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Reference TMOPROTECT

HM Principal Inspector of Health &  
Safety: Mrs Joy Jones

Date 25 July 2014

Dear Sirs

## **PROTECTION OF TRAFFIC MANAGEMENT OPERATIVES AT STATIC TEMPORARY TRAFFIC MANAGEMENT WORKS ON HIGH SPEED DUAL CARRIAGEWAYS**

There has been a lot of good work across the highway maintenance and traffic management community on developing guidance for making traffic management operations safer. I thought it would be helpful to provide a written answer to the many questions I have had about HSE's view and expectation of the use of this guidance, in particular the HTMA guidance *TTM Vehicle Selection and Operation* and Interim Advice Note 181/14.

I have two key areas of concern,

1. Operatives working in a live lane whilst installing traffic management equipment,
2. Second operatives working in an unsecured position on works vehicles in a live lane.

### **Impact protection vehicles**

IPVs are in effect works vehicles fitted with a light arrow and a crash cushion.

The purpose of the light arrow is to inform the road user of the presence of an obstruction, the crash cushion is to mitigate the consequences of any collision between the road user's vehicle and the works vehicle.

There is, rightly, concern about the number of collisions with IPVs and the reasons for them. This note does not address the detail of collisions with impact protection vehicles (IPVs); rather it is about the protection of TM operatives.

### **Risk assessment and reduction**

It is worth revisiting the issue of risk assessment and reasonable practicability.

- The Health and Safety at Work etc Act 1974 requires that health and safety of those at work, and those affected by the work, be ensured so far as is reasonably practicable.
- The offence is to expose people to risk of harm, not for harm to occur. If harm does occur, it demonstrates that there was a risk to health and safety that may not have been adequately managed.
- Risk assessment requires the identification of hazards arising from an activity, the mechanism of harm, who might be harmed, and the likelihood of the harm occurring. The purpose is to identify ways in which the hazard can be eliminated, reduced or controlled to reduce the risk.
- Reasonable practicability is the test to which control measures should be put. In essence, it is a two-part test, practicability and reasonableness. The practicability test is one of considering whether a particular control can be applied in practice as well as in theory. The reasonableness test is about the viability of a control measure i.e., does it, take too long; hinder or obstruct the work activity to which it relates; create a greater risk elsewhere.
- Consideration of reasonable practicability will often involve reference to industry guidance, codes of practice and legislation as well as what is currently applied by others in the same, or similar, industry sectors.

A suitable and sufficient risk assessment will consider, the task, road layout & geometry, traffic flows and speed, weather conditions, equipment and the workforce.

In temporary traffic management operations there must, and always will be a balance to strike between the two risk populations, operatives and road users.

### **1. TM operatives on foot**

The practice of operatives working in a live lane without a support vehicle, fitted with a light arrow (and crash cushion), in the same lane, relies on the behaviour of drivers and operatives in the following way,

- Road users observing and reacting to advance signage
- Road users seeing and reacting to the presence of TM operatives in the live lane
- TM operatives seeing oncoming vehicles and being able to judge distance and speed of the vehicle
- TM operatives being able to react to oncoming vehicles
- TM operatives having a place of relative safety to which they can “escape” such as a central reserve or verge.

Where concrete barrier is used on the central reserve there is unlikely to be a suitable “escape” route on the central reserve.

Currently the traffic management industry uses a range of techniques to set out TM equipment to close live lanes. This was recognised in a Highways Agency report on road worker safety in 2006/07. This report attempted to quantify the risks involved and categorised the techniques. It categorised the practice of “walking out” as being the most dangerous and advised it be phased out.

It is reasonably practicable to use vehicles to better support operatives on foot, as many already do it.

It is known, from incident investigation and driver simulation, that drivers tend to react to what is in front of them. Therefore having a light arrow in the lane being closed more accurately informs the road user of the presence of workers, creating a “safety bubble”.

The argument has been put forward that such use of vehicles is unnecessary, as there are very few incidents where road users have struck TM operatives on foot. This argument has several flaws,

- The law does not require harm to occur before action is taken to prevent it. Indeed the law requires action be taken to prevent the harm occurring.
- A better measure would be the number of times that operatives have had to take evasive action because a driver has not reacted to their presence until the last minute.

- The consequences of a collision between a pedestrian and a vehicle are severe, whereas collision between a vehicle and a crash cushion tend to be less severe.
- It is already done by many in the industry, so must be both reasonable and practicable.

Therefore, HSE regard it as reasonably practicable to use a TM vehicle fitted with light arrow and crash cushion for all work in a live lane, other than nearside (lane 1) closures done from a hard shoulder. See below.

This will increase the visibility of the works in the lane and should increase the likelihood of road users reacting appropriately.

HSE will not stipulate, at this stage, whether the vehicle should be positioned up-stream or down-stream of the taper position. Rather this should be determined through site and task specific risk assessment.

### **Work in nearside lane.**

There is widespread concern that using light arrow and crash cushions in the nearside lane will increase the risk of harm due to the type of vehicles, particularly large goods vehicles (LGVs), typically using lane 1 and significant consequences of any collision between vehicles.

Clearly, the consequences of any collision between an LGV and TM operative working in the lane would also be severe. However, at this stage, HSE will not require a support vehicle in lane one where there is;

- a) A hard shoulder wide enough to accommodate works vehicles, **and**
- b) Visibility is sufficiently clear and free of obstruction to see oncoming traffic, **and**
- c) A look out is used, **and**
- d) There is a suitable means of escape for operatives working on foot.

If any one of these conditions cannot be met then the system of work will need to be reviewed and alternative solutions identified, which may include use of a light arrow and crash cushion vehicle in the nearside lane.

## **2. TM vehicle crews**

It is a real concern that the TM community working on the high-speed road environment has operatives in unsecured positions in vehicles at risk of being involved in collision.

Unsecured means not restrained in a way that prevents a person being ejected from the vehicle or knocked off their feet, for example in a seat with a three or five point harness. This would include operative in cone wells, or on the flat back of the vehicle.

HSE will expect vehicles carrying operatives in an unsecured position should be “protected” by a second vehicle, a dedicated IPV, positioned 75 (+ or – 25) metres upstream of the works vehicle.

In effect, combined TM vehicles, with operatives working on the rear, could not be used on their own whilst in a live lane.

Once the traffic lane is closed to traffic (no longer live), the dedicated IPV would no longer be required.

The risk of collision with the dedicated IPV is no greater than that with a combined vehicle, yet the consequences will be reduced by reducing the number of people on the vehicle at risk of collision.

There will be some occasions where it is not possible to use two vehicles, such as work at junctions and roundabouts. In those cases site specific risk assessment should inform a safe system of work that reduces the risk of collision with the works vehicle.

## Summary

1. Operatives working on foot in a live lane should be supported by an IPV in the same lane as the work. The IPV can be positioned either up-stream or down-stream of the work, to be determined through robust risk assessment.
2. Work on the near side of carriageways with a hard shoulder need not be supported in this way where it can be done from the hard shoulder **and**;
  - there is sufficient visibility, **and**
  - there is an effective “escape” route, **and**
  - a robust assessment of the risk justifies it as the safest option.
3. Where operatives are working from a works vehicle in a live lane, that vehicle must be protected by a separate IPV unless this is cannot be done because of the road layout.
4. Where use of a separate protection vehicle is not used robust risk assessment must demonstrates why use of an IPV is not required.
5. Work activities within closed lanes or within a hard shoulder will not require protection from an IPV unless identified as necessary through robust risk assessment.

Yours faithfully

A handwritten signature in black ink, appearing to read 'T. Merry', written in a cursive style.

**Thomas Merry**  
**HM Inspector of Health & Safety**  
Construction Safety Team