

IPV Strike and Temporary Traffic Management Incursion Avoidance

Background

The continued exposure of our road workers to road users when implementing or working within Temporary Traffic Management (TTM) that is either static or mobile continues to be one of the biggest health and safety hazards in our industry. Across some of the key suppliers to Highways England, there are often up to two Impact Protection Vehicle (IPV) strikes per month, and several TTM incursions (intentional or unintentional) occur daily. The most significant incidents have tragically resulted in fatalities, life changing injuries and significant mental health effects.

The root cause of these incidents includes insufficient consideration of risk to the road worker during TTM design (e.g. to eliminate the road user / worker interface), inadequate measures to prevent incursions, poor quality / inaccurate information about known incident hotspots, lack of consistency of safe working practices across the industry and inadequate / inconsistent control measures on site.

Vision

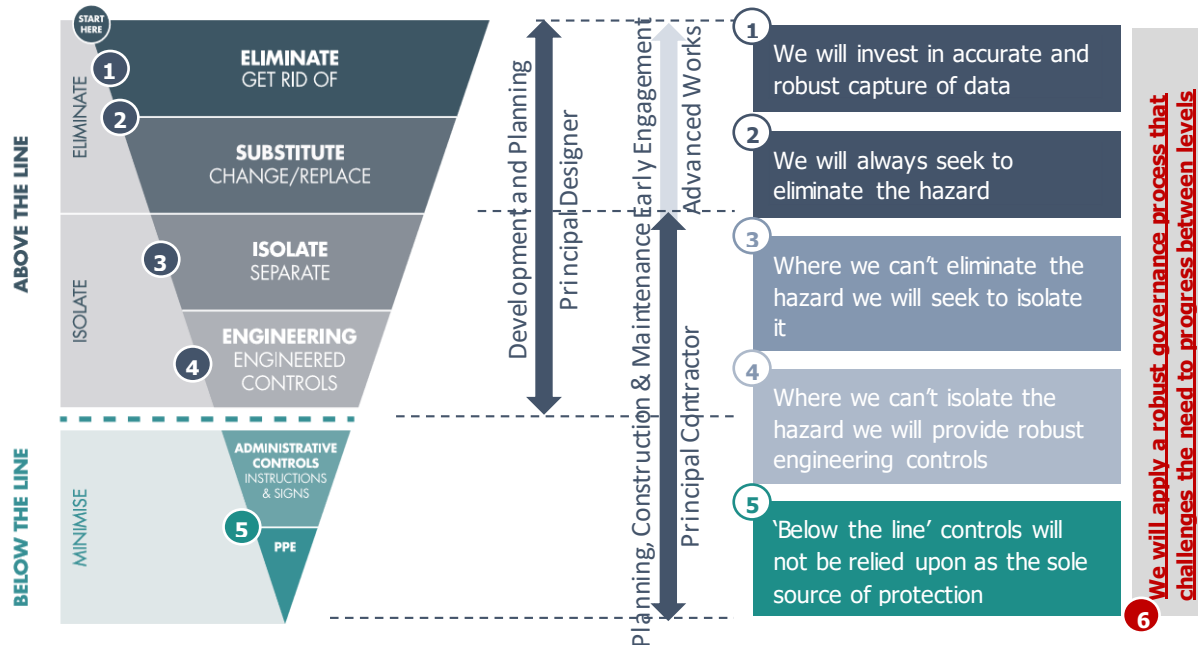
To eliminate IPV strikes and TTM Incursions on Highways England projects and maintenance activities. Deliver Highways England's Home Safe and Well target of halving the number of vehicle incursions into roadworks by 2025

To improve the engagement, awareness and competence of those involved in commissioning, designing, planning, managing and carrying out work involving TTM.

Principles of Approach to be Adopted (including Application of Hierarchy of Control)

Overview

As a supplier community we have agreed to adopt the following approach as a **common standard**, following the principles of prevention and adopting a hierarchy of controls as described below, commencing at the earliest consideration of the proposed maintenance or improvement activity.



The principles of this approach are:

- We will invest in accurate and robust capture of data on IPV Strikes and TTM Incursions** to ensure we are basing decisions on the best available information.
- We will always seek to eliminate the hazard** and will seek to design solutions that avoid the need to work on a live carriageway. As a general principle, any work on the live carriageway should be removed either by re-planning the works, or by altering the scope of the works where practicable. Costs for road closures and impact on the road user must be considered in the context of the scale and complexity of the project and its activities and unless prohibitively expensive or disproportionate for the context, then this option must be thoroughly exhausted before a lesser control measure is accepted.

3. **Where we can't eliminate the road worker from the live carriageway, we will seek to isolate them** during construction and maintenance. As a general principle the first consideration for TTM design should be a total road closure adopting the same mindset and approach as would be considered for a rail possession. We will design and plan all works to be implemented in as few a number of total closures as possible or practicable while considering the impact on the road user in terms of congestion. This would be instead of adopting a linear approach to all of the elements separately that would require multiple closures.
4. **Where we can't isolate the hazard, we will provide robust engineering controls** that physically prevent road users coming into contact with road workers. This will include, but not limited to:
 - Robust application of TTM design in accordance with DMRB and Chapter 8 of the Traffic Signs Manual
 - Use of the TTM flowchart to aid and assist designers of TTM
 - Preventing road users reaching closure points through clear consideration and use of existing technology on the network and other communications channels, such as social media to advertise and communicate closures
 - Application of industry best practice in TTM design to prevent incursions such as Airlocks or exclusion zones that physically prevent unauthorised access to TTM by road users (as included in Raising the Bar document 27)
 - Incursion alarm systems to warn of unauthorised access to TTM.

Other Control Measures include:

- Use of Enhanced Rolling Block Technique to establish TTM
 - Application of IPV good practice setup to prevent and reduce injury to drivers
 - Ensuring minimum specification standard for IPV's
 - Guidance on positioning of IPV's
 - Development and use of other innovative technology and automation of processes where available e.g. automated cone laying; deployable IPV etc.
5. **Signs, instructions and PPE will not be relied upon as the sole source of protection** in the event that a greater level of control cannot be achieved, the measures to be put in place to provide protection (e.g. Lane Closures, Mobile Works etc.) will be signed off by a Senior Representative for the Principal Contractor *[to be defined in organisational processes / procedures]* **each and every time this is required (not for a project or section of works as a whole)**, to confirm their understanding of the risks and that all other mitigation measures have been considered and exhausted.
 6. **We will apply a robust governance process that challenges the need to progress between levels in the hierarchy of control and document decisions taken** – to challenge why a higher level of control couldn't be applied. **This information will also be used to learn lessons for future projects.**

Additional Documentation/ Detailed Guidance

Mandatory documents to be used in the design and implementation of TTM include:

- Design Manual for Roads and Bridges
- Traffic Signs Manual Chapter 8 Part 1: Design
- Traffic Signs Manual Chapter 8 Part 2: Operations
- Traffic Signs Manual Chapter 8 Part 3: Update

Further documents have been developed to support Suppliers and Highways England Project Managers in their approach and decision-making. These are in the process of being incorporated into / combined with the following Raising the Bar documents based on this common intent:

Current RtB:


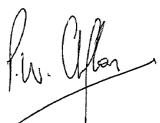
- RtB 2 – Traffic Management Entry and Exit
- RtB 17 – Traffic Marshalls
- RtB 27 – Managing TM Incursions

RtB Proposed:

- Specification, set-up and use of IPV's
- Use of Enhanced Rolling Block Technique
- Use of automated cone laying vehicles
- TTM Decision Making flowchart / tool

All current Raising the Bar documents are available at the following location [Highways Safety Hub](#).

Document Approval Record

	Name	Signed	Dated
Working Group Chair	James Haluch		14/05/2020
SCSLG Chair	Phil Clifton		17/06/2020