

Categories of road



The new TMO and STMS warrants are based on categories of road environment



Each road environment has different types of risk

Different risk profile depending on the road environment

Low
speed
roads

(60km/h and less)




High
speed
roads

(70km/h and
greater)



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 visual distractions

Considerations on high speed roads

- Higher travelling 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, L1,2LS and L2 low speed roads
- Using smaller and larger signs (depending on requirements)

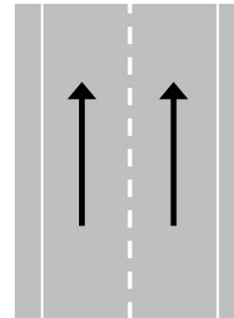
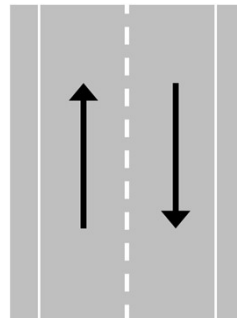


Type A



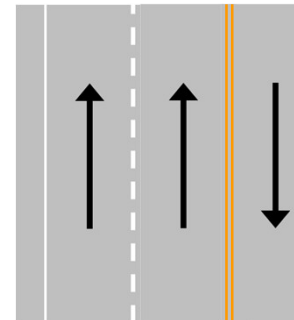
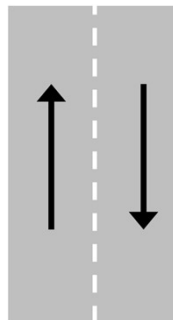
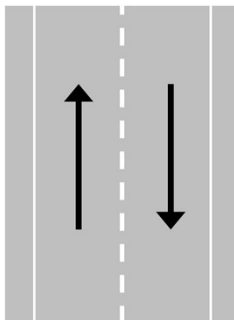
Type B

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



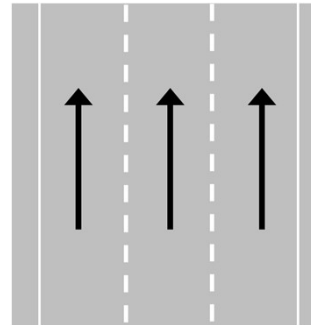
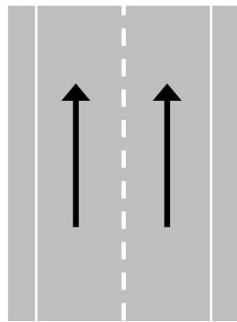
Category B: High speed two-way two-lane roads (70km/h and more)

- Includes LV, L1 and L2
- Using smaller and larger signs (depending on requirements)
- Includes roads with or without shoulders
- Includes passing lanes

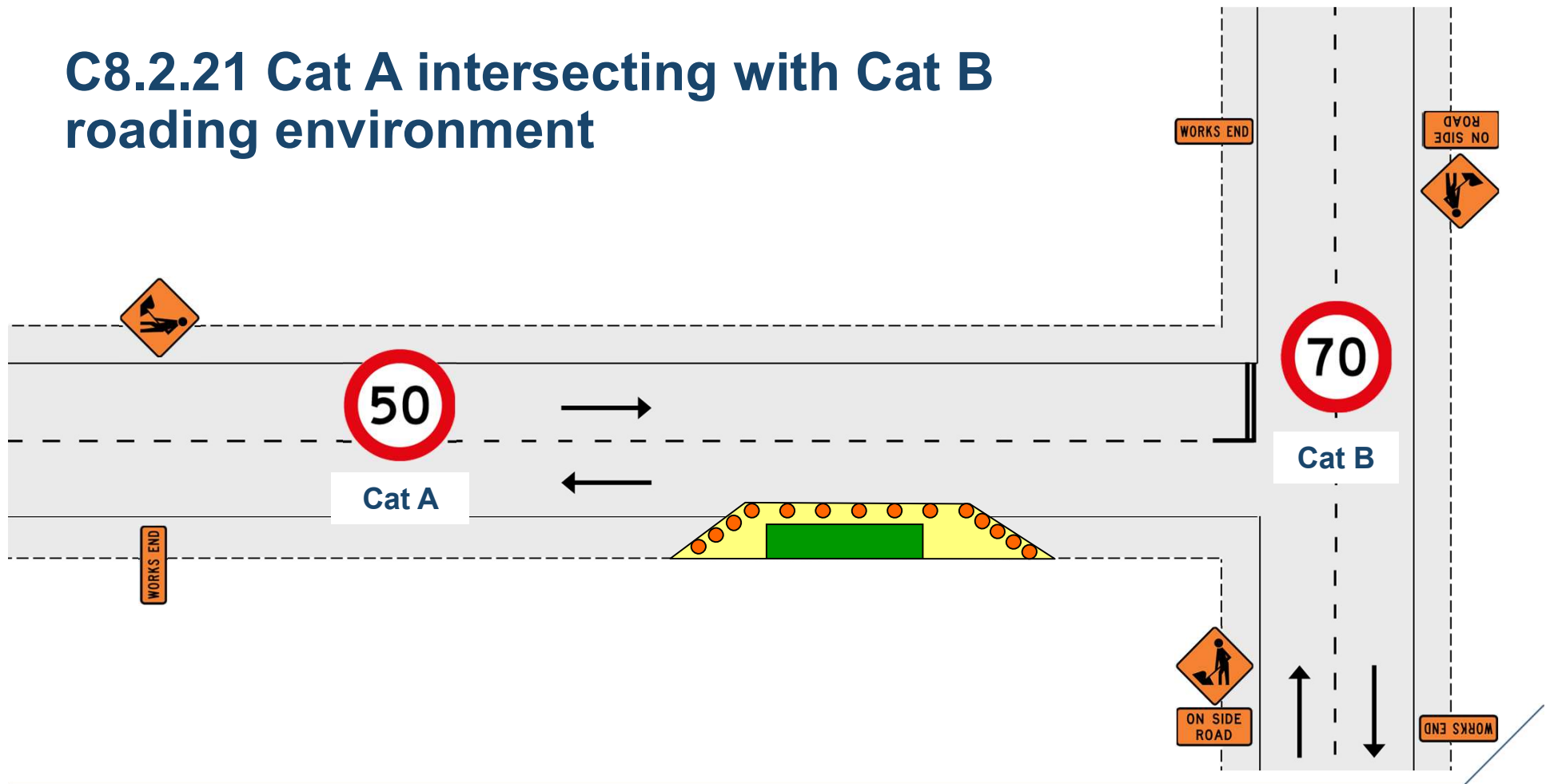


Category C: High speed multi-lane roads (70km/h and more)

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



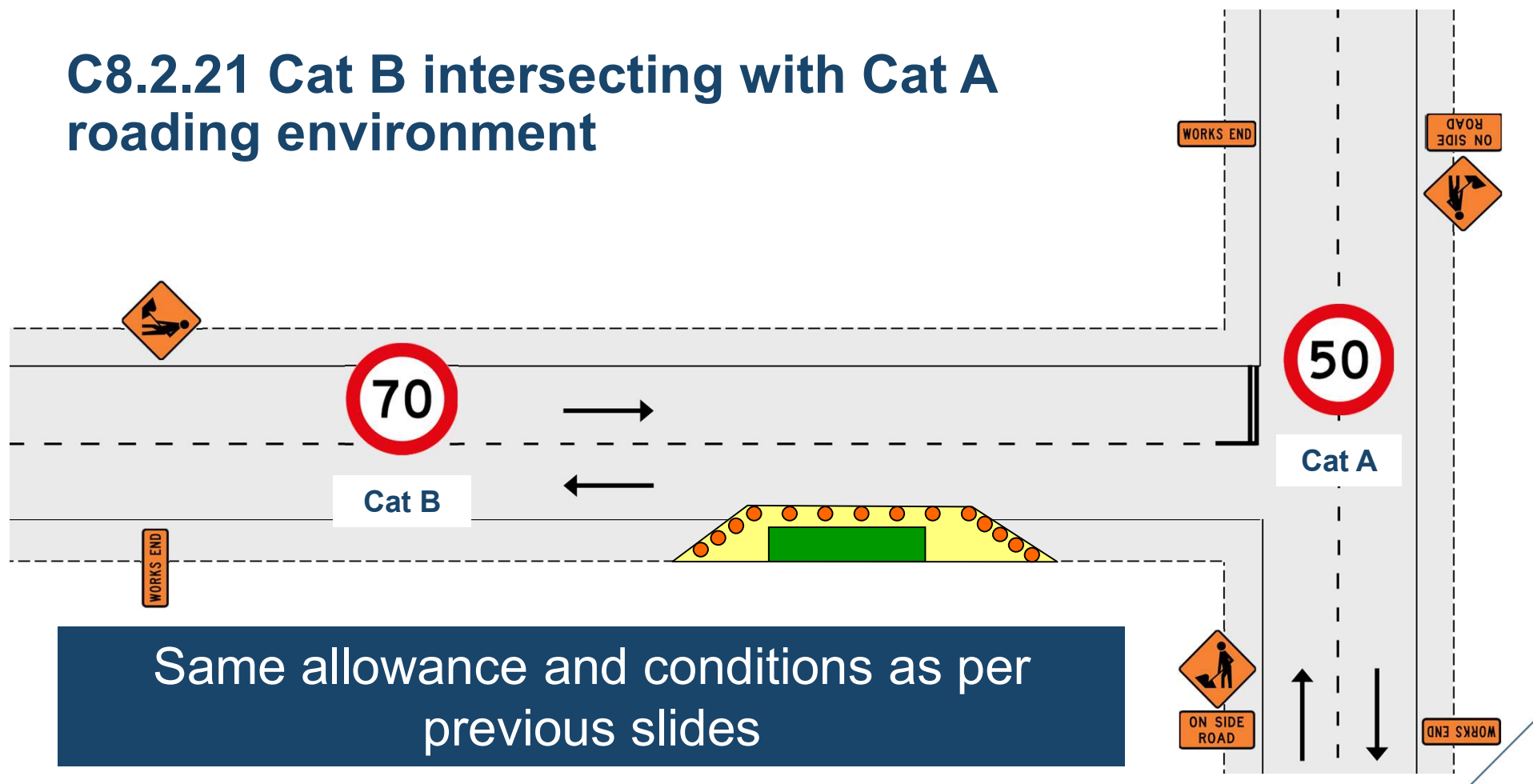
C8.2.21 Cat A intersecting with Cat B roading environment



Installing & removing TTM equipment on Cat B roads

If these conditions cannot be met...
...then an **STMS Cat B** must install and
remove the TTM on the Cat B road
environment

C8.2.21 Cat B intersecting with Cat A roading environment



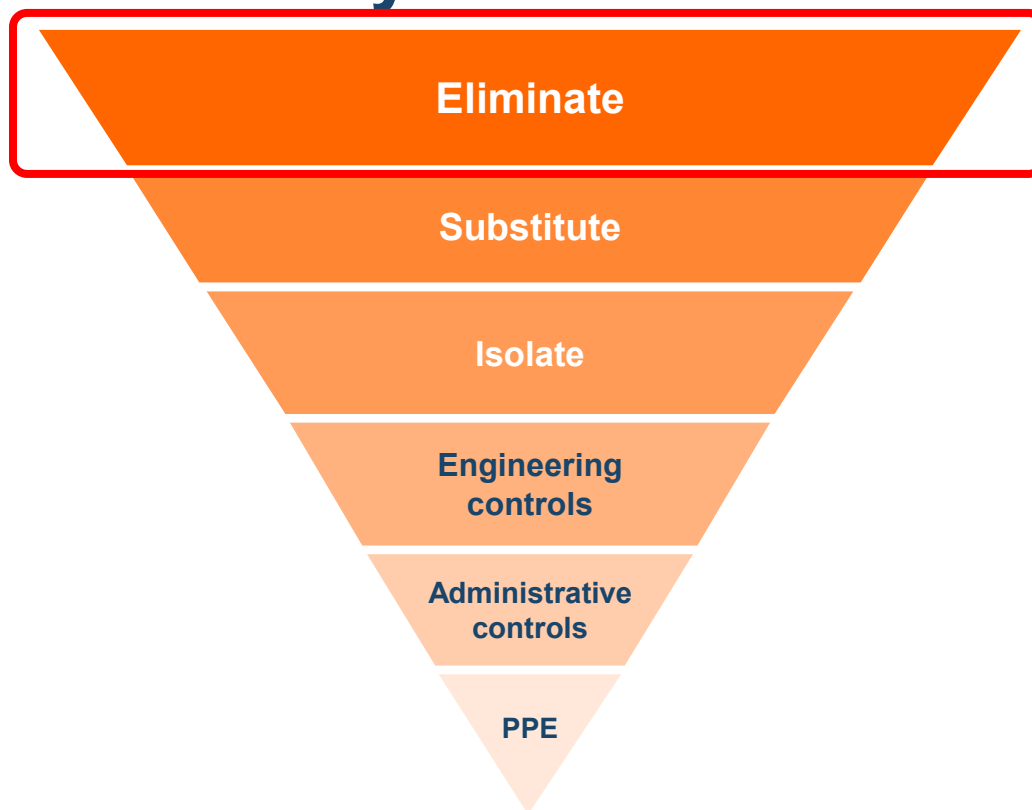
C8.2.21 Cat C intersecting with Cat A and/or Cat B roading environment

Cat C STMS can place TTM on a Cat A or B road environment if:

- The closure is only on the Cat C road environment - That means that no part of the closure including safety (no go) zones and taper can be placed on the Cat A or B road environment
- Signs can be placed without interfering with cycle lanes, bus stops, taxi stands, loading zones and restricted parking
- Minimum footpath widths can be maintained
- A shadow vehicle is used and the TTM vehicles when stopped are clear of the lane during the installation process

If these conditions can not be met, then an STMS Cat A and/or Cat B must install and remove the TTM on the Cat A and/or Cat B road environment

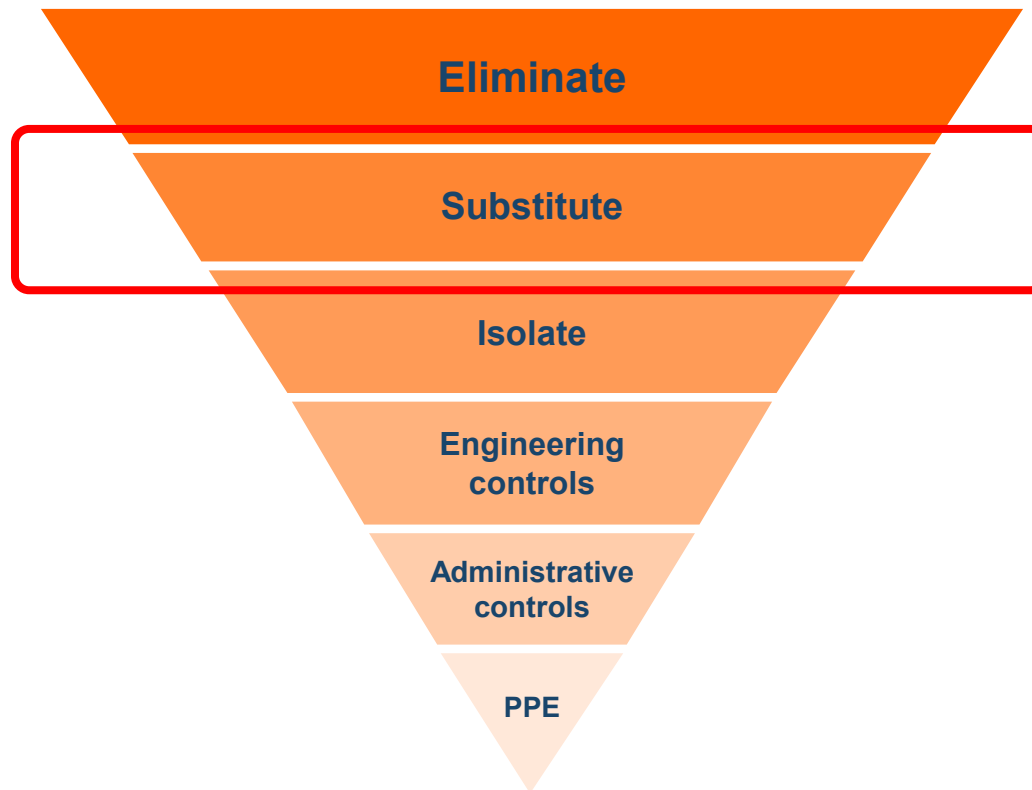
Hierarchy of controls



**This is always the first
option to consider**

**Close the road and detour
traffic**

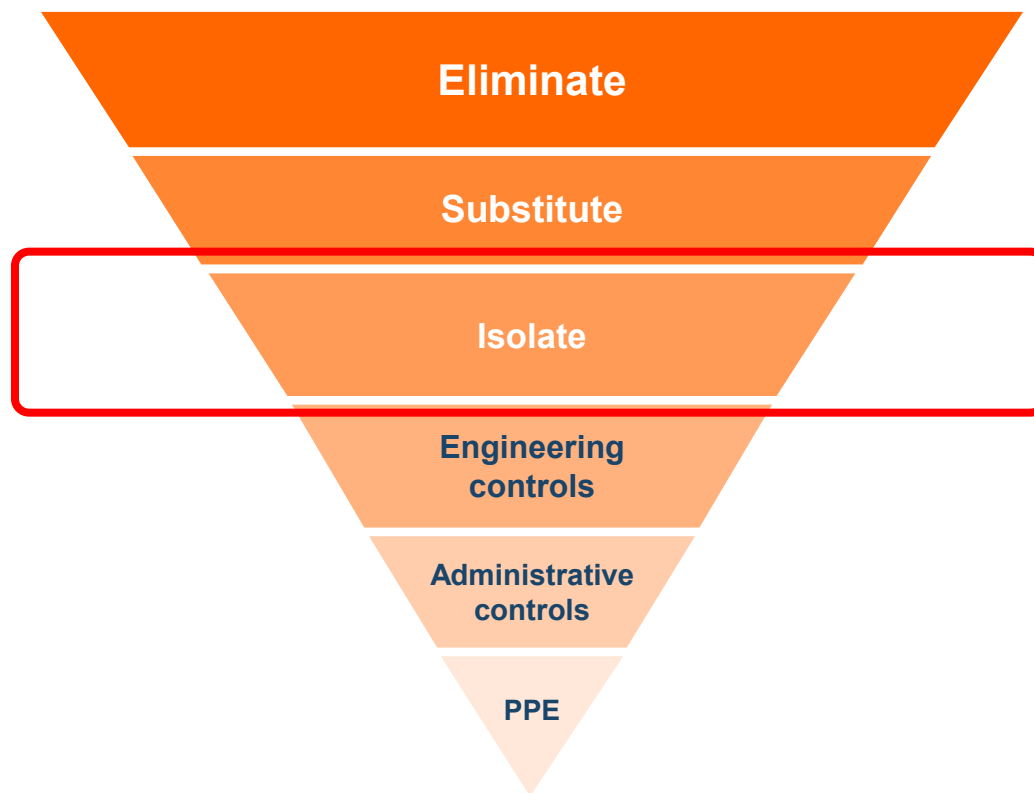
Hierarchy of controls



Substitute Stop/Go for portable traffic signals

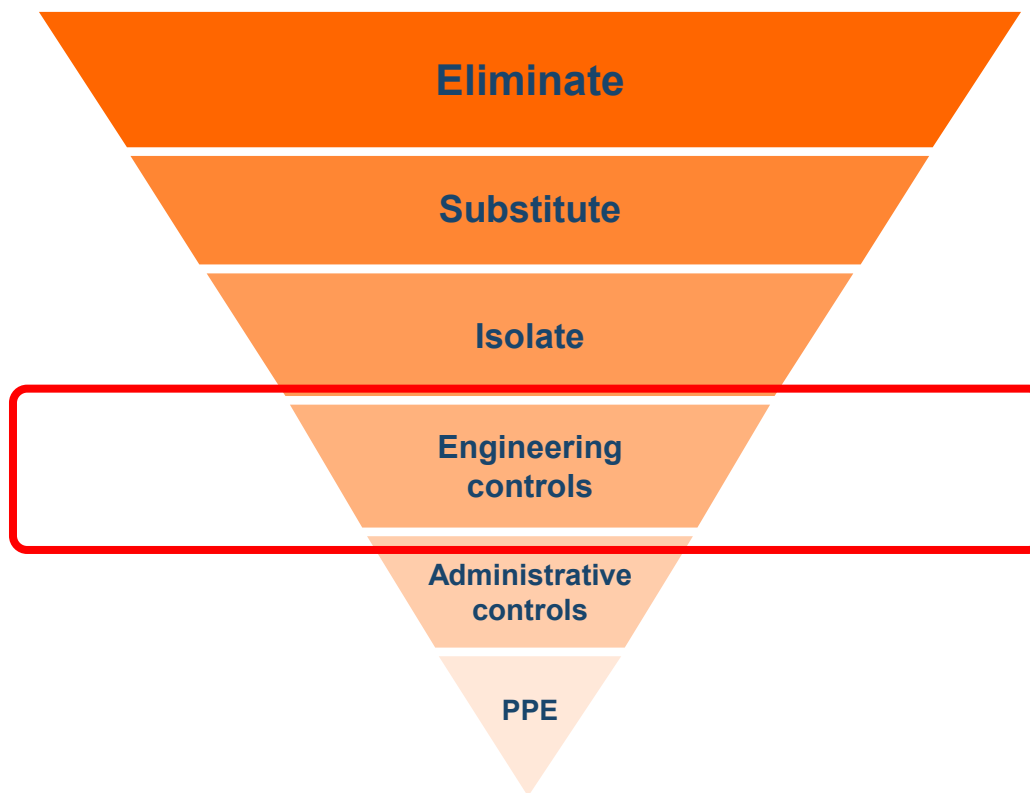
Controller can be located away from live traffic

Hierarchy of controls



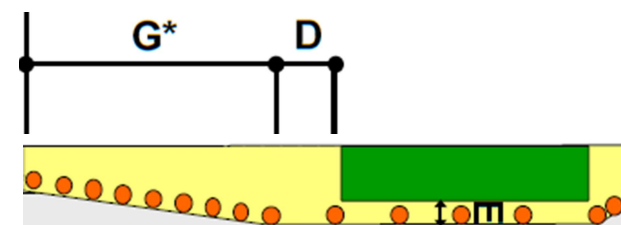
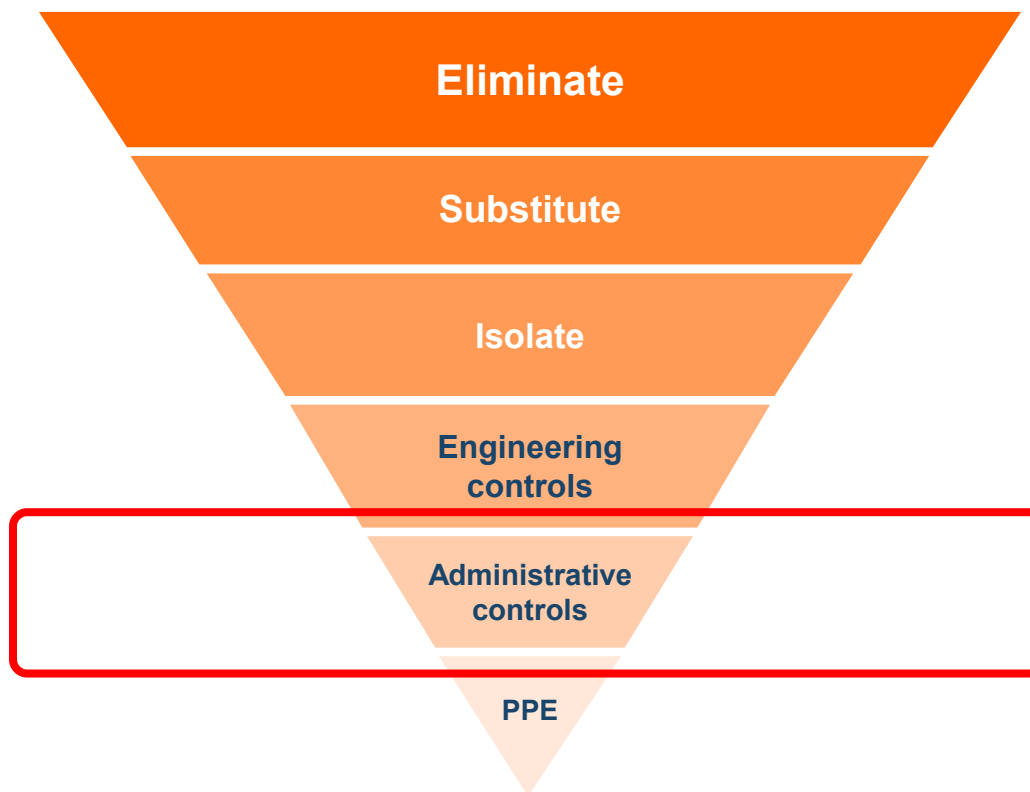
Use road safety barriers to isolate the workers from passing traffic

Hierarchy of controls



**Use a TMA to provide
guidance and extra
protection for road users**

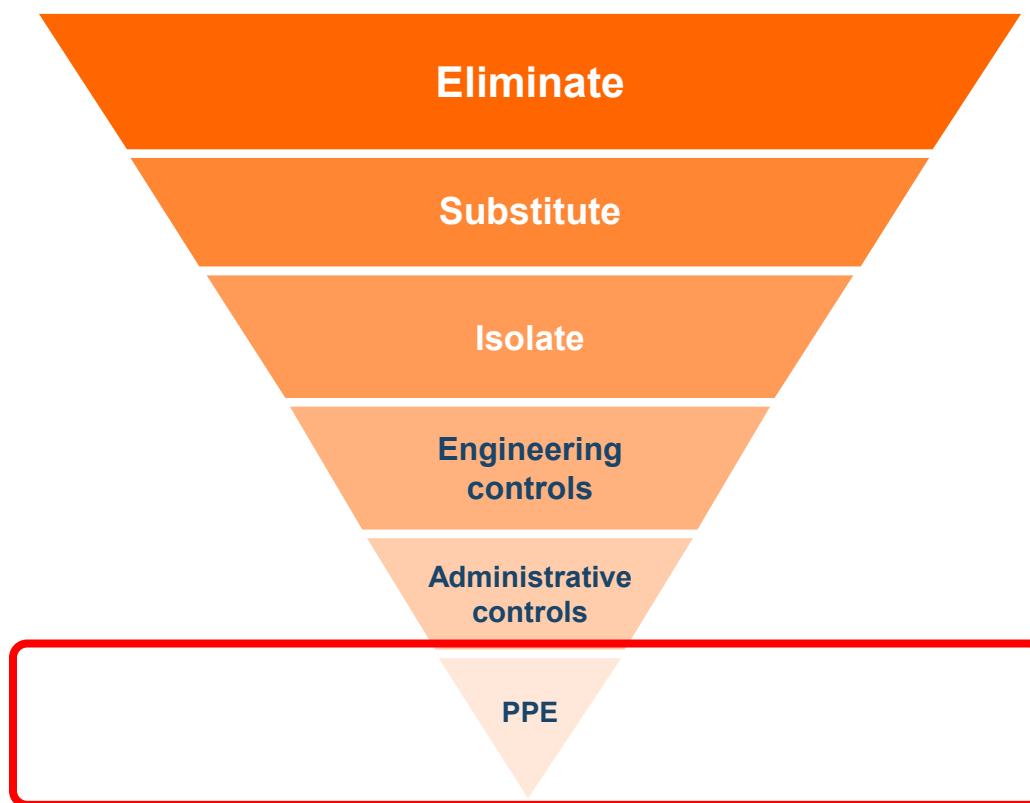
Hierarchy of controls



Mark on the TMP where the no go zones are and brief all site personnel about keeping out of these zones

Keep record of briefings

Hierarchy of controls



High vis garment is the lowest safety control

PPE as primary safety control
(eg inspection activity)
is only permitted when it is not practicable to use any other control

Summary of risk assessment at the worksite

STMS uses their company risk assessment tool to:

- **Identify hazards related to the activity**
- **Determine a risk rating for each hazard**
- **Identify controls to be put in place**
- **Record on the risk assessment form**
- **Brief workers and visitors on the risks and controls**

Assess risks

Implement controls

Brief people on the risks and controls

Risk assessment

- Before the TTM is installed the STMS completes a **risk assessment on the site** as part of ensuring the TMP is fit for purpose (right for site)
- If the STMS decides to proceed with installation of the TTM, they also complete a **risk assessment on the task** of installing the TTM at the worksite



Risk assessment

- Once the worksite is installed the STMS **continues to monitor risks** to identify:
 - Changes to existing risks
 - New risks
- When the TTM is to be removed, the STMS completes a **risk assessment** on the task of removing the TTM from the worksite



Risk assessment



**Risk
assessment
is a critical
tool**

**Act on your
risk
assessment**



**In other
words...**

Identify the hazard



Take appropriate action

Before leaving the yard

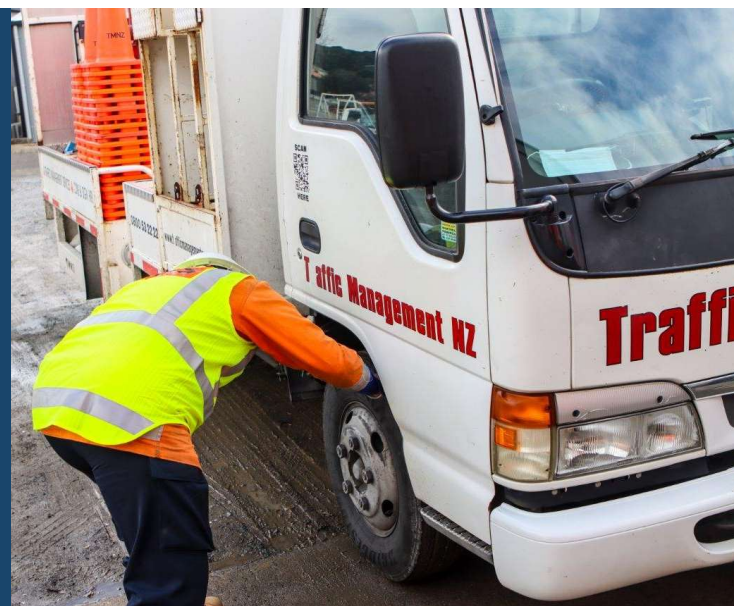
Initial check of TMP and resources

What are some of the things
you need to check on the
TMP?



Pre-start check - Vehicles

What will you be checking on the vehicles?



Pre-start check - Equipment

- All required TTM equipment loaded (for example cones, signs, stands, ballast, cone bars, safety fences, pedestrian ramps)
- TTM equipment in acceptable condition
- PPE
- Comms



STMS briefings

Types of TM crew briefing



Full briefing

Provide a full briefing if:

- You are working with a new crew or have a new crew member
- A visitor (eg auditor or assessor) will be observing the completion of your task
- The TTM setup is different to what you normally work on
- You are working in a different area



Customised briefings

Provide a customised briefing to a crew you work with daily setting up and removing TTM

Note: You still complete a full briefing with the crew at least once a week

What to cover in the full TM crew briefing



Quick reference checklist for FULL briefing

1 STMS 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

- Vehicles to be used
- Roles of TTM crew
 - AWVMS driver
 - Shadow vehicle driver
 - Work vehicle driver
 - Deck crew

Note: Deck crew ride in cab of work vehicle for loops

4 TMP for worksite

- Location of TMP
- Explain any EEDs
- Hand out relevant parts (eg TMD to be installed)

5 Activity and closure

- What the activity is (install, modify or remove TTM)
- Type of closure (eg lane drop/merge, alternating flow)

6 Risk assessment for the task

- Hazards/risks to be aware of (eg traffic speed, sun glare, wet conditions, slippery deck, other identified 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

8 Procedure to be followed

- Go to diagram(s) and summarise layout and sequence of mobile operation.
- Include:
 - Tail pilot/AWVMS - location, display
 - Shadow vehicle – location, position of vehicle to enable crew to safely exit and enter the work vehicle, pad down, display
 - Cover the TTM sequence. Use the procedures in the TMP as the basis for this part of your briefing

9 Contingency plans

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

10 Communication and Comms check

- Ensure TTM 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 _____

11 Signing the hazard register/briefing sheet

- Check for questions from TTM crew
- Get them to sign your company's hazard register/briefing sheet

Content of the full TM crew briefing

[Click for video of TM briefing – option 1](#)

[Click for video of TM briefing – option 2](#)

What to cover in customised TM crew briefing

**Sign the hazard
register/briefing sheet**

Activity and closure type



**Contingency plans
(specific to worksite and
the task)**

Summary of procedure

**Risk assessment and
mitigation for the task**