

FOREWORD

The *TMCA* was formed in 1989 primarily to meet the challenges of maintaining high standards of safety for workers and the public at major traffic management sites on trunk roads, motorways and high speed dual carriageways.

In addition, the *TMCA* provides a forum for conferring with public bodies, in particular the Highways Agency, Local Authorities and the Health & Safety Executive.

Members of the *TMCA* are required to **consistently** set high standards for the installation, maintenance and removal of major traffic management schemes and to be at the forefront in establishing Industry Best Practice

They should use high quality equipment, employ appropriately trained and certificated personnel attired in high visibility jackets and trousers; utilise the appropriate specially designed and adapted vehicles for traffic management activities; adopt standard methods of working, and be accredited in accordance with the National Highways Sector Schemes for temporary traffic management detailed in Appendix A of the Specification for Highway Works.

The TMCA have taken every care to ensure the accuracy of the contents of these Notes for Guidance. However no responsibility for any loss, damage, or injury as a result of acting or refraining from acting on any statement, can be accepted by the Association and (any of) the Author(s). The publication is not intended to be an exhaustive review of the subject and it is incumbent upon any person to undertake his own research and formulate his own conclusion.

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**SECTION 1
INTRODUCTION, OBJECTIVES AND SCOPE**

1.1 Introduction

- 1.1.1 The problems associated with providing protection for road users and works personnel at road works sites continue to become more difficult as traffic volumes and traffic speeds continue to increase, necessitating the use of more complex and sophisticated traffic management systems normally required to be established, operated, or removed during nighttime off peak periods.
- 1.1.2 A major part of the responsibility for maintaining road safety at these highly vulnerable locations and for ensuring the free-flow of traffic around the works area rests with those Contractors employed in the preparation and implementation of the traffic management arrangements.
- 1.1.3 To help meet this challenge, members of the Traffic Management Contractors Association (T.M.C.A) have jointly prepared these Notes for Guidance setting out the standards expected of all those involved in temporary traffic management on Britain's Motorways and high speed dual carriageways. It is intended to provide a safer working practice for those involved with roadworks. It is supplementary to Laws and Regulations already in existence.
- 1.1.4 These Notes for Guidance will be reviewed regularly.

1.2 Objectives

- 1.2.1 To set Safe Standards for the Installation, Maintenance and Removal of Temporary Traffic Management Systems.
- 1.2.2 To ensure that all persons involved in the industry shall be trained and certificated to the level of their responsibilities.

- 1.2.3 To encourage the standardisation and use of high quality equipment and materials in Traffic Management Systems.
- 1.2.4 To ensure that appropriate vehicles, specially designed and adapted, are used for the installation, removal and maintenance of traffic management systems.
- 1.2.5 To standardise methods of working in order to assist the safe passage of the general public through roadworks and to protect all operatives on site.
- 1.2.6 To ensure its members are accredited in accordance with the National Highways Sector Schemes detailed in Appendix A of The Specification for Highway Works.
- 1.2.7 New members will be welcomed to the TM.C.A. subject to fulfilling entry requirements.

1.3 Scope

- 1.3.1 These Notes for Guidance are intended to cover only the basic requirements for the Establishment, Maintenance and Removal of static temporary traffic management on motorways and high speed dual carriageways.

SECTION 2 SAFETY AT ROADWORKS

2.1 Safety Statement

The primary reason for the production of these Notes for Guidance is to enhance Safety at Traffic Management Systems. Whilst the traffic signs manual Chapter 8 is the primary guidance document for temporary traffic management (TTM) reference should always be made to current interim advice notes (IAN) which will provide guidance for industry best practice. These can be obtained from the Highways Agency's

During preparation of these Notes for Guidance the TM.C.A. has had the requirements of current Health and Safety legislation in the forefront and member companies have each considered their own Company Health and Safety Policies when contributing to these Notes for Guidance.

2.2 Pre Planning

All necessary Work Instructions, including specification and drawings, if appropriate, should have been issued and/or be available. A Method Statement and a Risk Assessment must have been produced. Where required, a contract specific Quality Plan will be formulated, for submission to the client prior to commencement of work.

Before proceeding to a Site, care must be taken to ensure:-

- 2.2.1 Each vehicle is in accordance with section 6.
- 2.2.3 On dual carriageways without hardshoulders, operations should be planned to utilise safe taper positions which facilitate the provision of advance signing without the need for stationary or slow moving works vehicles to encroach into live lanes when pre-placing, erecting or removing traffic management equipment. In those locations where this is not practicable, the traffic management works vehicle should be afforded impact protection and be fitted with a Light

Arrow Sign (IPV: see 6.1.5) to act as advance signing; or an approved rolling block should be used.

The installation and removal of temporary studs and cylinders to contraflow buffer zones detail H on 2 lane dual carriageways without hardshoulders should be considered early in the design process (see 4.2.4)

- 2.2.4 High visibility clothing, jackets, fastened at all times and trousers complying with BS EN 471 must be worn at all times together with other appropriate PPE

Where there is a foreseeable risk of head injury, safety helmets must be worn. However, following agreement with The Health & Safety Executive, individual company risk assessments may determine that they need not be worn during traffic management operations. Likewise with ear and eye protection.

- 2.2.5 The use of VMS and matrix signals should be requested in accordance with Highways Agency agreed protocol to support traffic management installation and removal operations.

2.3 Approaching the Works

- 2.3.1 Where the location of the site access is known, approach in the lane adjacent to the closed lane and maintain vehicle speed with the surrounding traffic.
- 2.3.2 In advance of the Works Access 100 yards sign, turn on your flashing amber beacon and indicate to turn.
- 2.3.3 Start to slow down and enter at the Works Access, having first made sure the entrance is clear, if not continue along the carriageway.
- 2.3.4 Never stop or park the vehicle immediately on entry to the site, because site traffic wishing to enter, will be prevented from doing so.
- 2.3.5 Where there is no signed access or exit, Traffic Management personnel must exercise extreme caution when entering and leaving coned off areas.

2.4 Within the Works

- 2.4.1 Ensure that other works traffic can get past your vehicle before parking.
- 2.4.2 Before opening the vehicle door, ensure that no other vehicle or item of plant is passing.
- 2.4.3 Never leave the vehicle unattended in the Emergency Lane.
- 2.4.4 Always keep a sharp lookout for site vehicles and all operations being carried out by other personnel within the coned-off area.
- 2.4.5 When stationary and unattended in a coned-off area flashing amber beacons should be turned off.

2.5 Leaving the site

- 2.5.1 Check the site exit is clear and only proceed when it is safe to do so.
- 2.5.2 Wait for a suitable gap in the traffic.
- 2.5.3 Build up speed to that of the live traffic and then merge with the live traffic.
- 2.5.4 When leaving from an offside closure take particular care to move over to the left only when the vehicle speed and the traffic flow permit.

2.6 Stopping outside the Works

- 2.6.1 Amber beacons must always be used when stopping on the hard shoulder or adjacent to the nearside verge. When stopped, also switch on the hazard lights of your vehicle. Stop as far from the live carriageway as possible. Dismount from the non- traffic side of your vehicle wherever practicable. Check behind before opening the vehicle door, and securely close the door after leaving the vehicle.
- 2.6.2 Always keep a sharp look out for other vehicles which could drive onto the hard shoulder in error or in an emergency.
- 2.6.3 Do not stop on the hard shoulder opposite a lane 2 and 3 closure, nor unless absolutely necessary opposite a lane 3 closure.
- 2.6.4 When waiting to cross the live carriageway, do not stand by the side of the vehicle adjacent to live traffic. You should stand at the back of the vehicle so that approaching traffic can be clearly seen.
- 2.6.5 Extreme caution should be exercised on dual carriageways where there is no hard shoulder, and it is not possible to get your vehicle completely off the carriageway. Where this is not achievable, the traffic management works vehicle should be afforded impact protection and be fitted with a Light Arrow sign (IPV: see 6.1.5) to act as advance signing or protected by an Impact Protection Vehicle which should be positioned in the centre of the lane to be blocked.

2.7 General

- 2.7.1 Never drink alcohol immediately before or during a work shift. Do not take drugs which may impair your judgement.
- 2.7.2 Always keep a sharp lookout for any vehicles which may drive into the coned-off area in error or in an emergency.
- 2.7.3 Always ensure that your high visibility clothing is in good condition, and is worn in the proper manner. Other personal protective equipment (PPE) should be worn as circumstances dictate.
- 2.7.4 Crossing of live carriageways on foot should be undertaken in accordance with HSE publication “Crossing high-speed roads on foot during temporary traffic management works” Construction Information Sheet 53
- 2.7.5 Never take part in horseplay of any kind.
- 2.7.6 Under no circumstances should unauthorised personnel, particularly children, or pets, be permitted on site.
- 2.7.7 Be aware of and adhere to Site Rules and Regulations imposed by the Principal Contractor.
- 2.7.8 Wherever possible, work facing the traffic.
- 2.7.9 For the purpose of activities involving vehicles, the area within the taper should be treated as a live lane.
- 2.7.10 For your information it takes 6 seconds for a car traveling at 70 mph to cover 200 yds. Safe gaps in the traffic are likely to occur in traffic flows of less than 40 vehicles per minute on three lane carriageways. At least three seconds per lane, or a safe gap of 150m per lane should generally be allowed when estimating crossing times.
- 2.7.11 Traffic management personnel, including agency labour, should have been assessed to ensure that they:-
 - have full use of neck, trunk, arms and legs
 - have at least 6/12 distance vision when wearing glasses or contact lenses
 - have good hearing

• are suitable for this work with a general standard of physical fitness, eyesight and hearing necessary to undertake traffic management work on motorways and high speed dual carriageways and that by means of checks, that safety is not compromised by them suffering from specific conditions, e.g. vertigo and balance disorders, psychotic illnesses, diabetes, cardiovascular and gastrointestinal conditions, sleeping disorders

2.7.12 Industry Best Practice determines that traffic management personnel, including subcontract agency labour, should be tested for drugs and alcohol as a minimum annually with further interim random and causation sampling as applicable

2.7.13 It is further recommended, in addition to topic 2.7.11, that traffic management personnel who operate on high speed roads should undertake a formal medical aligned to “Constructing Better Health” for the UK Construction Industry.

SECTION 3 TRAINING

3.1 Uncertified Traffic Management Operative

- 3.1.1 On commencement of employment, the operative shall undergo a suitable induction process. An uncertified Traffic Management Operative shall at all times be supervised by a trained certified Traffic Management Operative on a one to one basis. This supervision should include practical experience of installing, maintaining and removing traffic management schemes and shall be recorded as part of the training records of an uncertified Traffic Management Operative. Uncertified Traffic Management Operatives shall attend the appropriate NHSS traffic management training course within 6 months of commencing employment.

3.2 Traffic Management Operative

- 3.2.1 A Traffic Management Operative is a person who works under the control of a Traffic Management Foreman and is directly involved with the installation, maintenance or removal of the traffic management measures.
- 3.2.2 Traffic Management Operatives working on motorways and high speed dual carriageways shall have been assessed on the appropriate NHSS training programme/s and have at least three months recorded experience of setting up measures to meet the requirements of the Contract Specification.
- 3.2.3 A Traffic Management Registration Card is issued to operatives who successfully complete an approved training programme as Appendix C of the NHSS document. The Traffic Management Registration Card will define the type of traffic management the holder has been trained to undertake and the degree of responsibility that the holder can normally accept. It shall not be valid for any type of traffic management that is not defined. The card will be valid for a period of 5 years (inclusive of a 6 month renewal period)
- 3.2.4 Traffic Management Operatives who successfully complete the approved training programme shall carry their registration card at all times as identification whenever working on traffic management schemes.

3.3 Foreman

- 3.3.1 The Traffic Management Foreman will be the person named in the Suppliers Quality Plan as having the responsibility, training and experience to control temporary traffic management measures to meet the requirements of the Contract Specification. The Traffic Management Foreman shall be site based and be an active member of the installation/removal team.
- 3.3.2 The Traffic Management Foremen will have been assessed on the appropriate NHSS training programme/s and have at least one year's recorded experience of setting up measures to meet the requirements of the Contract Specification when working on motorways and high speed dual carriageways. He shall control no more than five traffic management operatives. He should carry his registration card at all times as identification whenever working on traffic management schemes.

3.4 Technical Officer

- 3.4.1 The Technical Officer will be the person named in the Suppliers Quality Plan responsible for the establishment, modification and removal of traffic management and implementation of the requirements of the Contract Specification.
- 3.4.2 The Technical Officer will have at least two years recorded experience of the implementation of the requirements of the Contract Specification.

3.5 Management

- 3.5.1 Where appropriate the Manager will be the person named in the Suppliers Quality Plan as having managerial responsibility for the temporary traffic management measures.
- 3.5.2 Managers shall ensure that all the people under their control carry out their duties to the full.
- 3.5.3 They shall have a thorough understanding of Chapter 8 of The Traffic Signs Manual, and all other relevant publications.

3.6 Sub-Contract Labour

- 3.6.1 Sub-contract labour, when utilised, shall be accredited to the appropriate training programme/s. Traffic Management registration cards shall be inspected and suitable induction undergone prior to commencement on site

Although not generally recommended, when uncertified sub-contract labour is utilised, their relevant previous experience, suitability and fitness should be assessed (see 2.7.11) but at no time shall the total combined uncertified traffic management operatives exceed 1 in 4

3.7 Traffic Safety and Control Officer

- 3.7.1 The Traffic Safety and Control Officer, when required under the contract, shall accord with the specific requirements of Appendix 1/17. This individual shall, as a minimum requirement, have the appropriate NHSS TSCO accreditation which
- 3.7.2 includes successful completion of 12A Foreman course & test paper and TSCO course & test paper, possession of 4 day First Aider certificate and recognized Health & Safety qualification (e.g. IOSH or CITB) together with the appropriate demonstrable knowledge and experience in the establishment, maintenance and removal of the relevant traffic management systems. TSCOs will be assisted by similarly experienced deputies as appropriate.
- 3.7.2 On major schemes the TSCO will generally be responsible for, but not limited to:- direct liaison with third parties, including Highway Traffic Officers, Police and other emergency services; incident management including co-ordinating the vehicle recovery facility; roadspace booking and co-ordination with the Highway Authority regarding activation of VMS signing etc; compilation and maintenance of the temporary mandatory speed limit sign log. Some major schemes may specify a requirement for a periodic drive through with an approved vehicle mounted video recording of the speed limit arrangements, for retention by the enforcing authority.

SECTION 4
**ESTABLISHMENT, ALTERATION AND REMOVAL OF
TEMPORARY TRAFFIC MANAGEMENT SYSTEMS**

4.1 Introduction

4.1.1 Most Traffic Management systems installed on Motorways and other principal routes differ from each other to some extent (e.g. Long or Short duration- Standard or Relaxed works). It would therefore not be practical to attempt to describe detailed procedures for each and every installation in this document. However, the following general planning procedures are recommended for major schemes.

4.2 Planning

4.2.1 The Technical Officer will be the person named in the Suppliers Quality Plan responsible for the establishment, modification and removal of traffic management and implementation of the requirements of the Contract Specification, and before commencement of the contract, should check the practicality of the measures proposed by the Traffic Management Designer.

4.2.2 A liaison meeting should always be held prior to the implementation of a Temporary Traffic Management Scheme. The following parties should be adequately represented : Traffic Management Contractor, Technical Officer, Principal Contractor, Project Supervisor, Highways Traffic Officers and/or Police and, if appropriate, Traffic Management Designer.

4.2.3 The start time for operations should be discussed and agreed, with commencement time for the installation of traffic management based on practical constraints (e.g. Peak Traffic Flows) rather than contractual implications (e.g. 00.01 start time).

4.2.4 The inherent problems associated with temporary markings should be addressed and resolved. (refer to The Temporary Road Markings: Working Group Findings)
The traffic management arrangements necessary for the safe installation of contraflow buffer zones on dual 2 lane carriageways without hard shoulders should be determined with consideration to provide TTRO's, where appropriate, to facilitate.....
- Full carriageway closure with signed diversion
- Temporary contraflow (without temporary roadmarkings) on the opposite carriageway
- Convoy working with mandatory 10mph speed limit

4.2.5 The Method Statements for the scheme should be discussed, with particular attention paid to the responsibilities of each party and the implications of inclement weather.

4.2.6 The level of Traffic Officer/Police assistance required should be agreed with contingencies for shift changes, timing alterations and channels of communication. The specific method by which assistance will be given must be agreed.

4.2.7 It is likely that equipment will be pre-placed in advance of the Contract Commencement time, including erection of WBM Signs. This equipment should be located, in the verge or central reservation, behind safety barriers wherever possible and secured or weighted with sandbags as appropriate. Where sign faces are erected they must be hinged closed or securely covered with non-translucent material.

4.3 Procedures

4.3.1 Traffic Management operations should always be carried out in the sequence and as detailed in the previously approved method statement.

4.3.2 Traffic Management equipment requiring placement in the central reservation should be selected to be as light as practicable to facilitate one person moving it across the carriageway with quickfit type signs being separated from the frame and into their component parts.

The practice of two people tandem lifting and carrying equipment across the carriageway should be avoided where possible.

When crossing the carriageway signs and equipment should be carried so that they present the minimum resistance to the wind and do not face the oncoming traffic nor obscure the high visibility clothing worn.

- 4.3.3. The installation of coning to offside lane tapers requires careful consideration. The system adopted can vary in suitability depending on several factors:

Timing of required installation (i.e. daytime or night-time off-peak).

Road type - dual 2,3,4 lane motorway or dual carriageway, without hardshoulder etc.

Physical constraints – identified safe taper locations, sightlines, visibility, location of slip roads etc and prevalent weather conditions.

Knowledge of site specific traffic behavior.

In all cases a risk assessment should be undertaken to determine the most appropriate method and whilst all techniques cannot be comprehensively described, the most universally used are:

Traffic Officer or police assisting with "rolling block" - it should be recognised that although this facility is desirable, it is not always available.

Pre-setting of taper equipment in the central reservation in advance to be "walked out" in position when required.

Placement of coned taper equipment utilising a traffic management works vehicle located in the centre of the offside lane which is afforded impact protection and fitted with a Light Arrow sign (see 6.1.5).

All the above techniques require the advance lane closure signing to be erected prior to installation and recommend the support of VMS or Matrix signs if available.

- 4.3.4 Whilst Chapter 8 states that TM should generally be installed & removed as per Para O3.8.4. it is accepted that hard shoulder closures may be removed WITH the flow of traffic.

- 4.3.5 Whilst longitudinal coning may be placed directly from a traffic management vehicle, it should be uplifted using a low level working platform within the normal width of the vehicle (e.g. tail lift or well)

- 4.3.6 It is recommended that safety zone delineation to define the lateral clearance should only be required at works areas with pedestrian activity in the form of a second row of cones, with conspicuously coloured (e.g. yellow/orange) rope, with suitable break points at circa 50 metre intervals, or suitably supported traffic tape installed generally only for Standard (long duration works) but not in Relaxed or off-peak situations.

- 4.3.7 Where temporary vehicle restraint safety barriers are provided as part of the traffic management system, consideration needs to be given early in the design process to ensure they can be installed and removed safely especially on 2 lane dual carriageways without hardshoulders as specific Temporary Traffic Regulation Orders maybe necessary.

- 4.3.8 Where Contracts require the provision of protection to the recovery of broken down vehicles within live lanes, this function should be provided either by The Traffic Officer Service or Police or where specified, by the Recovery Vehicle Organisation in the form of a Recovery

Industry Protection Vehicle (IPV topic 6.1.5) with an appropriately trained and accredited driver as detailed in NHSS 17. Unless appropriately qualified as an IPV driver in accordance with NHSS 12A/B or 12C, the Recovery Industry Protection Vehicle Operative is not deemed competent to undertake 12A/B or 12C traffic management activities.

SECTION 5
MAINTENANCE OF ROADWORKS

5.1 General Procedures

- 5.1.1 On major schemes in accordance with the NHSS 12A, e.g. contraflows on motorways, a maintenance team should consist of a minimum of 2 men per shift with a suitable vehicle.
- 5.1.2 Patrols of the site should take place at intervals dictated by traffic flows, frequency of equipment displacement, weather and contract requirements, but at least every 4 hours.
- 5.1.3 Routine maintenance of equipment should be carried out during off peak traffic flows.
- 5.1.4 Emergency maintenance should be carried out as soon as practicable and if possible with the protection of Traffic Officer or Police cover.
- 5.1.5 When maintenance work involves working against live traffic, one member of the team should remain on lookout whilst the other member carries out the work.
- 5.1.6 Certificates/reports, signed by the Traffic Management Foreman or Technical Officer, shall be retained, and submitted to the client if required, for the installation, maintenance (daily) and removal of the traffic management measures.

5.2 Maintenance of Equipment

- 5.2.1 Sufficient spare equipment should be kept on site to enable routine maintenance work to be carried out, and to permit reasonable reinstatement of any section damaged by vehicle impact. Foremen are responsible for reporting any deficiencies in spare equipment
- 5.2.2 Suitable cleaning materials should be kept on site for cleaning of lamps, cones, cylinders, signs and lighting.
- 5.2.3 All Traffic Management debris should be cleared from the site on a daily basis. Any debris which may cause a hazard which cannot be removed because of traffic flows should be reported to the Traffic Officers or Police.
- 5.2.4 If cones are washed in situ, they should be pulled back at least 2 metres, from their permanent position before being cleaned.

5.3 Accidents

- 5.3.1 In the event of an accident no attempt should be made to rectify the site until Traffic Officer or police permission has been given unless it is absolutely necessary to prevent further accidents.
- 5.3.2 The operatives should take all instructions firstly from the Traffic Officers/Police and secondly from the engineer.
- 5.3.3 When instructed to do so, the operatives should restore the site to its previous condition or at least to safe running until more substantial repairs can be effected.

5.4 Inclement Weather

- 5.4.1 In the event of very severe weather conditions priority must be given to the advance signing within the lane change zone. Operations should not be carried out on the live carriageway unless Traffic Officer or Police assistance is available as appropriate

SECTION 6
TRAFFIC MANAGEMENT VEHICLES

6.1 General

6.1.1 It is recognised that traffic management operations, especially on high speed dual carriageways and motorways, require specially designed and adapted vehicles - standard production vehicles as delivered are not suitable.

6.1.2 All vehicles should be painted in a light or conspicuous colour (white or yellow), marked to be easily distinguishable from other vehicles and display a minimum 140mm high "MOTORWAY MAINTENANCE" or "HIGHWAY MAINTENANCE" sign to diag 7404 to the rear.

All vehicles should have a front mounted twin amber light bar (visible 360°) with a minimum of two independent light sources and rear mounted amber flashing beacons (visible 360°). Vehicles should always be fitted with a rotatable white spotlight to illuminate the back of the vehicle and/or adjacent work area during hours of darkness, but with care taken to avoid dazzle or distraction to other road users.

All vehicles should have class 2 to BS EN 12889-1 or microprismatic reflective markings on the rear tailboard, high visibility strips along the side, reversing bleeper and cctv for rearward vision but the use of towed sign/cone trailers and the like is not recommended.

6.1.3 Vehicles for "maintenance and surveillance" of static traffic management systems should be capable of transporting signs, cones and ancillary equipment but small enough to be manoeuvrable around site 2t to 3.4t gross vehicle weight pick-up type vehicles being suitable. The general requirements for this type of traffic management vehicle are:-

- Conspicuous colour (yellow/white)
- 140mm "HIGHWAY/MOTORWAY MAINTENANCE" sign (externally on rear of vehicle)
- Class 2/microprismatic reflective markings on rear of vehicle
- All seats must be fitted with head restraints and 3 point inertia reel belts
- Working light/s
- Reversing bleeper and cctv for rearward vision
- Front mounted twin amber light bar (visible 360°) and rear mounted amber flashing beacons (visible 360°)
- Company/client livery on side of vehicle
- High visibility strip along side of vehicle

6.1.4 Vehicles involved in setting up and removal of signing and coning for traffic management systems which involve closing a live lane should be drop-sided flatbed vehicles in the range 7.3t to 17t gross vehicle weight. The general requirements for this type of traffic management vehicle are:-

- Conspicuous colour (yellow/white)
- 140mm "HIGHWAY/MOTORWAY MAINTENANCE" (externally on rear of vehicle)
- Class 2/microprismatic reflective markings on rear of vehicle
- All seats must be fitted with head restraints and 3 point inertia reel belts
- Working light/s
- Reversing bleeper and cctv for rearward vision
- Front roof mounted twin amber light bar (visible 360°) and rear mounted amber flashing beacons (visible 360°)
- Company/client livery on side of vehicle
- High visibility strip along side of vehicle
- Special adaption to provide a low level working platform with a guard rail arrangement within the normal width of the vehicle (e.g. tail lift or lifting well)
- Driver/operative communication system

6.1.5 Vehicles which are required to block a live lane are termed “Impact Protection Vehicles”. This vehicle can also be used for setting up and removal of signing and coning operations similar to the vehicle in topic 6.1.4 providing it is fitted with a lifting well. The standard requirements for this type of traffic management vehicle are:-

- Conspicuous colour (yellow/white)
- 10 tonne minimum on the road weight
- Lorry Mounted Crash Cushion (LMCC)
- Automatic brake activation system
- Signing equipment in accordance with Departmental Standard TD49
- Light Arrow Sign
- 140mm “HIGHWAY/MOTORWAY MAINTENANCE sign (externally on rear of vehicle)
- Reversing bleeper and cctv for rearward vision
- Class 2/microprismatic reflective markings on the rear of the vehicle when LMCC is in up position
- Front mounted twin amber light bar, rear mounted amber flashing beacons visible when the cushion and the light arrow are in the stowed position
- All seats fitted with head restraints and 3 point harness