

Interim Advice Note 115/08

**Guidance for Works on the
Hard Shoulder and Road Side
Verges on High Speed Dual
Carriageways**

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Endorsements

All major elements of the highway industry, including Highway Authorities, Contractors, maintenance agents, health and safety practitioners and enforcers were represented on the group which produced this document. The organisations on the group were:



Association for Consultancy and Engineering



Quarry Products Association



County Surveyors Society



SURVIVE



Highways Agency



Traffic Management Contractors Association



Health & Safety Executive



Transport Scotland



Highways Term Maintenance Association



Llywodraeth Cynulliad Cymru
Welsh Assembly Government
Welsh Assembly Government

GUIDANCE FOR WORKS ON THE HARD SHOULDER AND ROAD SIDE VERGES ON HIGH SPEED DUAL CARRIAGEWAYS

Introduction

This guidance has been written to give advice on safe methods of working practice for works undertaken on the hard shoulders and road side verges on high speed dual carriageways. This guidance builds upon the requirements given in Chapter 8, in particular to those sections dealing with works undertaken in the verge and the hard shoulder, such as single vehicle works and inspections stops, reference D3.31 and O8 and safety clearances reference D3.2 and O3.2. It will be reviewed regularly to maintain the currency of its advice.

Works on the hard shoulder and road side verges on high speed roads is hazardous. The selection of the actual method of work should be made by a competent organisation and should reflect the risks and location specific circumstances of the planned work.

The guidance provided relates primarily to High Speed Roads but can equally be transferred to lower speed roads where similar principles can be applied.

The guidance provided relates to works, inspection stops and breakdown and vehicle recovery. The guidance does not relate to incident management or the operational procedures applied to the Highways Agency Traffic Officer Service or the emergency services.

The deployment and removal of temporary traffic management shall follow the guidance offered in the documents of Chapter 8 and Guidance for Safer Temporary Traffic Management ¹ and any other associated guidance documents. It is the intent that the guidance given in this document will be included within future revisions of Chapter 8.

The planning of such operations should consider:

RISK ELIMINATION - Seek to eliminate potential conflicts

However, where it is not possible to eliminate the risk, then:

RISK REDUCTION AND CONTROL - Seek to control potential conflicts

Set out below are a series of good working practice guidelines which are derived from the application of the concept of elimination and reduction and control of risk from works undertaken on the hard shoulder and road side verges on high speed dual carriageways.

¹ HSE/HA/CSS(2002). Guidance for Safer Temporary Traffic Management.

Definitions

Verge:

The verge is the area situated between the earth works slope or highway boundary and either the back of the hard shoulder or the edge of the carriageway.

Hard Shoulder:

The hard shoulder is the area provided adjacent to the near side of the carriageway to offer a place for vehicles to stop in emergencies clear of main line traffic.

Live lane:

A traffic lane that does not form part of the works area or safety zone. Unless signing advises to the contrary, the hard shoulder should not be classified as a live lane.

High speed dual carriageway:

A dual carriageway road which is subject to a permanent speed limit of 50mph or more.

Short, medium and long duration stops on the hard shoulder:

The following definitions include any work activity or any vehicle parked on or encroaching on the hard shoulder.

- Short duration; up to 15 minutes
- Medium duration; up to 90 minutes
- Long duration; over 90 minutes

Stops on the verge:

The following definitions include any work activity or any vehicle parked on the verge.

- Short duration; up to 15 minutes
- All others; over 15 minutes

Planning Issues

Good planning is a key component for safe operations when working on the hard shoulder and verges, see document "Guidance for Safer Temporary Traffic Management", and should include the following considerations.

- P(1)** Information that helps to ensure the safety of those involved with the activity must be provided for the organisation undertaking the works. Examples relating to highway features and traffic could include:
- narrow and discontinuous hard shoulders
 - VMS signs and/or matrix signals
 - roadside furniture
 - specific locations with provision for stationary vehicle(s) off carriageway, (i.e. safe pull off areas)
 - traffic data
 - any relevant information relating to the verge and any boundaries
- P(2)** Those responsible for planning and undertaking the works must ensure that suitable and sufficient risk assessments are undertaken. The assessment process should consider whether the site or location is better accessed without the need to stop on the hard shoulder or verge. The assessment should also include, but may not be limited to, an evaluation of the degree of risk, time of exposure to risk and ways of eliminating or minimising risk.
- P(3)** Consideration should be given at an early stage to determine the scope, nature and duration of the works to be undertaken and the type of traffic management applicable i.e.

Hard Shoulder

- Short duration stops
- Medium duration stops
- Long duration stops

Verges on roads with or without hard shoulders

- Short duration stops
- Medium and long duration stops

- P(4)** Vehicles shall be parked on the hard shoulder or verge to maximise the lateral clearance between the vehicle and the trafficked carriageway. Where practicable the verge should be used to maximise this clearance. Chapter 8, Paragraphs D3.2 and O3.2 Safety Clearances, provide details of the safety zone or minimum lateral clearance required within traffic management and the objective shall be to achieve these clearances where practicable.

During short and medium duration stops, parked vehicles provide a degree of protection to the work force, and if parked on the hard shoulder or verge should be positioned to provide an absolute minimum lateral clearance of 0.5m between the nearest parts of the works vehicle and the edge of the trafficked carriageway. If an adequate lateral clearance cannot be achieved then other traffic management measures will be required.

- P(5)** The signing and coning for medium duration stops (as defined in Figs 1 and 2) are intended to provide advance warning to oncoming vehicles of activities in the verge or hard shoulder and as such do not provide formally designated work areas or safety zones. For long duration stops on the hard shoulder, the closure of the hard shoulder shall be in accordance with Chapter 8.
- P(6)** For mobile works on the verge, such as walk through surveys and litter picking, a separation distance of 1.2m shall be maintained between personnel and nearest live traffic lane. The risks involved in such work shall be assessed, and consideration given to providing lane closures, protection of a block vehicle in the hard shoulder (Chapter 8 Plan MLC6), coning along the edge of the verge or other protective measures.
- P(7)** During vehicle procurement, the need for vehicles to facilitate easy movement from the offside seat to nearside door and vice versa should be one of the considerations.
- P(8)** Additional requirements specific to the recovery or repair of broken down vehicles are given in the Section "Vehicle Breakdown and Recovery".
- P(9)** The number of vehicles stopping/attending the site or location shall be kept to a minimum.

Vehicle Issues

- V(1)** Any vehicle undertaking short, medium or long duration stops shall comply with the requirements for vehicles in accordance with Chapter 8. In summary the minimum requirements are that the vehicle is a conspicuous colour, has high visibility rear markings, has two roof-mounted amber beacons or a light bar comprising at least two independent light sources (visible 360°) and has a “Highway Maintenance” sign to diagram 7404 externally mounted on the rear of the vehicle.
- V(2)** Chapter 8 paragraphs D3.2, O7.2.74 and O8.3 provide details and procedures for stopping on the highway. The conspicuity of the parked vehicle will offer some protection to the area where there are people and works are being undertaken during short and medium duration stops. Subject to suitable site specific risk assessment vehicles should be parked at least 18m but no more than 50m upstream of the works area. Chapter 8 paragraph O7.2.73 provides details regarding the orientation of parked vehicles.
- V(3)** Vehicles should face in the direction of the traffic flow at all times.
- V(4)** Use of beacons;
- Beacons shall be in use when entering, leaving or moving on the hard shoulder or verge, or travelling in traffic at less than the general speed of the traffic when approaching or leaving the site.
 - When stationary on the hard shoulder or verge the following apply;
 - Short duration stops – the beacon remains on at all times.
 - Medium duration stops – the beacon is switched off once Fig 1 traffic management is in place.
 - Long duration stops – the beacon is switched off when stationary.
- V(5)** The conspicuity of vehicles shall be maintained at all times. For example by:
- Placing retro reflective tape on rear facing edges
 - Duplication of lighting clusters and beacons where standard lighting is obscured
 - Ensuring the cleanliness of conspicuity markings and lights
- V(6)** Breakdown and recovery vehicles shall comply with the requirements of PAS 43:2006 and where appropriate Sector Scheme 17 – Sector Scheme for Vehicle Recovery at Highway Construction Sites.

Personnel Issues

- PI(1)** Personnel should be assessed to ensure that they:
- have appropriate use of neck, trunk, arms and legs;
 - are capable of giving, receiving, understanding and acting upon instructions;
 - are capable of reading a vehicle registration (number) plate at a distance of 20.5 metres (when wearing glasses or contact lenses if required);
 - have good hearing;
 - are suitable for the work required, and that, safety is not compromised by them suffering from specific conditions or illnesses;
 - are not adversely affected by the taking of medication or prescribed drugs.
- PI(2)** Organisations should adopt policies regarding the inappropriate use of medication, drugs and alcohol. They should consider adopting an alcohol policy which reflects the Transport and Works Act of 1992 which gives a maximum alcohol content of:
- (a) 35 microgrammes of alcohol in 100 millilitres of breath,
 - (b) 80 milligrammes of alcohol in 100 millilitres of blood, or
 - (c) 107 milligrammes of alcohol in 100 millilitres of urine.
- PI(3)** Personnel shall wear, as a minimum, a high visibility jacket to BS EN 471, Table 1: Class 3. In addition, the use of high visibility trousers should be considered in accordance with the requirements of Chapter 8.
- PI(4)** Personnel should work facing oncoming traffic, wherever practicable.
- PI(5)** Personnel who are required to install or remove medium duration stop traffic management to Figure 1 or Figure 2 shall possess the appropriate level of competence and understanding of the signing requirements. Chapter 8 Paragraph O6.2 provides details of appropriate standards of training.
- PI(6)** Personnel shall consider their own, and other people's safety when working on elevated sections of motorways or dual carriageways or in areas where the hard shoulder or grass verge is narrower than usual.
- PI(7)** Personnel shall endeavour to access and/or egress vehicles from the side of the vehicle that presents the least risk and shall wear the appropriate PPE as described in PI(3) when they alight from the vehicle.
- PI(8)** In addition, wherever practicable, the loading and unloading of tools and equipment should not be undertaken from the live traffic side of the vehicle.

Traffic Management Issues

TMI(1) Traffic management shall be provided in accordance with the following:

- Short duration stops within the hard shoulder do not require advance warning signs or temporary traffic management.
- Medium duration stops within the hard shoulder require temporary traffic management as shown in Fig 1.
- Long duration stops within the hard shoulder require a hard shoulder closure in accordance with Chapter 8 ref Design Document Section 6.9
- Stops within the verge on roads with or without a hard shoulder provided adequate lateral clearances can be maintained require:
 - For short duration stops - no advance warning signs or temporary traffic management.
 - For medium and long duration stops - temporary traffic management to Fig 2.

TMI(2) All temporary traffic management equipment shall be clean and fit for the purpose on initial deployment and be regularly maintained in such condition until completion of the work.

TMI(3) For the ease of transportation, the use of collapsible signs and cones for medium duration stops should be considered.

TMI(4) Measures must be taken to stabilise traffic signs/frames, with ballast in the form of sacks containing fine granular material, or to otherwise secure them to permanent fixtures.

TMI(5) Cone bases, sign plates and frames should be marked to facilitate identification of ownership.

TMI(6) Placement of vehicles in the hard shoulder or verge should avoid restricting the sightlines of passing vehicles.

Breakdown and vehicle recovery

In addition to the hard shoulder and verge being used for maintenance works, the hard shoulder is also used for the repair or recovery of broken down vehicles. This section identifies some of the issues to be considered for breakdown and vehicle recovery. It is recommended that breakdown / recovery personnel carry out their duties in accordance with the requirements of

- PAS 43:2008 (and any subsequent updated versions)
- 'Best Practice' Guidelines for dealing with Breakdowns / Removals on Motorways and High Speed Dual Carriageways, which has been produced by SURVIVE. Copies of this document can be obtained from the SURVIVE website -www.survivegroup.org.

Reference should also be made to the requirements of

- National Highway Sector Scheme 17 – Sector Scheme for Vehicle Recovery at Highway Construction Sites. (This recognises that the free recovery service provided at some highway construction sites do not repair vehicles in situ).
- National Highway Sector Scheme 17B – Sector Scheme for Vehicle Recovery on Controlled Roads.

BVR(1) In order to minimise the risk, either the vehicle shall be repaired or the vehicle and all the occupants removed from the scene, whichever is the quickest.

BVR(2) If repair or recovery is expected to take more than 15 minutes and advance warning equipment i.e. cones or signs, are already carried on the breakdown/recovery vehicle, then this shall be deployed to help provide protection to the scene.

When traffic protection equipment is not available and the breakdown / recovery operator, having carried out a risk assessment, considers that additional protection is required at the scene, then they should request assistance from the Highways Agency Traffic Officers or the Police as appropriate. This may take the form of attendance by Traffic Officer or the Police or by the MAC Service Provider arranging for suitable temporary signing measures to be provided. Where immediate assistance is not available in such instances, then the breakdown / recovery operator should consider removing the vehicle occupants from the scene to a safer place.

BVR(3) Breakdown/recovery vehicle personnel shall ensure that when either repairing a vehicle or attaching recovery equipment, that they avoid or minimise the time that they are working either near a live lane or between any two vehicles. Wherever possible they shall work in a position where they can observe oncoming traffic and be vigilant at all times.

BVR(4) Breakdown/recovery vehicle personnel shall assess the safety of all persons present at the scene of a breakdown or recovery and advise them to stand in a place of relative safety, wherever possible away from their vehicle and moving traffic and behind the safety barrier if one is present and it is safe to do so e.g. not on elevated sections of motorways.

Reference

Safety at Street Works and Road Works – a Code of Practice (the Red Book)

Chapter 8 of the Traffic Signs Manual 2006 (Chapter 8).

HSE/HA/CSS(2002). Guidance for Safer Temporary Traffic Management. Available on the Highways Agency website (www.highways.gov.uk). Hard copies available from TRL Ltd., Crowthorne.

Temporary Traffic Management on High Speed Roads – Good Working Practice.

PAS 43: 2008 Safe Working of vehicle breakdown recovery and removal operations - Management system specification. ICS 03.100.30; 43.160 Published by BSI (ISBN 978 0 580 61901 4).

National Highway Sector Scheme 12A and 12B Sector Scheme Document for Static temporary traffic management on motorways and high speed dual carriageways including on line widening schemes.

National Highway Sector Scheme 12C - Sector Scheme Document for Mobile Lane Closure Traffic Management on Motorways and Other Dual Carriageways.

National Highway Sector Scheme 12D - Sector Scheme Document for installing maintaining and removing temporary traffic management on rural and urban roads.

National Highway Sector Scheme 17 - Sector Scheme for Vehicle Recovery at Highway Construction Sites.

National Highway Sector Scheme 17B - Sector Scheme for Vehicle Recovery on Controlled Roads.

Crossing high-speed roads on foot during temporary traffic management works – HSE Construction Information Sheet No 53.

“The Traffic Signs” (Temporary Obstructions) Regulations 1997.

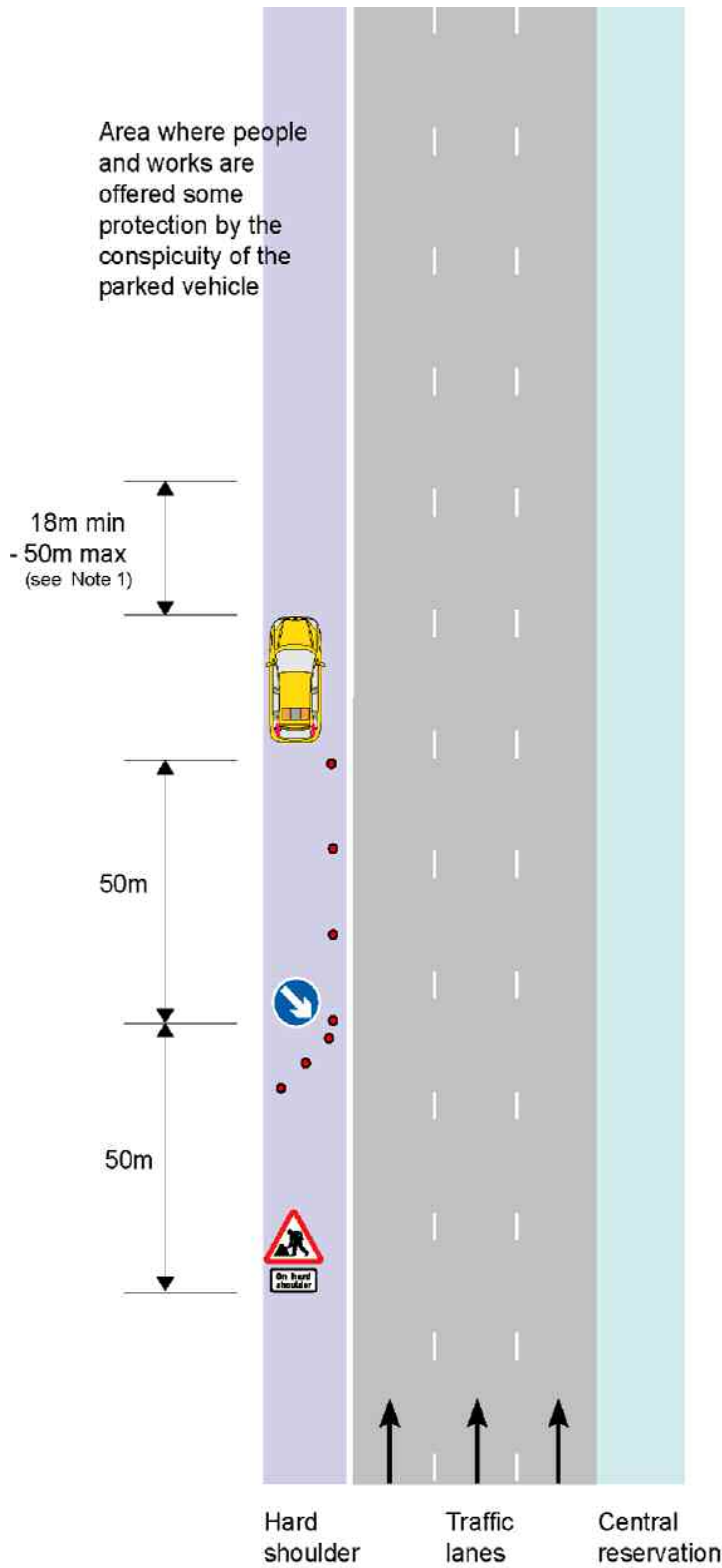


Figure 1

Medium duration stops on motorways and high speed roads with hard shoulders

Notes:

- 1) This distance should be determined by a site specific risk assessment. See paragraph V(2)
- 2) Sign and cone size as recommended in Chapter 8
- 3) Longitudinal cone spacing: 18m

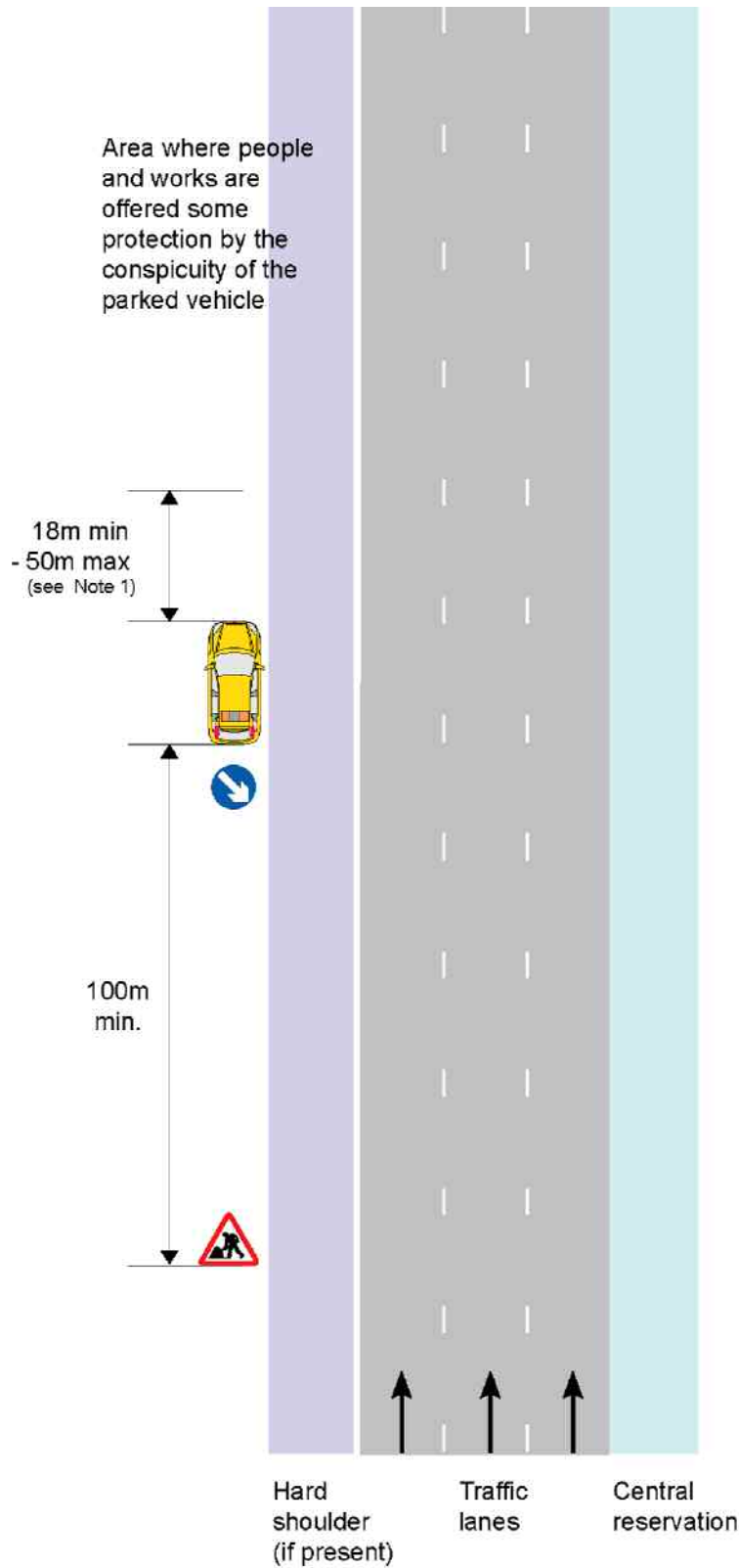


Figure 2

Verge working on motorways and high speed roads
with or without hard shoulders

Notes:

- 1) This distance should be determined by a site specific risk assessment. See paragraph V(2)
- 2) Minimum sign height: 750mm