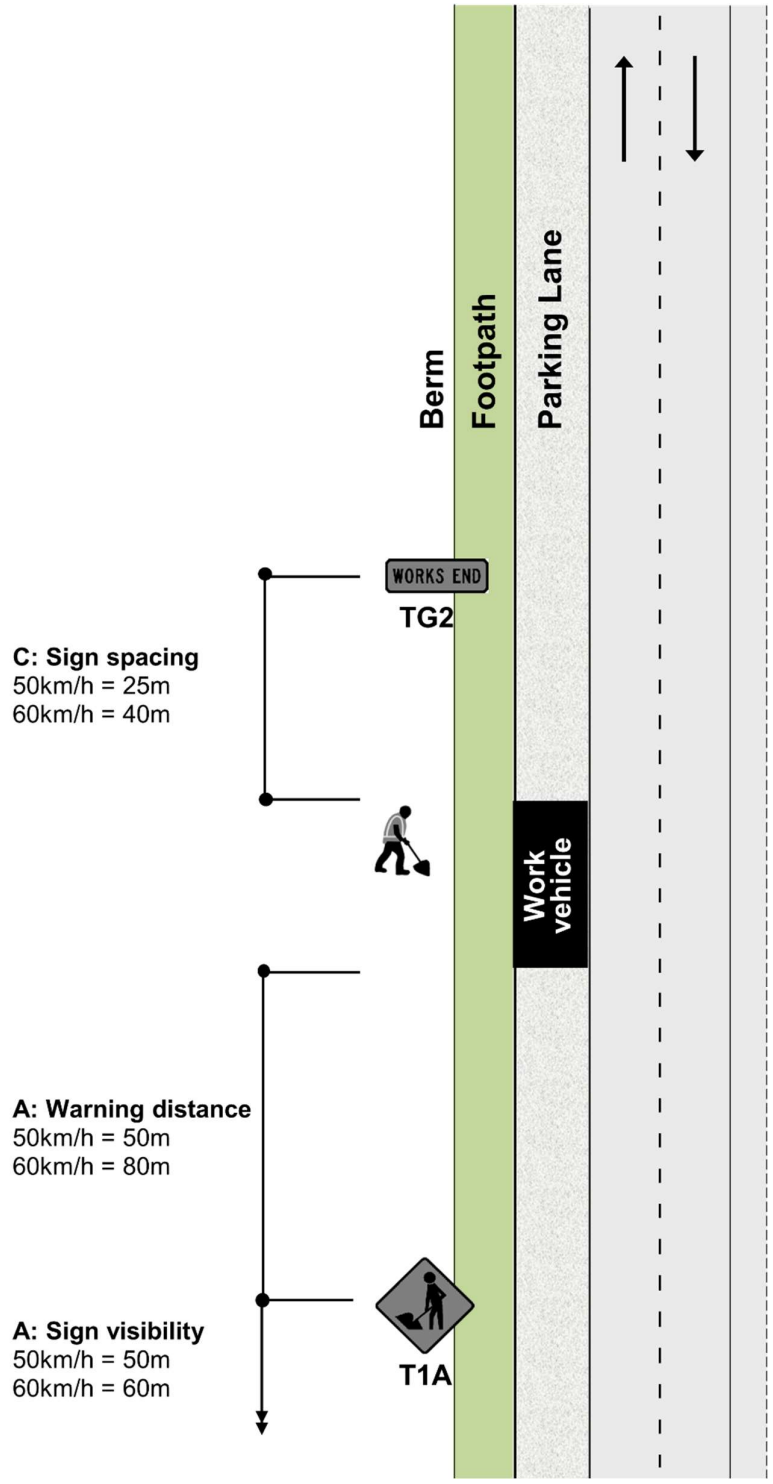
Traffic management must be provided where footpath users or cyclists are affected

This layout may only be used during daylight hours

Large plant and machinery must not be used in this situation, a more substantial closure is required

Pedestrian diversion requirements as outlined in F2.1, F2.2 may need to be incorporated into the closure if minimum footpath widths are impinged upon

Cannot be used if pedestrians have to cross over a kerb or edgeline



SHOULDER ACTIVITIES

Shoulder closure

If there is no edgeline, the TMO cannot install or remove TTM (unless they are outside the edge of seal

F2.7

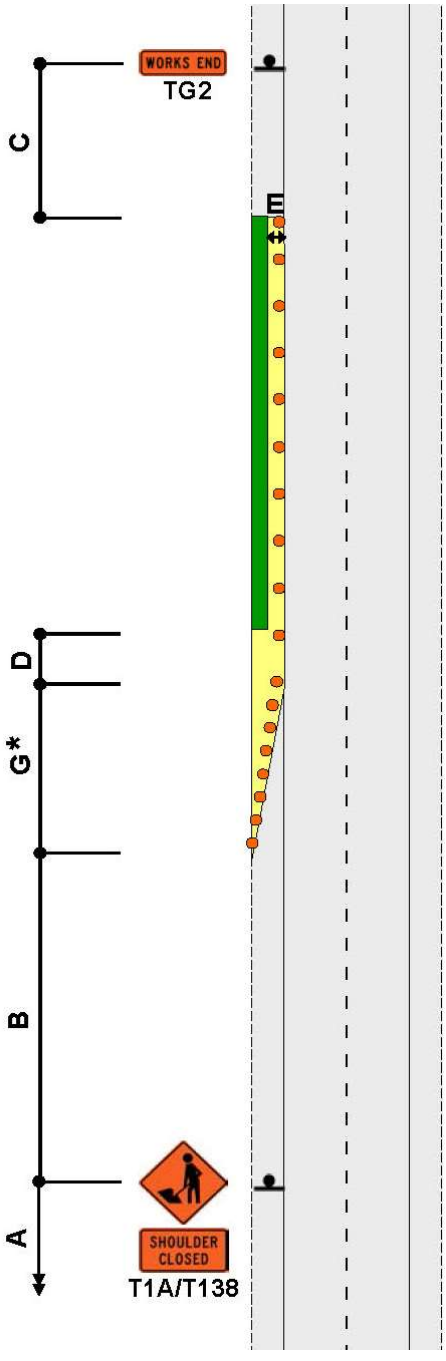
TMO Installation and removal

Notes

The TMO can **install, maintain and remove** TTM at a static worksite provided **ALL** associated TTM equipment is either:

- Out of the live lane, or
- Outside of an edgeline, or
- Outside of the edge of seal.

*A 10m taper is allowed where shoulder width is less than 2.5m



LAYOUT DISTANCES TABLE (COMBINED)

Permanent speed limit or RCA-designated operating speed (km/h)		≤50	60	70	80	90	100
Traffic signs							
A	Sign visibility distance (m)	50	60	70	80	90	100
B	Warning distance (m)	50 or 30*	80	105	120	135	150
C	Sign spacing (m)	25 or 15*	40	50	60	70	75
Safety zones							
D	Longitudinal (m)+	10 or 5*	15	30	45	55	60
E	Lateral (m)+	1	1	1	1	1	1
	Lateral behind barrier installation	As specified by the Installation Designer					
Tapers							
G	Taper length (m)#	30	50	70	80	90	100
G	LV roads taper length (m)#	25	30	35	40	45	50
K	Distance between tapers (m)	40	50	70	80	90	100
Delineation devices							
Cone spacing in taper (m)		2.5	2.5	5	5	5	5
Cone spacing: Working space (m)##		5	5	10	10	10	10

* Larger minimum distances apply on all state highways and also on all multi-lane roads. The smaller minimum distances may be applied on other roads to accommodate road environment constraints.

\+ On LV roads the longitudinal and lateral safety zones may be reduced, or eliminated, in order to retain a single lane width. Positive traffic management and an appropriate TSL must be used.

\# 1. On non-state highways with speeds 50km/h or less, a **10m taper** (with cones at 1m centres) may be used when there are road environment constraints (eg intersections and commercial accesses).

2. On all roads where the 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).
3. 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.

\## LV roads: double the cone spacing alongside working space (eg 5 = 10, 10 = 20).

Lane widths (based on permanent speed or TSL if applied)

Speed (km/h)		30	40	50	60	70	80	90	100
F	Lane width (m)	2.75	2.75	3.0	3.0	3.25	3.25	3.5	3.5

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

LV/low-risk roads (less than 250vpd - less than 20 vehicles per hour)

When on the shoulder:

- *If CSD **not** available*: Advance warning sign and base to be installed with sign visibility distance and warning distance in place
- *If CSD available:* Advance warning sign may be attached to the rear of a work vehicle which has an amber flashing beacon(s) and is visible to approaching road users from the rear.

When the activity encroaches onto a live lane consider alternating flow controls.

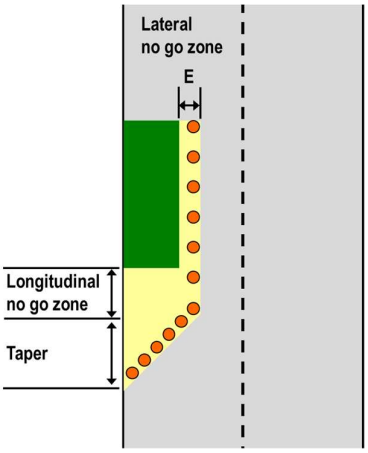
If the above requirements cannot be achieved, the operation must be modified to comply with the appropriate level LV or level 1 requirements.

Ignore the smaller distances for 50km/h and less

Traffic signs		
A	Sign visibility distance (m)	50
B	Warning distance (m)	50 or 30*
C	Sign spacing (m)	25 or 15*
Safety zones		
D	Longitudinal (m)+	10 or 5*

Applies to dimensions B, C and D

Safety (no go) zones



On a static worksite there are 3 main safety (no go) zones:

- Taper
- Longitudinal safety zone
- Lateral safety zone.

These must be empty spaces:

- no work
- no parking
- no stockpiles
- no equipment.

Safety (no go) zone	Example	Purpose
Taper		A row of delineation devices (normally cones) used to shift traffic across the road around the working space.
Longitudinal		An emergency breaking area immediately in front of the working space. The longitudinal safety (no go) zone increases with speed (higher the speed – the longer the safety (no go) zone gets).
Lateral		Separates road users from road workers, plant or equipment – keeps them at least 1m apart.

Lane width

Temporary lane widths are based on permanent speed (or TSL if applied).

The temporary lane widths for TTM are:

Speed (km/h)	30	40	50	60	70	80	90	100
Lane width (m)	**2.75**	**2.75**	**3.0**	**3.0**	**3.25**	**3.25**	**3.5**	**3.5**

Lane width is measured from **cone edge to cone edge.**

Remember. We narrow lane widths to reduce speed of passing road users.

Lane width is measured from **cone edge to cone edge.**

Remember: We narrow lane widths to reduce speed of passing road users.

We need to allow for heavy vehicles to pass through the worksite. This often means wider lanes.

Your STMS will tell you the lane width required for the worksite you are controlling.

INSPECTION ACTIVITIES

What is an inspection?

An inspection is when the worker is on foot and undertaking simple tasks. An inspection activity can take place on the roadside (eg traffic counting), or on a live lane (checking loose access covers). Some RCAs do not allow inspections on their networks. The STMS will brief you on the RCA's requirements.

What tasks can be completed as an inspection activity

Here are examples of work tasks that can be completed as inspection activities; observations, using a measuring wheel, traffic counts, installing traffic count equipment, road maintenance activities such as removal of litter, cleaning signs, cleaning edge markers or taking photographs.

More complex activities, or those where the person cannot immediately move off the live lane on approach of a vehicle, require a more substantial mobile closure or static closure.

Installing, maintaining and removing TTM at a worksite

Activities that require a lookout may also be used when installing, maintaining and removing TTM at a worksite.

These activities could include:

- Setting up cone threshold for Stop/Go operator
- Reinstating a centreline cone that has been knocked over by a vehicle
- Removing a sign that has fallen into the live lane.

The primary rules for inspection activities

Inspectors must leave the road on the approach of a vehicle.

They must not expect traffic to move or slow down to avoid them.

Inspection activities can be undertaken by a practising TMO without the need for the operation to be under the control of an STMS.

The TMO is in-charge of the inspection activity

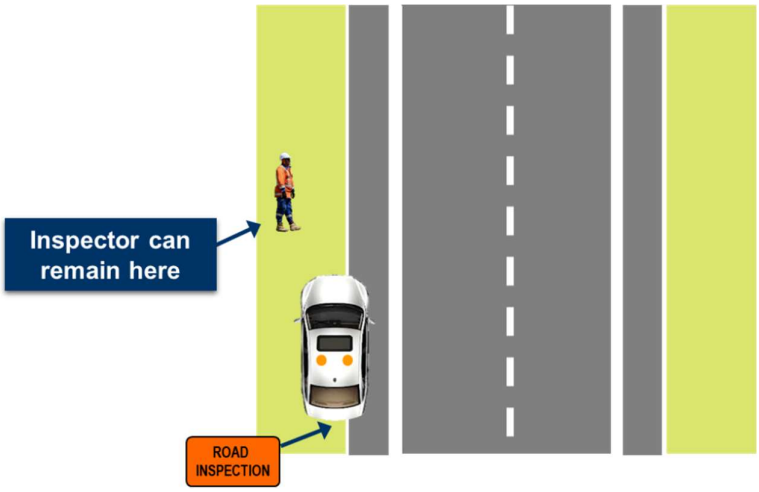
Those completing inspection activities must complete any required RCA network training/briefings

If there is a vehicle, it must be parked clear of the live lane at the site with:

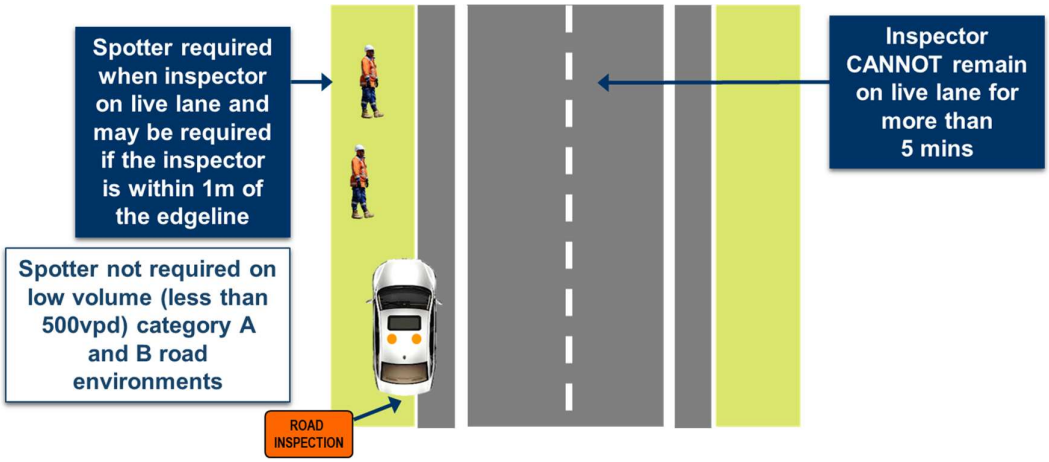
- At least one amber rotating flashing beacon
- Rear mounted sign:

The Inspector must wear an appropriate high visibility garment.

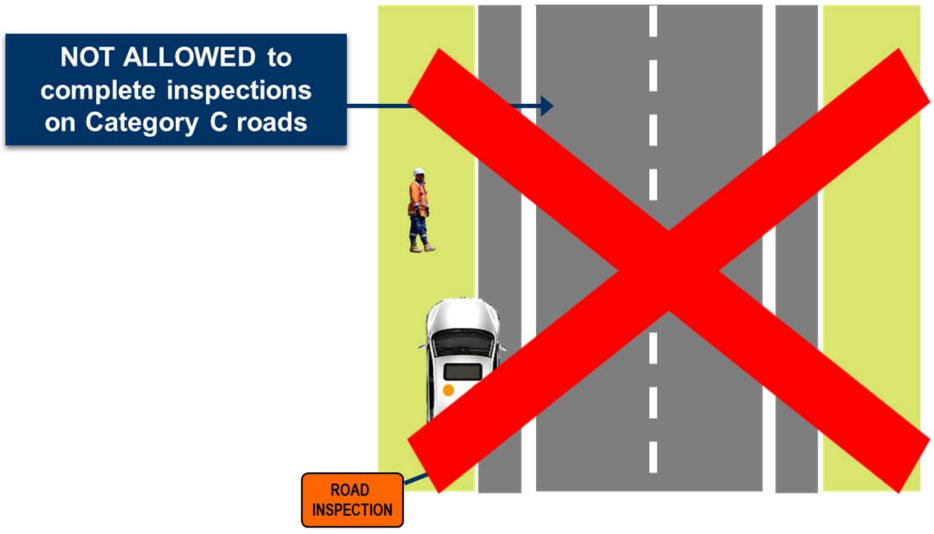
Inspections out of live lane on Category A and B roads



Inspections on live lane of Category A and B roads



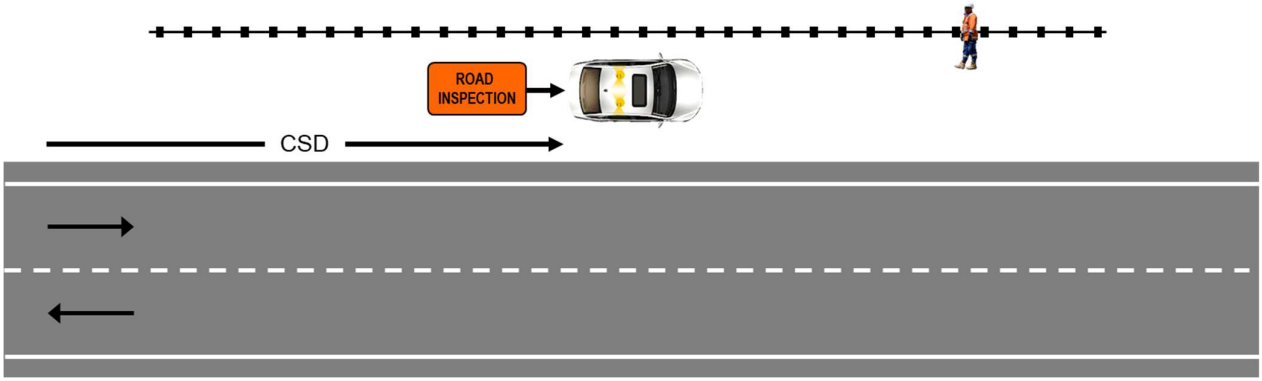
Inspections on live lane of Category C roads



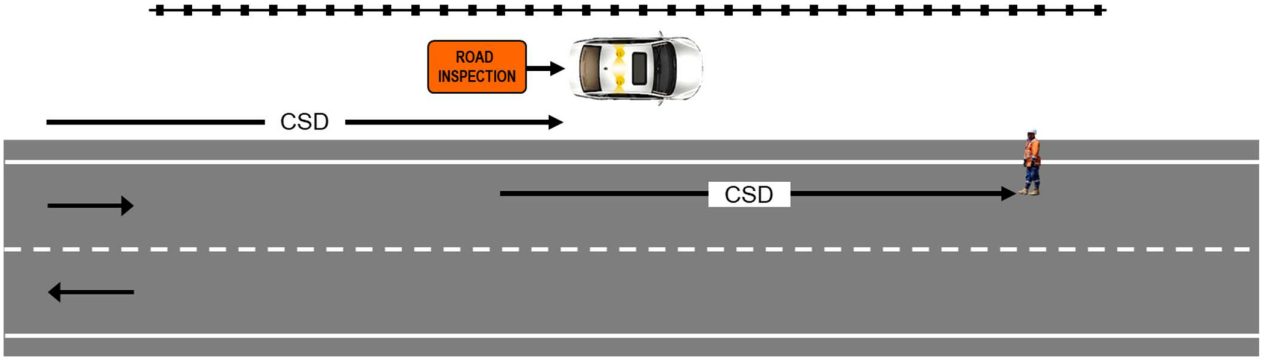
Clear sight distance (CSD) for inspections

Approaching road users must have CSD to the activity. CSD varies depending on the permanent speed.

Calculating CSD	Permanent speed	CSD
100 to 60km/h CSD = 3 x the permanent speed in metres (100km/h x 3 = 300m)	**100km/h**	300m
	90km/h	270m
	80km/h	240m
	70km/h	210m
	60km/h	180m
50km/h or less CSD (state highways) = 150m CSD (non-state highways) = 75m	**50km/h or less** **(state highways)**	150m
	50km/h or less **(non-state highways)**	75m



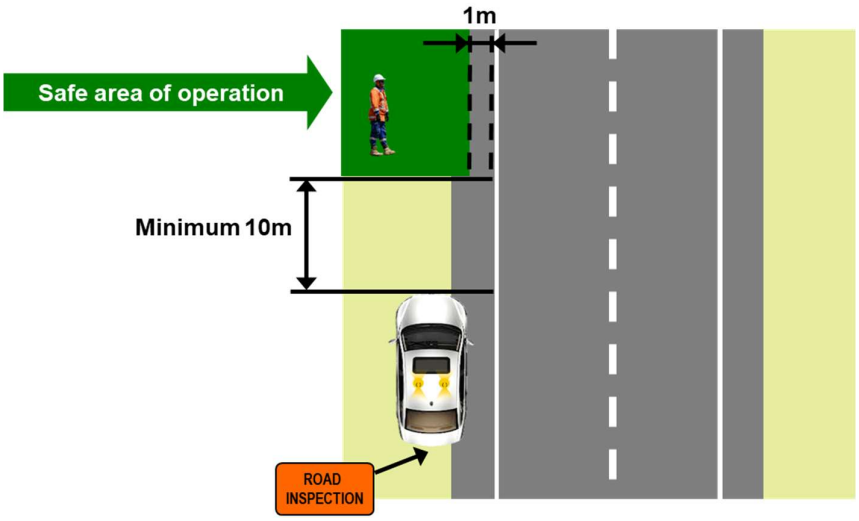
CSD is also required to the inspector if they are on the live lane.



Safe operating area

The safe operating area for an inspector is:

- At least 10m in front of the vehicle
- At least 1m away from the edgeline.



General requirements

On busy roads, avoid peak periods or use a higher level of TTM

Inspectors can cross live lanes on category A and B roads without the requirement for a spotter

Vehicle requirements

- Vehicle (advance warning) must be positioned in advance of the inspection site.
- Vehicle not required on a Category A road with a permanent speed of 60km/h or less if inspector remains clear of the carriageway.

Procedure for visiting an inspection site

- If there is no obvious place to safely stop, keep driving.
- As you drive past the intended site, look for an alternative safe place to stop.
- If there is no safe place to stop, cancel the inspection activity.
- Arrange for another type of TTM operation to complete your activity.

Procedure for ENTERING a new inspection site

ALWAYS	• Enter to the left
BEACON	• Turn the beacon on when approaching the site
INDICATE	• Indicate your intentions for minimum of 3 seconds, check traffic behaviour behind you, slow down and drive into the site
PARK	• When in the site ensure the vehicle is parked as far away from the live traffic lanes as possible **and leave your beacon on**
EXIT VEHICLE	• Check your mirrors for approaching traffic and ensure it is safe to exit the vehicle before opening your door • Make sure you are wearing your high visibility clothing. Keep an eye on approaching vehicles at all times

Procedure for EXITING the inspection site

BEACON	• Leave the beacon on
INDICATE	• Indicate your intentions for minimum of 3 seconds
MIRRORS	• Check your mirrors for a safe gap in the traffic
ACCELERATE	• Accelerate and merge safely into the traffic lane • Keep an eye on traffic behaviour at all times
BEACON	• Turn the beacon and indicator off when you have reached normal operating speed

When spotter required

Spotter not required on category A and B roads:

- With less than 500vpd
- If the inspector is on the shoulder or berm.

A spotter is required when the inspector is on the live lane of a category A or B road.

Note: Some networks may have different requirements which will be recorded in the TMP.

Spotters job

A spotter's job is to make sure the inspector is off the road before the vehicle reaches them.

Pick a spot down the road to be the trigger point for the approaching vehicle.

Need to allow time for:

- Reaction time of spotter
- Reaction time of inspector
- Time for inspector to get off the road
- The planned contingency.

Test the trigger point

Once you have agreed the trigger point, TEST IT.

One option for testing is for the inspector to walk along the roadside or the same distance they will be on the lane during their inspection.

See if the inspector can get back to the start point before the car passes. If there is not a safe margin of time, extend the trigger point and test again.

WORKSITE CHECKS AND THE ON-SITE RECORD

When TMO completes worksite checks

TMO will complete worksite checks when the STMS has delegated responsibility for TTM at the worksite to the TMO. The first check is completed as part of handover of responsibilities to the TMO.

During the period of delegation, the TMO must ensure that TTM is:

Note: The STMS completes the first site check straight after installation.

How to complete the worksite check

There are a variety of ways of completing the site checks. The best way is to drive through the worksite as a driver would and walk through any temporary footpaths as a pedestrian would do.

This gives you the best idea of what each type of road user is experiencing when they are passing by or through the worksite.

What to look for

As you complete the drive-through/walk-through, look for:

- Good advance warning
- High-visibility garments are worn by all
- Signs are still visible (not blocked by parked cars)
- There are no conflicting signs
- Clear direction for drivers (cones and signs)
- Lane widths are right for the speed and type of vehicles using the road
- There are no long queues or delays
- Clear guidance for cyclists
- Residents and other stakeholders have access to their properties.

Add others

When you check temporary pedestrian paths, look for:

- Clear guidance for pedestrians (signs, safety fences/cone bars)
- No trip hazards on temporary paths.

Add others

When to call the STMS

There will be ongoing maintenance or modification requirements after the TTM has been setup under the supervision of the STMS.

As a TMO, you need to know when you can carry out maintenance type activities under your own supervision and when a modification activity requires the STMS to be on site.

You **DO NOT** need the STMS on site if you can perform any TTM maintenance activity:

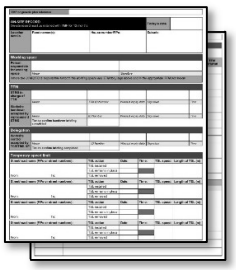
- In the live lane, or
- In the closure area

with support from a lookout/spotter.

You **MUST** call the STMS under the following circumstances:

1. There is a need to enter the live lane and this cannot be done with support from a lookout/spotter
2. The contractor's working space will overlap the safety zones requiring a change to the shape of the closure
3. If there has been a crash or incident onsite
4. If there is unplanned queueing or unplanned delays for the road users
5. If you have received a complaint from a road user, a member of public or other visitor to the worksite
6. When you do not feel safe within the closure.

About the On-site record



- On-site record completed for every site
- At least one per day
- Completed by TMO if delegated responsibility
- **Records worksite details and site checks**
- There are guidelines for completion of the on-site record

Record your observations/actions on the on-site record:

- Items checked OK / not OK
- Time of check
- Signature
- Time of any change and what adjustment was made.

COMMON SITUATIONS

Set out below is a list of the common situations that a TMO has to deal with when maintaining a worksite:

- High vis garments
- Preserving safety (no go) zones
- Sign or cone falls into lane
- Contractor asking for changes to TTM
- Long queues
- Vehicles obscuring sign & cone visibility
- Vehicles speeding through worksite
- Vehicle access
- Weather issues
- Pedestrians impacted by the work activity
- Cyclists impacted by the work activity.

For each common situation we will:

- Summarise the CoPTTM requirement
- Identify potential risks with each situation
- Identify actions the TMO can take to deal with the situation.

The CoPTTM requirements are key points to focus on.

If you are unsure of anything when delegated responsibility for the worksite, call your STMS to get more information.

Record your actions on the On-site record.

High visibility garments

Summary of CoPTTM requirements

Garment must:

- Be done up
- Not be covered by anything
- Be in **acceptable** condition.

What is acceptable condition?

Acceptable	Not acceptable
	
Minimal marking on the material and the stripes are clean and in good condition	Marking on the material reducing the orange colour which is also faded
OK to wear	**Must NOT be worn**

Risks

- The visibility of the garment is affected if worn incorrectly

TMO actions for TTM crew member

- ✓ If undone - get them to do it up
- ✓ If wrong size - get them to replace with one that fits
- ✓ Record actions on the On-site record

Add others here

Tell them to do their garment up

TMO actions for WORK crew member

- ✓ If undone - get them to do it up
- ✓ Report this to the safety person for the working space
- ✓ If wrong size garment is being worn, report this to the safety person for the working space and ask them to replace it with one that fits
- ✓ Record actions on the On-site record

Add others here

Tell them to do their garment up

Report it to the safety person for the working space

Preserving safety (no go) zones

Summary of CoPTTM requirements

- 1m lateral safety zone alongside the working space (cone included in lateral safety zone)
- Longitudinal safety zone (emergency braking area) – length of zone increases with speed
- Must be clear zones (no parking, no working, no stockpiles, no equipment)
- Only people allowed in the safety (no go) zone are TTM crew (with a spotter)

Risks

Risks to road users:

- Hitting plant or equipment
- Being hit by other road users (eg not enough advance warning of stopping/swerving)

Risks to workers:

- Being hit by plant/equipment or road users

TMO actions

- ✓ Monitor safety (no go) zones
- ✓ Act quickly on any issues
- ✓ Talk to person in charge of working space and enforce the safety (no go) zones
- ✓ Call STMS if there are any on-going infringements
- ✓ Cone off safety (no go) zones
- ✓ Record actions on the On-site record

Add others here

Keep people and equipment out of the safety (no go) zones

Sign or cone falls into lane

Summary of CoPTTM requirements

- An inspection type activity may be used to retrieve TTM equipment that has fallen into the lane
- Must have a spotter if entering a live lane
- Must have clear sight distance of 3 x the permanent speed in meters (or 75m in a 50km/h area)

Risks

- TMO may be hit by a vehicle while retrieving TTM equipment
- Road user may swerve into oncoming traffic to avoid person in the lane
- TMO may be hit by a vehicle if reinstating sign or cone in the live lane

TMO actions

- ✓ Inform STMS that you will be retrieving a TTM equipment from the lane
- ✓ Brief spotter on activity and trigger points for approaching vehicles
- ✓ Enter lane in gap in traffic
- ✓ Retrieve cone (or reinstate if safe)
- ✓ Retrieve sign and set sign up out of lane in shoulder or on berm
- ✓ Record actions on the On-site record
- ✓ If sign needs repositioning, include note for STMS to set up sign in original position when next on site

Add others here

Retrieve the TTM equipment with spotter watching

Reinstate cone(s) if safe

Set up sign(s) outside of the lane

Contractor is asking for changes to TTM

Summary of CoPTTM requirements

- The approved TMP must cover all phases of work and include diagrams covering each phase
- If the TTM is not appropriate to control the risks associated with the worksite, work should not be started or continue until this is remedied
- TMOs must contact the STMS to come to the worksite if the worksite needs to be changed

Risks

- Installing additional TTM without the supervision of the STMS may increase the possibility of putting the working crew, TTM crew or road user at risk
- Unplanned modifications not covered in the TMP may increase the possibility of putting the working crew, TTM crew or road user at risk

TMO actions

- ✓ Contact the STMS
- ✓ Wait for the STMS to arrive onsite before making major modifications

Specific actions

- ✓ Ask the contractor **why** they are requesting changes to TTM
- ✓ If the contractor's operation is impacting the safety (no go) zones, ask the contractor to temporarily suspend the operation and wait for the STMS
- ✓ If the contractor feels unsafe, temporarily suspend the operation and wait for the STMS
- ✓ Record actions on the On-site record

Add others here

Do not make changes to the shape of the closure

Long queues

Summary of CoPTTM requirements

- Traffic must be monitored for queues and delays
- Delays and queues should not exceed those set out in the approved TMP (or set by the RCA)
- Many RCAs set a maximum timeframe of 5 minutes for delays to traffic and queues should not extend beyond the advance warning sign
- TMPs should contain information on queuing and provide contingencies for excessive queuing and delays

Risks

- Increased likelihood of bad driver attitudes and reckless behavior which may cause crashes
- Increased risk of other roads being affected by the queuing causing greater delays

TMO actions

- ✓ Check the TMP for contingencies
- ✓ Contact the STMS once queues reach the designated trigger point
- ✓ Contact the STMS before any changes are made
- ✓ TMO may make minor modifications under an inspection activity if approved by the STMS
- ✓ Wait for the STMS to arrive onsite before making major modifications

Specific actions

- ✓ Add an extra advance warning sign on the shoulder or berm if queues extend past the advance warning sign
- ✓ If using alternating flow, adjust MTC/signal phasing (Hold on go for longer to allow less deadtime)
- ✓ Ask the contractor to temporarily suspend work and get the working space ready for STMS to open the lanes and increase traffic flow
- ✓ Record actions on the On-site record

Monitor traffic for queues extending past the advance warning sign or delays longer than allowed (normally 5 mins)

Vehicles obscuring sign and cone visibility

Summary of CoPTTM requirements

- Signs must not be obscured by parked vehicles or other obstructions
- Signs must be placed to give sufficient warning to the road user

Risks

- The road user may not be able to see the TTM controls (signs and cones) in advance therefore they may not react or modify their driver behavior in time
- This may increase the possibility of putting the working crew, TTM crew members or the road user at risk

TMO actions

- ✓ Check the TMP for contingencies
- ✓ Contact the STMS before any changes are made
- ✓ TMO may make minor modifications under an inspection activity if approved by the STMS
- ✓ Wait for the STMS to arrive onsite before making major modifications

Specific actions

- ✓ Ask the road user to move the vehicle
- ✓ Move the sign to another position and reinstall on the shoulder or berm
- ✓ Add an additional sign of the same type on the shoulder or berm further along the road
- ✓ Add additional signage (doubling up)
- ✓ Record actions on the On-site record

Add others here

Ensure the signs remain visible

Vehicles speeding through the site

Summary of CoPTTM requirements

- TSLs help to reduce speed at worksites and make the site safer
- Speed restrictions help to control traffic

Risks

- Road users in vehicles at greater risk of losing control and crashing
- Increased risk to working crew TTM Crew and other road users of being struck by a vehicle
- Greater risk off loose materials being lifted and thrown by vehicle tires

TMO actions

- ✓ Check the TMP for other positive traffic management options
- ✓ Contact the STMS before any changes are made
- ✓ TMO may make minor modifications under an inspection activity if approved by the STMS
- ✓ Wait for the STMS to arrive onsite before making major modifications

Specific actions

- ✓ Increase side friction by adding cones along the side of the lane with gaps between cones starting wider, then getting smaller
- ✓ Install a **lead-in** line of cones from the TSL to taper
- ✓ Get the contractor to halt work and clear the working space – get them out of a high-risk space
- ✓ Record actions on the On-site record

Use side friction to slow vehicles down

Vehicle access

Summary of CoPTTM requirements

- Designated site access points must be clearly signed and delineated and maintained
- An MTC can be used to control the flow of vehicles within the closure at these access points
- Special vehicle access and exit points (temporary shift of cones alongside the working space) may also be required

Risks

- Significant changes of speeds at site access/exit points can increase the risk of a nose to tail crash
- Vehicle angles at site access/exit points can increase the risk of a side impact crash
- Road users following work vehicles into a site can be reversed over or struck by plant, vehicles or machinery

TMO actions

- ✓ TMO can supervise vehicle flow within the closure at access points (or delegate supervision to an MTC)
- ✓ Site access can be managed by removing cones to allow work vehicle/visitor access and replacing cones once vehicles have entered
- ✓ TMO needs to provide ongoing site inductions including the requirements around site access and exiting the worksite

Add others here

Keep a close watch on the access point – it is a high risk part of the worksite

Weather issues - High wind, low visibility and extreme rain

Summary of CoPTTM requirements

- Provisions must be made to provide a safe environment for all workers and road users
- Operations can be postponed cancelled or modified due to the effects of weather
- The TMP must outline contingencies for bad weather conditions
- Approved devices are allowed to be used to ballast signs and cones when there are high winds
- There are minimum visibility requirements for road user visibility to the first cone in the taper

Risks

If high wind:

- TTM equipment may fall over or hit road workers, TTM crew, the road user and parked or passing vehicles

If low visibility:

- The road user may not be able to see the TTM controls in advance and therefore not react or modify their driver behavior in time

If extreme rain:

- Increased risk to for those operating equipment or driving vehicles through the site:
  - Slips trips and falls
  - Reduced visibility
  - Flooding of the worksite.

For all situations:

- This may increase the possibility of putting the working crew, TTM crew members or the road user at risk

TMO actions

- ✓ Check the TMP for contingencies
- ✓ Contact the STMS before any changes are made
- ✓ TMO may make minor modifications under an inspection activity if approved by the STMS
- ✓ Wait for the STMS to arrive onsite before making major modifications
- ✓ May need to halt the operation and clear the worksite

Add others here

Specific actions

For high wind:

- ✓ Place sandbags or connecting strips on cones or sign bases if this can be carried out safely as an inspection activity if on the lane or in a safety (no go) zone

Add others here

For low visibility:

- ✓ Add additional signs either in the shoulder or partially in the lane if it can be completed as an inspection activity

Add others here

For all situations:

- ✓ Ask the contractor to temporarily suspend work and open road for a period of time
- ✓ Get the contractor to halt work and clear the working space – get them out of a high-risk space
- ✓ Record actions on the On-site record

Add others here

Risks increase if drivers cannot see the signs, cones and high visibility garments

If it is unsafe for the work crew, get them to stop work and leave the working space

Pedestrians impacted by the work activity

Summary of CoPTTM requirements

- All vulnerable road users must have safe areas provided for their movement around or through the working space

Risks

- Pedestrians may end up inside a hazardous worksite area and be exposed to plant, vehicles, machinery or excavations
- Pedestrians may walk in the live lane and be struck by a vehicle

Temporary footpath widths

Location	Minimum width (m)
Residential / Rural / Suburban Centre	**1.2m**
CBD and commercial zones	**2.0m**

These measurements may have to be increased depending on the environment and person needing to use the temporary footpath.

If the existing footpath is narrower than these widths, just make the temporary footpath the same width as the existing footpath.

Must have temporary footpath width at the bottom of a kerb ramp (allows room for wheelchairs and mobility scooters to turn).

Alternative routes

Where the activity impacts a footpath and minimum footpath widths cannot be maintained, alternative routes with a firm smooth surface and no trip hazards are to be provided in the **following order of preference**:

1. **Away from the carriageway** (towards the boundary)

2. **Between the working space and carriageway** (but not into the live lane)

3. **Into the carriageway** (either parking lane, shoulder or traffic lane)

4. **Use footpath controllers to escort pedestrians safely around the operation**

5. Across the carriageway to footpath on opposite side - only under 60km/h or less

Note: *This option is strongly discouraged and is not to be used if options 1, 2, 3 or 4 are feasible (only use where there is a pedestrian or a signalised crossing* ***or*** *on a level LV or level 1 road with a speed of 60km/h or less).*

Use existing pedestrian crossing points where they are available.

Protecting pedestrians from the working space

If pedestrians could otherwise gain access to the working space then the contractor must protect pedestrians by installing:

Option	Example	When used
Safety fences		Long-term or unattended worksites or where a significant risk is present
Cones connected with cone bars		Attended worksites where: • No significant risks have been identified, or • Access to all identified significant risk is managed by a person who is in the immediate vicinity of and in control of the risk(s).

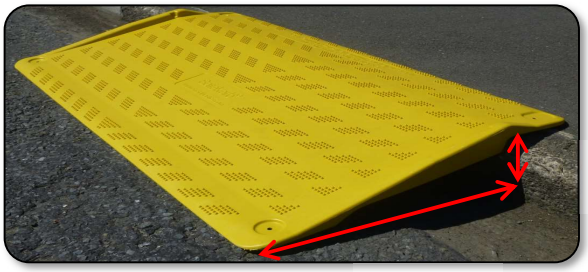
Footpath diverted into carriageway

If the footpath is to be diverted into the carriageway then the traffic side of the footpath must be delineated by either:

Option	Example	When used	Lateral safety zone with delineation
Barriers		Long-term worksites	**According to barrier designer specification**
Safety fences		All worksites where barriers are not required	**1m**
Cones connected with cone bars		Attended worksites on level LV and L1 roads (not for use on state highways)	**1m**

Ramps

Kerb ramps and any other footway ramps must meet minimum footpath width requirements and be not steeper than one vertical in eight horizontal (one down and 8 out).



1 down

8 out

TMO actions

- ✓ Check the TMP for contingencies
- ✓ Contact the STMS to discuss any required changes
- ✓ The STMS can direct you to make minor modifications (eg anything that is out of the lane)
- ✓ The STMS will come to site to make major changes (eg change to the shape of the closure or narrowing of the lanes)
- ✓ Record actions on the On-site record

Add others here

Specific actions

- ✓ Increase temporary footpath widths if they are out of the lane
- ✓ Provide guidance using footpath controllers
- ✓ Increase the amount of guidance cones/cone-bars) or isolation equipment (fencing)
- ✓ Record actions on the On-site record

Add others here

Keep pedestrians safe

Cyclists impacted by the work activity

Summary of CoPTTM requirements

- TTM equipment **MUST NOT** be placed in a cycle lane
- If the worksite activity impacts a marked cycle lane:
  - The cycle lane must be closed, or
  - A temporary cycle lane installed
  Note: Both options must be approved by the RCA.

Risks

- Cyclists may swerve into the live lane to avoid signs placed in the cycle lane
- Cyclists may bike through the working space rather than continuing cycling on the lane

Temporary cycle lane widths

Type of lane	Minimum Width (m)
Single direction cycle lane	**1.5m** (1m allowed if cycle lane is on flat surface and permanent speed is 50km/h or less)
Two-way cycle lane	**2.0m**
Shared footpath and cycle way	**2.2m**

TMO actions

- ✓ You can maintain the existing temporary cycle lane
- ✓ Contact the STMS to discuss any required changes
- ✓ The STMS will come to site to make the changes
- ✓ Record actions on the On-site record

Add others here

Keep cyclists safe

MANUAL TRAFFIC CONTROLLERS

About manual traffic control

We use manual traffic control (MTC) on one lane each way roads when:

- There is **only one lane available** for traffic moving in both directions - this is alternating flow
- We want to **stop traffic** to avoid a hazard (for example tree felling or backing a truck across the road)
- We want to **slow traffic** where speed is an issue (for example protecting new seal)
- Give road users **verbal instructions or directions**

The MTC may use a range of equipment to control traffic, including:

Stop/Go paddle	eStop	Portaboom
		

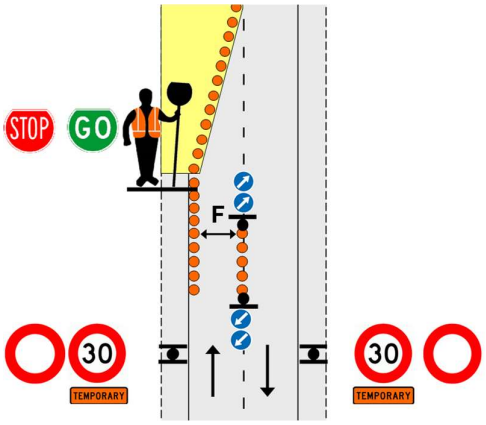
MTC – Stop/Go paddle

Refer to the Civil Contractors NZ Manual Traffic Controller's Handbook as an alternative resource.

Location of MTC - Stop/Go paddle

An MTC using a Stop/Go paddle must not stand or operate unprotected in a live lane.

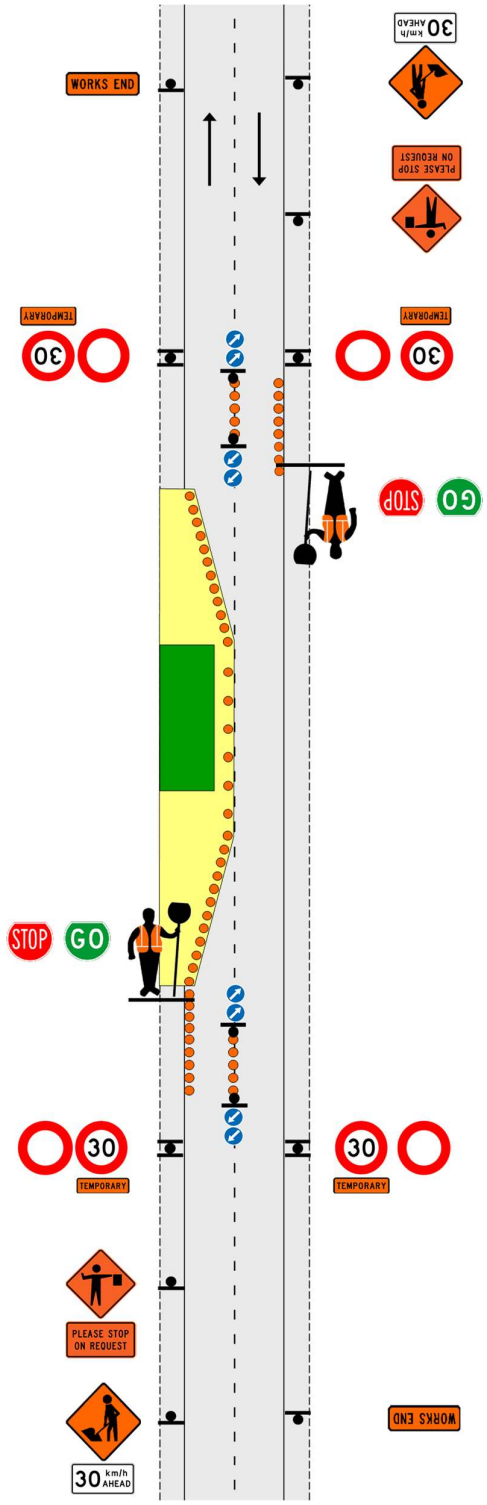
Stand on the side of the road between the 1st and second cone of the cone threshold.



Summary of MTC essentials

The STMS must be present for setup, major changes and removal of the TTM for alternating flow operations.

The principles for layout for alternating flow operations are set out below:



- Advance warning of **road workers** at each end of the worksite. The **30km/h ahead** sign is recommended but optional
- **The MTC ahead and the please stop on request signs must be covered or removed immediately MTC operations cease**
- 30km/h TSL gated across the road (if more than 500vpd)
- Maintain positive traffic management in the form of cones on the centreline and edgeline (at least 5 cones placed at 2.5m centres 60km/h and less and 5m centres 70km/h or more)
- Where the speed is 70km/h or more, this may be extended to 10 or more cones
- Where tapers are required:
  - these must be at least 30m (with cones at 2.5m centres)
  - a 30m end taper is mandatory to prevent drivers who are queue jumping entering the end of the closure
- Additional delineation devices should be used to assist the MTC provided they do not create a hazard to road users
- It is forbidden for the MTC to wear clothing that obscures their view of approaching vehicles (excluding PPE) and the use of devices that reduce the awareness of an MTC to the sound of approaching vehicles
- Work around intersections may require the use of three or more MTCs

Minimising queueing

Check with the STMS what the maximum time is that vehicles can be held on Stop. Some RCAs have a maximum delay of 5 mins, but this may vary. Some work activities may have an exemption to hold traffic longer.

Work with the MTCs to establish the best length of time to hold the paddle on Go. Short changeovers from Stop to Go generally increase queue length.

Speeding vehicles

Motorists will often fail to slow down at the approach to the worksite, creating a major problem for MTCs.

A cone threshold with two lines of cones between 2.75m and 3.0m apart will create side friction.

This often encourages drivers to slow when approaching.

If drivers are still speeding, contact the STMS who will install additional TTM to help slow down drivers.

Be courteous

Remind the MTC to be courteous at all times when dealing with the public. Never get involved with abusive or threatening vehicle occupants.

Report any incidents, stating the vehicle license plate number and the date and time of the event to your STMS. Your STMS can report it to the NZ Police using a Community Road Watch form.

There are three ways to report dangerous driving or an incident to police. Check with your STMS if you are unsure of which option is appropriate:

- Dial *555 from a mobile phone to a report road incident. In emergencies always ring 111
- Roadwatch online or postal forms can be used to report non-urgent incidents to police for review (link to forms below)
- If you want the offender to be prosecuted, you must lodge a formal compliant at your nearest police station.

Community Roadwatch online form:

https://forms.police.govt.nz/forms/community-roadwatch-report-unsafe-driving-incident

Community Roadwatch postal form (download):

www.police.govt.nz/about-us/publication/community-roadwatch-form

Critical safety points

Critical safety points to emphasise with MTCs are:

- Make sure you can hear approaching traffic
- Do not use a mobile phone to take calls or to text
- Stay away from the live lane
- Face approaching vehicles
- Be in control of your position - dominate it (firm/strong hand signals
- Make positive eye contact

- Know where your escape route is
- If emergency services approach the worksite, the MTCs must stop traffic on all approaches and signal the emergency vehicle through

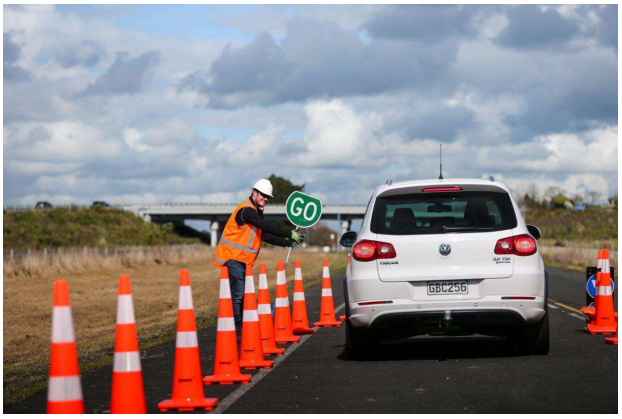
- Can place a cone in the lane once the vehicle has stopped
- Do this from the edge of the lane
- Do not step into the lane to remove the cone
  Be aware - When removing the cone to release traffic, some drivers will proceed forward as soon as the cone is removed, even if the sign still says STOP

Operation of Stop/Go paddle

Check that the MTCs are operating safely and providing clear direction to the road users.

Make sure the MTCs:

- Stand behind the cones
- Stop traffic by turning the paddle to **STOP** and face the traffic
- Raise their hand into the stop position with the palm towards the traffic.



Make sure the MTCs:

- Move traffic by turning the paddle to **GO**
- Use their arm nearest the traffic to wave road users on with a sweeping movement across the body in the direction of travel.

Make sure the MTCs:

- Monitor queue length to avoid creating a tailback where waiting vehicles may become a hazard to vehicles approaching around bends.

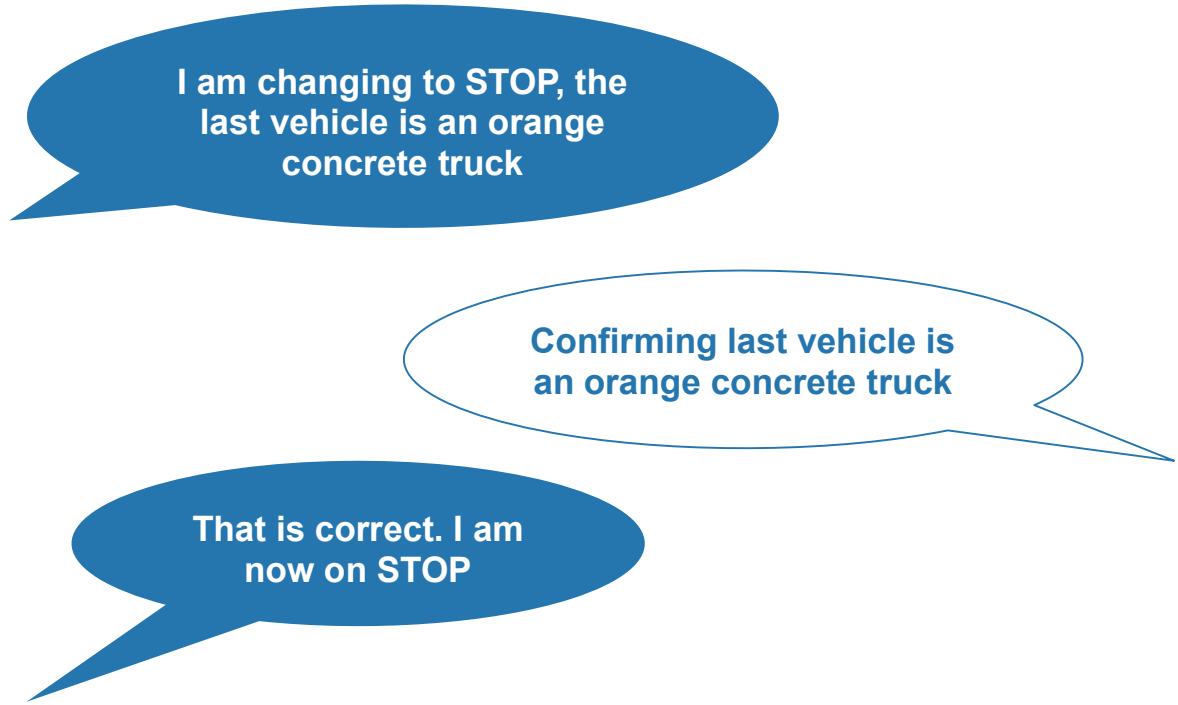
MTC using other equipment to control traffic (eg eStop, Portaboom)

Other equipment	Guidelines
 	Follow the manufacturers instruction book to operate and check the equipment. Ensure the MTCs: • Know how to operate the equipment and the remote control • Operate the equipment from a safe position clear of the lane and within the range of the remote controls • Keep each other aware of any drive throughs where a driver has not stopped when required • Have a Stop/Go paddle close by in case there is a fault with the equipment.

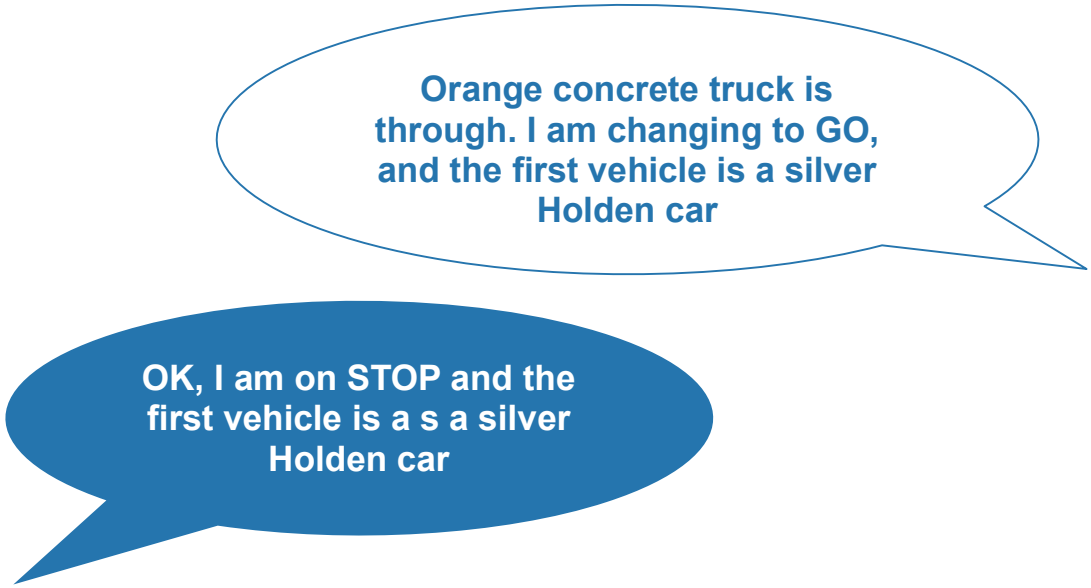
Radio communication for MTC

- Handheld radios are recommended for communication between alternating flow control operators (even if there is line of sight). One of the MTCs should be the lead in the conversations.
- The recommended method for identifying the last vehicle to the other MTC, is to use 2 or 3 points of identification (make/model, colour, last 2 digits of the number plate).

See example below of what to say:



Once the orange concrete truck has passed



INDUCTION BRIEFING

Who to brief?

You need to brief all people arriving at the worksite. This includes anyone arriving at the worksite to:

- Work within the working space
- Deliver materials to the worksite
- Assist with TTM
- Audit the TTM (or the activity within the working space).

When to complete the briefing

Brief individuals or groups as they arrive at the worksite.

If they are entering the working space, then they will also get a briefing from the person in charge of the working space. You may be able to combine your briefing with their briefing.

Note: You still have to do the briefing about the TTM.

Where to do the briefing

Complete the briefing in a safe location away from hazards and noise.

What to cover in the briefing?

Companies will have their own hazard briefing procedures and forms. Most company procedures will cover at least the topics listed below. Cover the following items in your briefing:

Item	What to cover	EXAMPLE of what to say
TMO role	• Your **role** in managing safety on site related to TTM	I am the Traffic Management Operative responsible for temporary traffic management at this worksite. Talk to me If there are any issues with the signs, cones, pedestrians, cyclists and drivers.
PPE	• Ensure that the person is wearing the **correct PPE** • If PPE is not correct, the TMO must ensure that it is supplied or ask the person to leave the worksite	Before we go any further, I need to check your PPE *Check high visibility garment is in good condition and meets requirements for the worksite.*
Activity and closure	• What the activity is • What type of closure is currently installed	The work being carried out is XXXXX and we have installed a YYYY closure
Hazards	• Explain the hazards related to TTM at the worksite. These may include: – Traffic passing by or through the working space – Weather conditions. • Also explain the controls that are in place to manage the hazards	*State the hazards for the worksite – for example:* The hazards at this worksite are: • Traffic driving by the working space and we have reduced the speed to 30km/h to reduce this risk • The rain makes the stopping distance of vehicles longer, so we have extended our signs further down the road than normal.
Safety (no go) zones	• The purpose of safety (no go) zones	There are safety (no go) zones that wrap around the working space. These create a space between the work activity and road users. You cannot enter a safety (no go) zone or place equipment and materials in it.

Item	What to cover	EXAMPLE of what to say
Locations and dimensions of safety (no go) zones	• Use the TMD to identify the **locations and dimensions of the safety (no go zones):** – Tapers – Longitudinal – Lateral – Roll ahead distance in front of vehicles involved in an operation.	I have the traffic management diagram for this worksite. You can see the sections coloured in yellow. These are the safety (no go) zones. They start with the taper which is 30m long. There is the emergency stopping area immediately in front of the working space which is 60m long. I have marked this area off with cones and cones bars so everyone in the working space knows where this begins. We also have the lateral safety zone along the side of the working space which is 1m wide. You also cannot be within 10m of the front of a vehicle involved in an operation.
First aid / Emergency	• Location of **first aid kit** • Identify certified **first aiders** • Nearest emergency centre	I am a certified first aider and the first aid kit is in my vehicle which is over there. The nearest emergency centre is…
Evacuation point	• Location of evacuation point	The evacuation point is for this worksite is…
Mobile number	• Get them to record your **mobile number**	Here is my mobile number so you can contact me if there are any issues with the signs or cones.
Sign register	• Get them to sign your company's hazard briefing sheet	Do you have any questions? I would like you to sign the hazard register to confirm that the briefing has occurred, and you have no further questions.

Tips on giving a briefing

TIPS

- Talk clearly
- Be confident
- Keep the “umms” and “ahhs” to a minimum
- Practice giving briefings until you can do it without having to think what comes next

Add others here:

INCIDENTS AND CRASHES

On occasions, an incident may occur while you are delegated responsibility for the worksite. Incidents are classed as major or minor incidents.

Each type of incident has a different set of actions that the TMO needs to complete. A list of similar actions is included in the Contingency plan section of the TMP.

The primary concern for the TMO is the safety of themselves, the TTM and work crews and also the road users.

Risks at major incident include:

- Injury or harm to the people involved in the crash
- People providing assistance could be injured or killed if hit by vehicles
- Risk of another crash if the vehicle is in the way
- Traffic flow could stop and cause delays and queues
- People slowing down to look could cause delays.

Major Incident *(refer to the Contingency section of the TMP for guidance)*	
Description	**Actions**
A major incident is described as: • Fatality or notifiable injury - real or potential • Significant property damage, or • Emergency services (police, fire, etc) require access or control of the site.	The TMO must **immediately** conduct the following: • Stop all activity and traffic movement • Secure the site to prevent (further) injury or damage • Contact the appropriate emergency authorities (if they have not already been contacted) • Render first aid if competent and able to do so • Notify the STMS for the worksite. **If required urgently** and prior to STMS arriving at the worksite, the TMO can: • Work with emergency services to provide protected work areas • Under the guidance of either the Police, Fire or Worksafe officer in charge of the site, reduce effects of TTM on the road or remove the activity if safe to do so. The **STMS** will arrange for the following to be completed: • Notify the RCA representative and / or the engineer • Notify WorkSafe (if incident is notifiable) • Re-establish TTM and traffic movements when advised by emergency authorities that it is safe to do so • Completion of the CoPTTM Incident form.

Evidence for a serious harm incident

Requirement

In the event of an incident involving serious harm the TMO must ensure that nothing, including TTM equipment, is removed or disturbed and any wreckage article or thing must not be disturbed or interfered with, except to:

- Save a life of, prevent harm to or relieve the suffering of any person, or
- Maintain the access of the public to an essential service or utility, or
- Prevent serious damage to or serious loss of property, or

If possible, take a photo of what is in place before you make changes.

Follow the direction of a constable acting in his or her duties or act with the permission of an inspector.

Minor Incident *(refer to the Contingency section of the TMP for guidance)*

Description	Actions
A minor incident is described as: • Excessive delays - real or potential • Minor or non-inquiry incident that has the potential to impact traffic flow.	The TMO must **immediately** complete the following: • Stop all activity and traffic movement if required • Secure the site to prevent the prospect of injury or further damage • Notify the STMS for the worksite. The **STMS** will arrange for the following to be completed: • Notify the RCA representative and / or the engineer • STMS to implement a plan to safely remove TTM and to establish normal traffic flow if safe to do so • Re-establish TTM and traffic movements when it is safe to do so and when traffic volumes have reduced • Completion of the CoPTTM Incident form.

UNATTENDED WORKSITES

An unattended worksite is a static worksite which has no workers or TTM crew onsite. Signs and delineation are installed to manage risks at the worksite.

Studies by the NZ Transport Agency on injury crashes at road works worksites between show that approximately 85 percent of crashes resulting in injury occur when the worksite is unattended.

The STMS must be onsite during set up and removal of an unattended worksite.

The STMS (not the TMO) must check unattended worksites.

COMMUNICATION

An important part of the TMO role is communicating with key people and with the working space and TTM crews.

This is essential to getting the job done to a high standard.

A key component of communication is keeping people informed about **reasons** for delays and/or disruption.

Tips for good communication

When you communicate:	When you provide information:
• Be positive and courteous	• Explain reasons for delays and/or disruption
• Listen to what they have to say	• Make your statements short and to the point
• Provide information, make agreements and deal with conflict where-ever possible	*Add others* •
• Use appropriate language	

I am not authorised to extend the working space. The STMS must come to site to complete a risk assessment. I will ring her now.

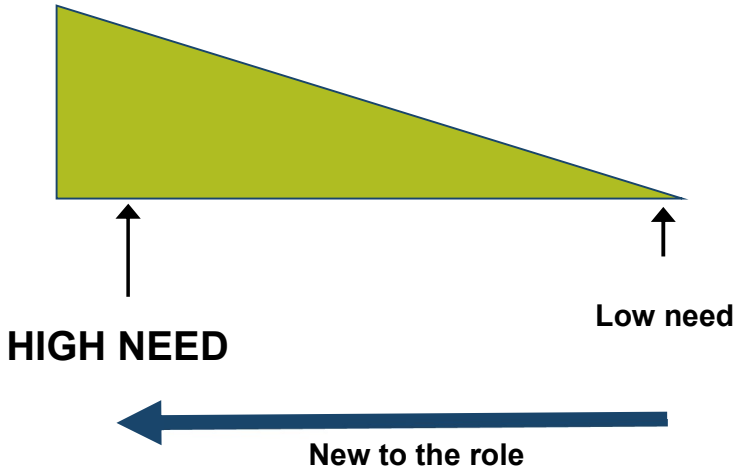
Allocating tasks to staff

Tip	Examples of what to say	Examples of what NOT to say
Be direct. Make statements rather than asking questions	OK team. The maximum time on Go for this worksite is 3 minutes.	Do you think we need to discuss the maximum time on Go?
Use clear and specific commands	When you are placing the cone in front of the first stopped vehicle, I do not want you entering the lane. Reach out and place the cone with your feet behind the inside row of cones.	Be careful when you stop them driving off.
Give instructions one at a time	The speed sign has fallen into the lane and drivers are swerving towards approaching traffic to avoid it. I need you to act as a spotter while I get it off the lane.	The speed sign has fallen into the lane and drivers are swerving towards approaching traffic to avoid it. I need you to act as a spotter while I get it off the lane. I will then need your help to reinstall the sign on the berm as close to the carriageway as we can get it. You will need to remind me to record it on the on-site record and I will get the STMS to shift it onto the lane when they are next at the worksite.
Keep explanations simple	I need you to come with me to help install another advance warning sign further down the road.	The TMP shows that there is a likelihood of queuing and that there is the potential for delays exceeding 5 minutes. They have used an AADT of 22,000vpd and divided that by 8 to arrive at the vph which has been used for the delay calculations. Based on the potential queue lengths, the TTM Planner wants an additional sign installed if there are queues rather than shifting the first sign back.

Different people need different reinforcement

- It is well known that some people have a high need for recognition and encouragement - and they thrive on it.
- Others are very suspicious of recognition and encouragement - they regard it as more of a turn off. These people have a low need for recognition and encouragement.
- Also, people with high ability and motivation often want less frequent recognition and encouragement than others.

Note: Most people who are new to a role may need more reinforcement than they would normally require on the job.



Matching the need

The aim is to give reinforcement that matches the person's need.

Not too much, and not too little

Examples of reinforcement

- Well done
- Yep, that's right
- You nailed that
- Spot on
- Ka Pai / Good work

Correcting minor performance issues

Lower need for reinforcement

Situation: Minor correction – lower need for reinforcement and encouragement.

Tell them	**Identify areas for improvement**	When you are placing signs, you need to face towards approaching traffic.

Higher need for reinforcement

Situation: Minor correction – higher need for reinforcement and encouragement.

Try using the CRC model to help match their reinforcement need.

Commend	**Congratulate them on what they are doing well**	Hey Kahu, well done. When you are placing the cones you are getting them nice and straight.
Recommend	**Identify areas for improvement**	Remember to face towards the approaching traffic as you do it.
Commend	**Praise them again for what they are doing well**	Your spacing of the cones is spot on. Keep up the good work.

Dealing with ongoing performance issues

An ongoing performance issue would be one where:

- You have tried to correct a minor performance issue, but performance does not improve
- You have dealt with minor performance issues, but they are replaced by different performance issues
- There is ongoing conflict between members of your team, or with one of your team and stakeholders (eg residents or members of the working space crew).

Inform your STMS of ongoing performance issues. It is their role to deal with these.

Dealing with conflict

Conflict may occur between yourself and:

- A stakeholder (eg a resident)
- The contractor inside the working
- Members of the TTM crew you are part of

Tips to deal with conflict and anger

Here are some simple steps to help you deal with conflict:

1. Let them have their say *(don't interrupt)* — Allow them time to let off steam — Don't get angry

2. Apologise — I'm sorry that has happened — You may need to apologise several times

3. When they are ready, look for a solution — Make agreements

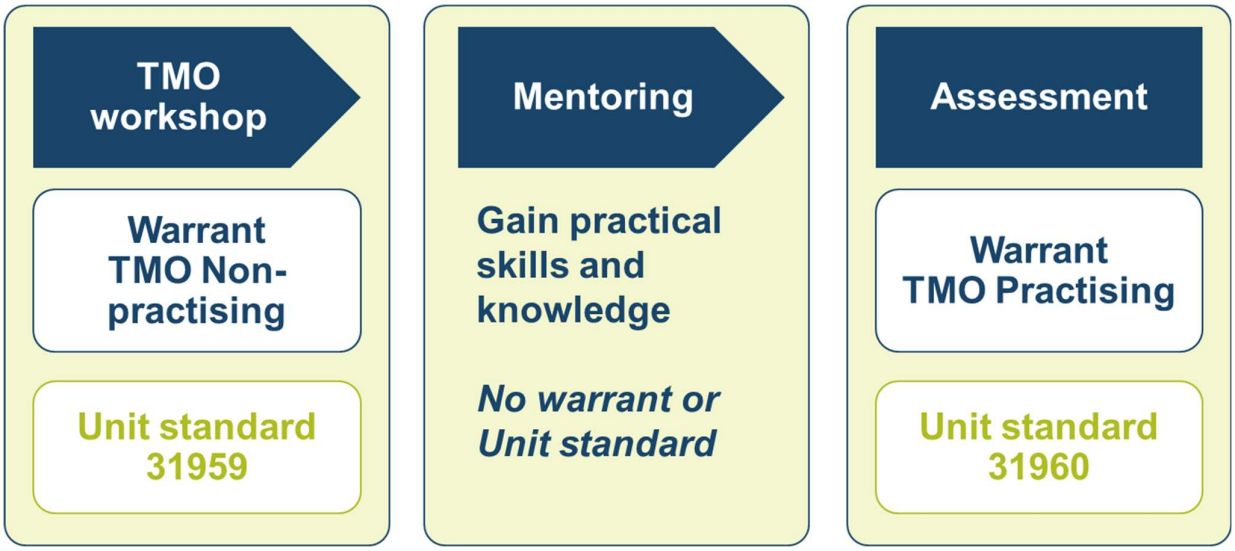
When making an agreement, restate
• What is to be done
• Who will do it
• When it will be done

Example

OK. I will ring the STMS now about changing to stop/go for 2 hours. This will give you the increased workspace you need.

I will let you know by 10.30 if and when we can do that.

ON-JOB MENTORING AND ASSESSMENT



Upon successful completion of the TMO workshop, you will be awarded the TMO non-practising warrant.

If you are going to be working as an on-site TMO, your company will arrange for you to work with a TTM Mentor to gain practical on-job skills and knowledge. The mentor will coach you through a range of activities to help build your skills. They will also verify that you can complete the required Traffic Management Operative tasks to standard.

When you are ready, your company will arrange for a TTM assessor to observe you performing set TMO tasks. Upon successful completion of the assessment, you will be awarded the TMO Practising warrant. **If you are not going to be working as an on-site TMO**, then you do not need to go through the mentoring and assessment process. You can remain TMO non-practising and continue with your learning and development.

CRITICAL POINTS FOR ME

Add critical points here