



INSPECTOR HANDBOOK

WAKA KOTAHI - NZ TRANSPORT AGENCY

VERSION 1.0

Participant name:

Copyright information

Copyright ©. This copyright work is licensed under the Creative Commons Attribution 4.0 International licence. In essence, you are free to copy, distribute and adapt the work, as long as you attribute the work to the NZ Transport Agency and abide by the other licence terms. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

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 INSPECTOR ROLE	4
CATEGORIES OF ROAD	5
RISK ASSESSMENT	7
INSPECTION REQUIREMENTS	9
COMPLETING AN INSPECTION ACTIVITY.....	16
ROADSIDE ACTIVITIES	18
PEDESTRIANS.....	21
TRAFFIC MANAGEMENT PLAN (TMP).....	22
ON-SITE RECORD FOR MOBILE OPERATIONS	23
INSPECTION CREW BRIEFING	24

ABOUT THE INSPECTOR ROLE

The Inspector completes activities on foot, protected by the controls of:

- Inspection activity
- Roadside activity.

Before completing an inspection or roadside activity the Inspector completes a risk assessment. The inspector will only proceed with the activity if the control of inspection activity or roadside activity sufficiently manages the risk.

If risks cannot be managed by these controls, then the Inspector postpones the activity and it is completed using a different control (eg shoulder closure or lane closure).

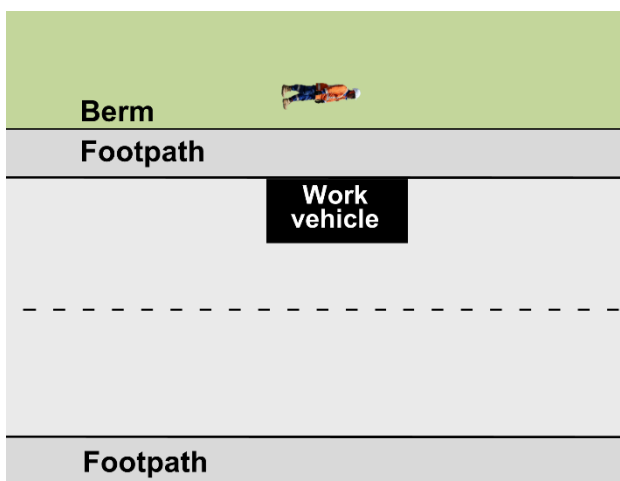
The 2 controls the inspector can apply are:

On category A, B and on the shoulder of category C road environments:

- Undertake inspection activities

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

- Undertake roadside activities (including moving pedestrians into a temporary footpath)



CATEGORIES OF ROAD

Levels of road



Level LV
AADT less than
500vpd



Level 1
AADT up to
10,000vpd Rural
15,000vpd Urban

**Subset of
LV roads**



LV/low risk
AADT
less than 250vpd



Level 2
AADT over
10,000vpd Rural
15,000vpd Urban



Level 3
Motorways and
expressways

About Waka Kotahi warrants

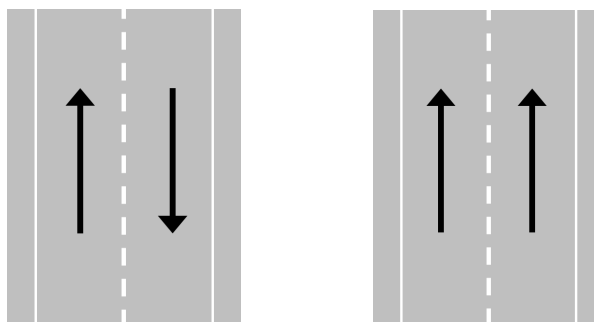
Waka Kotahi warrants are based on categories of road environment.
Each road environment deals with a different type of risk.

Categories of road environment

There are 3 categories of road environment (Category A, B and C).

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

- Includes LV, L1, 2LS and L2 roads
- 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 roads
- Includes roads with or without shoulders
- Includes passing lanes.

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

- Includes high speed L1, L2 and L3 multi-lane roads

RISK ASSESSMENT

Safety

The Inspector role is all about safety for you, your crew and ALL road users.

You need to recognise when something is unsafe and if within your responsibility, do something about it or postpone or cancel the activity.

Hazards, risks and controls



A hazard is something that creates risk



Risk is the potential for something to happen to you or someone else



Risk is reduced by controlling (eliminating or minimizing) a hazard

How do you control a hazard to reduce risk?



Before commencing an inspection activity

The intended inspection site(s) is assessed for risk.

The TMP is reviewed (*covered later*).

Hazards and mitigations (how hazards will be managed) are identified.

Others involved in the inspection activity are briefed on the activity, hazards and mitigations.

Considerations on Cat A 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 Cat B 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

Considerations on Cat C roads

- Higher speed – longer stopping distances
- More traffic and more heavy vehicles
- Visibility of the worksite (vertical/horizontal curves - traffic)
- Shoulder and pull over areas
- Slower driver reaction times – drivers need more time to react
- Many distractions for drivers
- High speed merge and diverge zones (on/off ramps and passing lanes)

Common issues with inspection activities

Inspection vehicle with sign concealed in a line of traffic

Inspection vehicle awkwardly parked partially in the lane.

Inspection vehicle parked just around a corner – cannot be seen from a distance

Inspector and spotter standing behind vehicle (vehicle and beacons are part of the advance warning)

Inspector in the lane not facing towards traffic.

Inspector blocking footpath.

Spotter too far from inspector.

Spotter watching only 1 direction on a 2 way 2 lane road

Other issues related to inspection activities

Significant drops, ditches and culverts	If you get too close your vehicle may slide over the drop or into the ditch/culvert
Uneven surfaces for walking	You may trip and fall
Unstable shoulders (boggy)	Your vehicle may get stuck
The danger of chip and loose stones being flicked up by large vehicles in high-speed environments	You may be hit by flying objects
The danger of working close to the edgeline when there are windy conditions, large vehicles creating vacuums as they drive past	You may be blown over or sucked into the lane

INSPECTION REQUIREMENTS

About inspections and the requirements

An inspection is when the worker is on foot 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 requirements for inspections are include in section D7.6 of CoPTTM (Code of Practice Temporary Traffic Management).

Requirements for inspection activities

There must be an approved TMP for the activity.

The inspector completes a hazard ID then decides whether risk for the activity can be managed using the control of:



If the controls do sufficiently manage the risk, the inspector postpones or cancels the activity.

Summary of inspection requirements

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

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.

Before commencing an inspection activity

The following actions are to be completed before an inspection activity is undertaken:

- the intended inspection site(s) is assessed for risk
- the TMP is reviewed (covered later)
- hazards and mitigations (how hazards will be managed) are identified
- others involved in the inspection activity are briefed on the activity, hazards and mitigations.

Inspector in-charge of inspection activity

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

The Inspector is in-charge of the inspection activity

People in charge of inspection activities must complete any required RCA network training/briefings

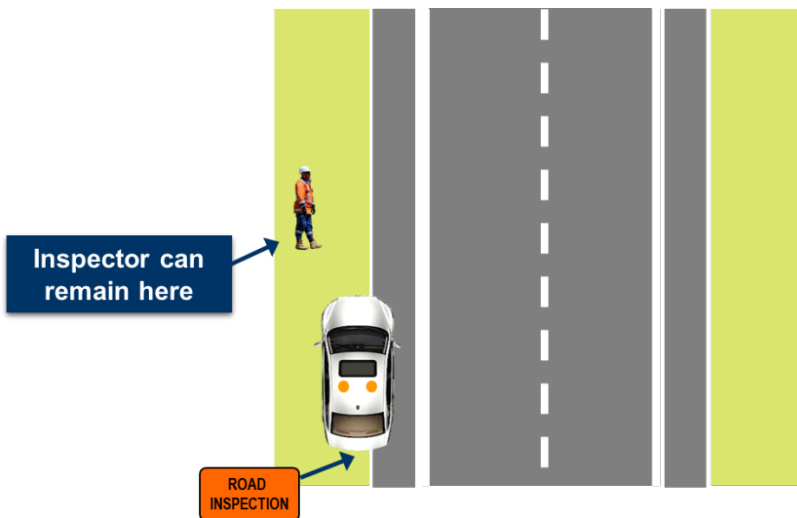
Equipment requirements

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

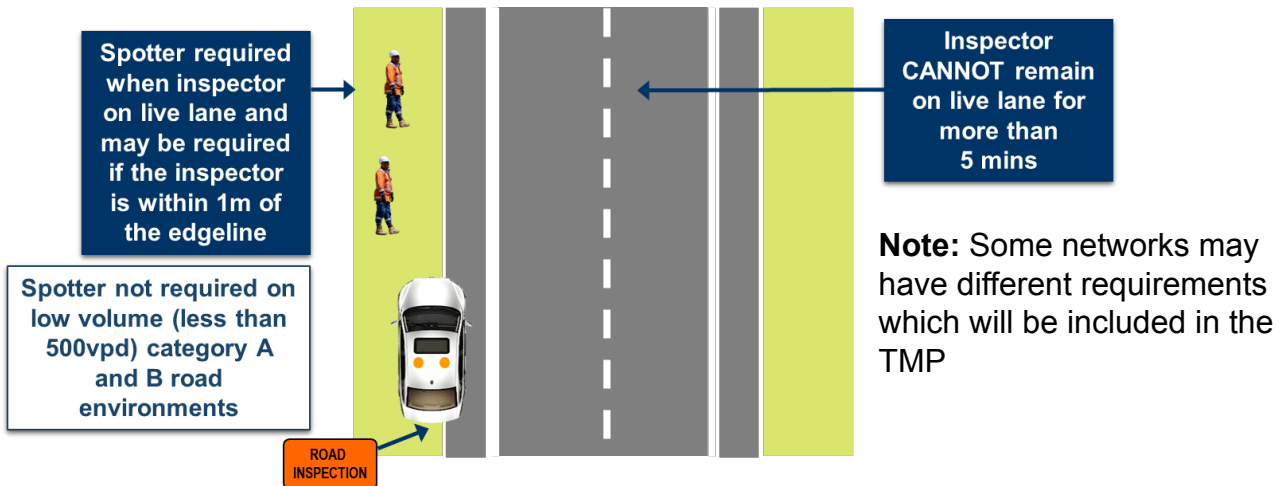
- At least one amber rotating flashing beacon (or equivalent LED beacon)
- Rear mounted sign (TV3)
- The Inspector must wear an appropriate high visibility garment.



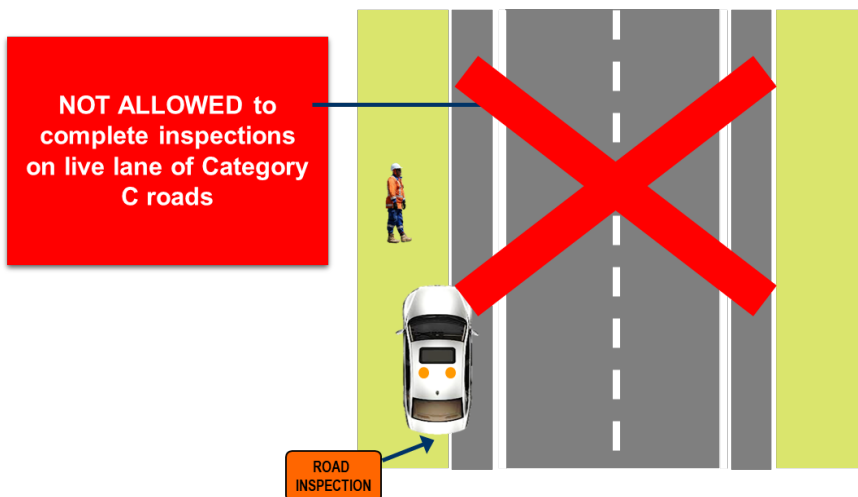
Inspections out of live lane on Category A, B and C road environments



Inspections on live lane of Category A and B road environments



No inspections allowed on live lane of Category C roads



General requirements for inspections

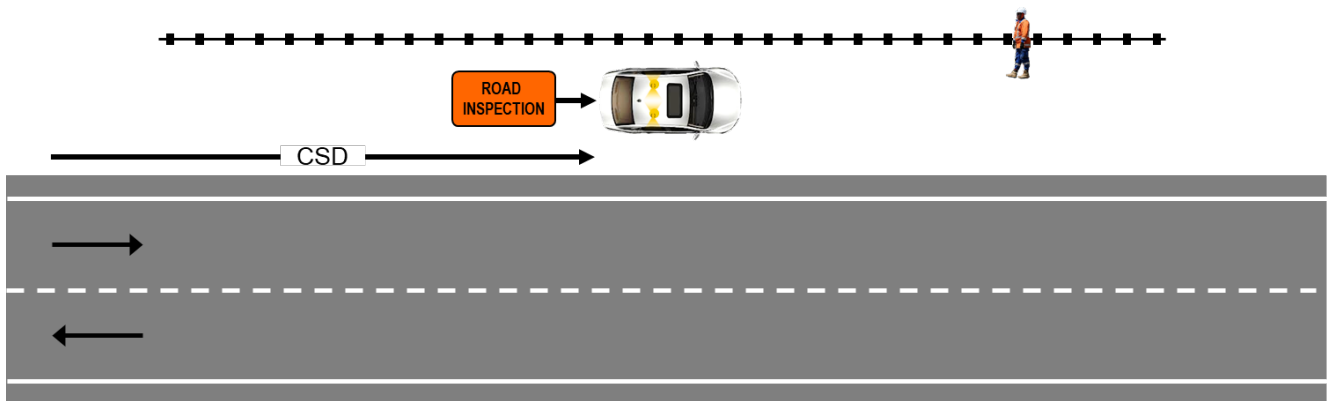
On busy roads, avoid peak periods or use a higher level of TTM

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

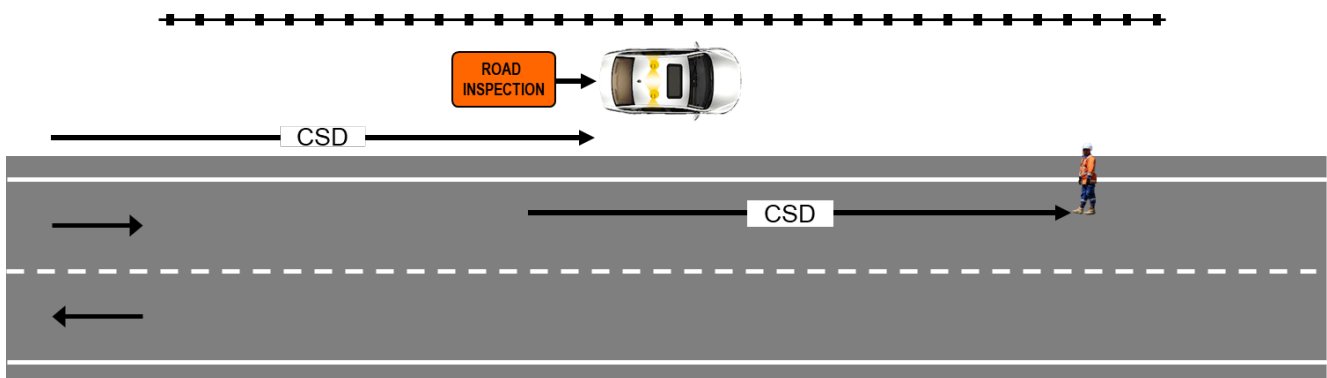
Clear sight distance (CSD) for inspections

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

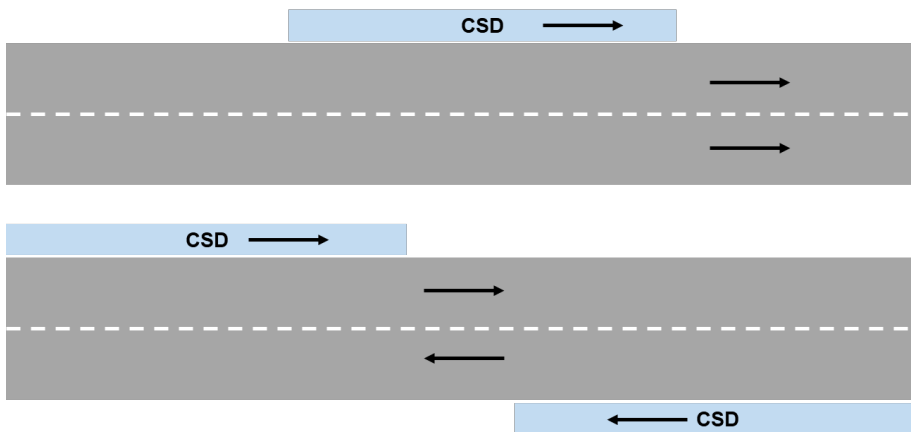
Calculating CSD	Permanent speed	CSD
100 to 60km/h CSD = 3 x the permanent speed in metres (100km/h x 3 = 300m)	100km/h	300m
	90km/h	270m
	80km/h	240m
	70km/h	210m
	60km/h	180m
50km/h or less CSD (state highways) = 150m CSD (non-state highways) = 75m	50km/h or less (state highways)	150m
	50km/h or less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



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



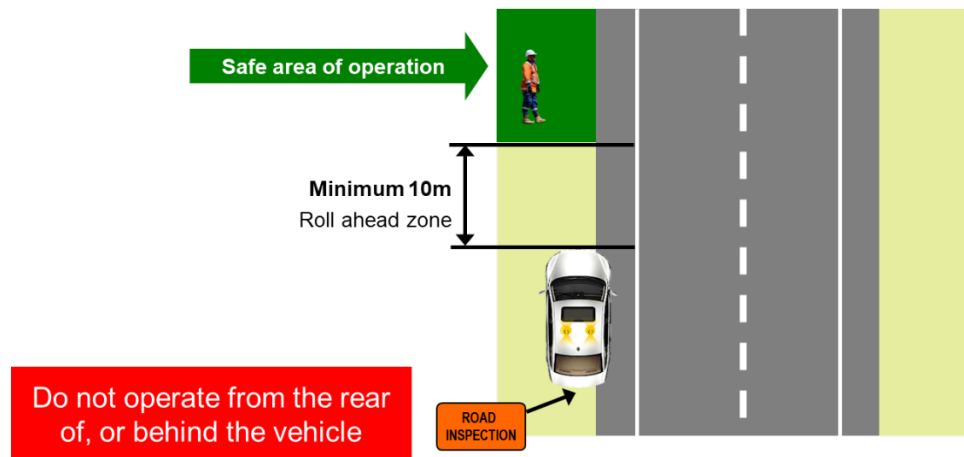
Which direction does CSD apply if someone is on the lane?



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.



Vehicle requirements

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

Who can be in charge of inspection activities

Inspection activities must be completed as detailed in the approved TMP.			
Type of road	On shoulder or roadside – no time limit	On live lane – up to 5 minutes	Over 5 minutes
Low volume (less than 500vpd) category A or B road environment	Spotter optional – can be one person activity Onsite control must be by either a practising STMS of any category, a practising TMO or an Inspector <i>and in the interim until the warrants are phased out, an STMS of any level or a TC-Inspector.</i>		Inspection not permitted. Must use a mobile, semi-static, or static closure.
Category A	Spotter optional – can be one person activity	Spotter required – minimum two person activity	
	Onsite control must be by either practising STMS of any category, practising TMO or Inspector <i>(and in the interim until the warrants are phased out):</i>		
	Road level	Onsite control	
	Level 1 road	TC, TC-Inspector or STMS	
	Level 2 road	L2/3 STMS, STMS-NP, or TC-Inspector	
Category B	Spotter optional – can be one person activity	Spotter required – minimum two person activity	
	Onsite control must be by either a practising STMS of any category, a practising TMO or an Inspector <i>and in the interim until the warrants are phased out:</i>		
	Road level	Onsite control	
	Level 1 road	TC, TC-Inspector or STMS	
	Level 2 road (shoulder, roadside or on the lane with speed 60km/h or less)	L2/3 STMS, STMS-NP or TC-Inspector	
	Level 2 road (on the lane with speed 70km/h or more)	L2/3 STMS or STMS-NP	
Category C	Spotter optional – can be one person activity: Onsite control must be by either a practising STMS (C) or an Inspector <i>(and in the interim until the warrants are phased out, a L2/3 STMS, STMS-NP, or TC-Inspector).</i>	Inspection not permitted. Must use a mobile, semi-static, or static closure.	

COMPLETING AN INSPECTION ACTIVITY

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	<ul style="list-style-type: none">• Enter to the left
BEACON	<ul style="list-style-type: none">• Turn the beacon on when approaching the site
INDICATE	<ul style="list-style-type: none">• Indicate your intentions for minimum of 3 seconds, check traffic behaviour behind you, slow down and drive into the site
PARK	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Leave the beacon on
INDICATE	<ul style="list-style-type: none">• Indicate your intentions for minimum of 3 seconds
MIRRORS	<ul style="list-style-type: none">• Check your mirrors for a safe gap in the traffic
ACCELERATE	<ul style="list-style-type: none">• Accelerate and merge safely into the traffic lane• Keep an eye on traffic behaviour at all times
BEACON	<ul style="list-style-type: none">• Turn the beacon and indicator off when you have reached normal operating speed

Working with a spotter

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.

Spotter's 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.

Best option is to use CSD as the trigger point.

May use a shorter distance for trigger point if justified by activity and risk assessment (eg inspector is only 2m onto the lane and is not bending down).

If using a shorter distance, test the trigger point to ensure it adequately manages the risk.

Make sure the shorter trigger point allows for:

- The reaction time of spotter and inspector
- Time for inspector to get off the road
- A planned contingency time

Test the trigger point

If the trigger point is less than CSD, TEST IT off the lane.

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.

ROADSIDE ACTIVITIES

The requirements

The requirements for roadside activities are include in section C8.1.2.1 of CoPTTM.

The Inspector can undertake Roadside activities subject to the following conditions:

- 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.

Typical activities

Typical activities that can be completed as **roadside 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
- Deliveries.

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

F2.5
Inspector

Notes

The Inspector can complete a roadside activity 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 not required

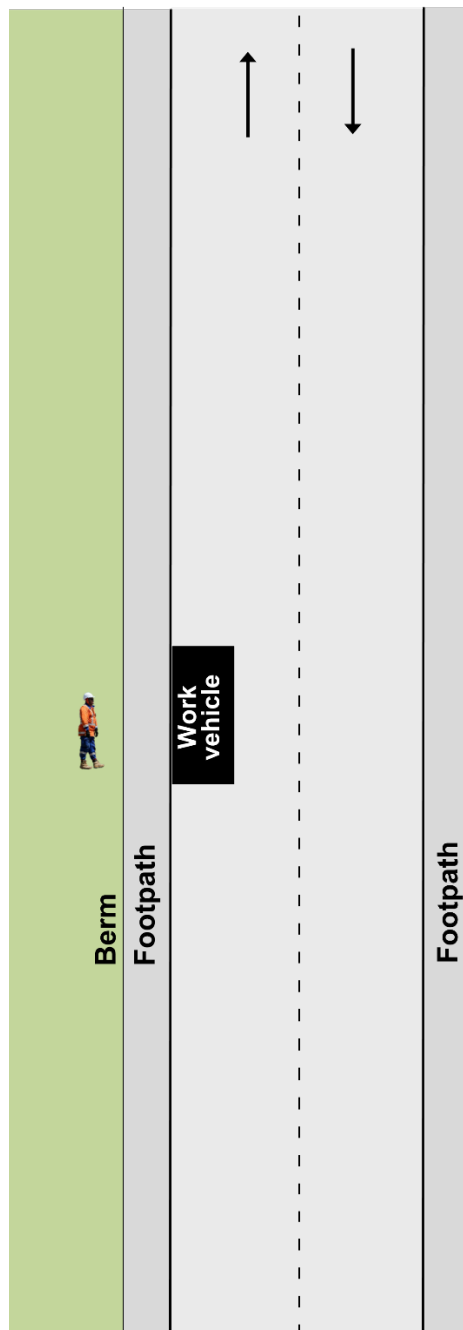
Traffic management must be provided where footpath users or cyclists are affected

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



Key differences between roadside and inspection activities

Roadside activity	Inspection activity
Can only be completed on Cat A roads	Can be completed on Cat A, Cat B and shoulder of Cat C roads
Activity can only be completed on a roadside area or footpath (not in the live lane)	Activity can be completed on a roadside area or on the lane
Allows for pedestrians to be diverted into a temporary footpath (but not over a kerb or edgeline)	Inspector must leave the footpath on the approach of a pedestrian
CSD not required	CSD is required
No signs or beacons required	Road inspection sign required. Beacon required in most situations

PEDESTRIANS

Temporary footpath widths

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

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


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:



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
Cones connected with cone bars		<p>Attended worksites where:</p> <ul style="list-style-type: none"> 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

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. **Follow the instructions in the TMP.**

Important parts of the TMP

The Inspector will need to refer to the TMP to get important information. Important parts of the TMP include:

Item	Comments
Planned work programme	<ul style="list-style-type: none">• This section of the TMP shows the period that the TMP has been approved for. It may also include additional information about when certain types of inspections can be completed.
Proposed traffic management methods	<ul style="list-style-type: none">• This section provides a description of the procedures that the need to be followed to complete the inspection activity.• It may provide specific instructions for inspections on the shoulder and on the lane
Contingency plans	<ul style="list-style-type: none">• Contingency plans tell you what to do if a major or minor incident occurs at the worksite (<i>covered in more detail in the Managing incidents and crashes section of this handbook</i>).• The contingency plan can also include instructions on what to do for other potential issues at the worksite.
Method of recording daily site TTM activity	<ul style="list-style-type: none">• This identifies the form used to record details of the inspection activities.• This is normally the Mobile operations on-site record (or a similar company document).
Contact details	<ul style="list-style-type: none">• This provides contact details for key people connected to the inspection activity
Notification to TMC prior to occupying worksite	<ul style="list-style-type: none">• This sets out who has to be contacted before the activity begins
Traffic management diagram (picture)	<ul style="list-style-type: none">• The TMP also includes a diagram or picture showing how the inspection is to be completed

ON-SITE RECORD FOR MOBILE OPERATIONS

This is the form used to record details of **Inspection activities** and **Roadside activities**.

The Inspector completes an on-site record for each day. This records times and locations of your activities and is kept for 12 months. Some RCAs require the on-site records to be submitted and stored with the CAR/TMP.

Each inspection or roadside activity is recorded. Inspector can record a **group** of inspections or roadside activities.

The Inspector must ensure that TTM is:



Vehicles, beacons and signs need to be checked each 30 minutes to ensure they remain operational. These checks are recorded on the on-site record.

Example of completed on-site record

TMP or generic plan reference		E7794056				
ON-SITE RECORD MOBILE OPERATIONS (On-site record must be completed and retained with the applied TMP for 12 months)					Today's date	21/5/XX
STMS in charge of TTM						
Amy Trembone		Inspector	35876	16/11/XX	Amy Trembone	8.45
Name	NZTA warrant	TTM ID Number	NZTA warrant expiry date	STMS signature	Time	
In charge STMS pre-start check						
Mandatory items to be checked as fit for purpose	High-visibility garments are fit for purpose, in an acceptable condition and worn correctly?	Vehicle Xenon (or LED)/Beacons are fit for purpose?	LAS/RD6/AWVMS/VMS/Horizontal arrow boards are fit for purpose?	TMAs are fit for purpose	Two-way radios available, operating OK and batteries are fully charged	Correct signs for work operation are fitted to all vehicles and are fit for purpose
	Y	Y	N/R	N/R	Y	N (see comments)
Time the check was completed:	8.45	In charge STMS signature:	Amy Trembone			
Operation record (To be completed for all inspection worksites/runs, mobile runs, semi-static sites)						
Affected Road Environment Details			Work Activity Timing			
Affected Road name(s)	Worksite start point	Worksite end point	Start	End		
Arawhata Street	Number 15	Number 87	9.15	10.30		
Duncan street	Number 12	Number 84	10.45	11.45		

Checks (must be completed and documented at least every 30 minutes)							
Mobile closure							
Time	Distances between vehicles maintained	Lateral positioning of vehicles maintained	LAS/RD6/AWVMS/VMS/Horizontal arrowboards continue to operate correctly	Road clear and available for planned work?	Static equipment maintained?	Safety zones maintained?	Working space adequate and maintained?
9.45	NR	√	NR	NR	NR	√	NR
11.15	NR	√	NR	NR	NR	√	NR
Comments relating to any changes and or improvements to the approved TTM/TMP							
Time of comment	Detail						
8.45	Replaced road inspection sign that was unacceptable with a new sign						

INSPECTION CREW BRIEFING

When to complete the briefing

Brief the inspection crew before commencing the inspection activity.

If there are multiple inspection locations on the same category of road, brief the crew on the entire activity period.

If there are multiple inspection locations on different categories of road, brief the crew each time you begin activity on a different category of road (risk profiles are different).

What to cover in inspection crew briefing?

Quick reference checklist for Inspection crew briefing

1 Inspector role

- Name, role and authority

2 Personal Safety

- Assembly/evacuation point
- First aid
- Closest medical centre
- PPE gear check:
 - Hi-Viz (compliant, worn correctly, acceptable condition)
 - Other PPE (as required by NZTA and your company)

3 Crew duties

- Vehicle to be used
- Roles of Inspection crew
 - Spotter
 - Additional spotter
 - Inspector
 - Driver

4 TMP for Inspections

- Location of TMP
- Hand out relevant parts (eg TMD to be used)

5 Activity and closure

- What the activity is (complete Inspection or Roadside activity)

6 Risk assessment for the task

- Hazards/risks to be aware of (eg traffic speed, sun glare, wet conditions, other identified inspection site hazards)
- Also explain the controls that are in place to manage the hazards

7 Safety (no go) zones

- No go areas/safety zones eg
 - 10m roll ahead
 - 1m lateral safety zone
 - No going into live lane unless spotter is in place

8 Procedure to be followed

- Go to diagram(s) and summarise requirements for:
 - Entering inspection site
 - Parking
 - CSD
 - Exiting vehicle
 - Completing inspection or

9 Contingency plans

- Briefing to include details on contingencies and actions eg Weather, Delays, Emergency services through site, Traffic incidents (crashes/breakdowns), Other site-specific contingencies

10 Communication and Comms check

- Ensure Inspection crew have their radio sets
- Inform crew of channel
- Confirm call signs
- Complete comms check
- Explain emergency call eg: emergency, emergency, emergency then everybody follows my instructions
- I will have my phone for calls to TOC, Police, TMC, etc
- If the radios fail, contact me by phone to confirm our return to the assembly point. My phone number is

