



Crossing high-speed roads on foot during temporary traffic-management works

Construction Information Sheet No 53

Introduction

This information sheet provides advice on health and safety issues where traffic-management workers cross on foot the carriageways of high-speed roads which are open to traffic. The health and safety criteria detailed should be met before crossing the carriageway on foot is used as a system of work, except in emergency situations.

The guidance is aimed at clients, designers, contractors and workers involved in roadworks on motorways and high-speed dual carriageways (50 mph or greater). It applies to works connected with establishing, maintaining and removing temporary static traffic management arrangements. The guidance results from consultations with industry representatives, including the Association of Chief Police Officers (ACPO), Highways Agency (HA) and the Traffic Management Contractors Association (TMCA).

What the law requires

All work associated with establishing, altering, maintaining and removing static traffic management systems needs to be undertaken in ways which ensure the health and safety of both workers and road users. Clients and their agents, designers, contractors and workers need to ensure that they comply with their duties under occupational health and safety law. This requires that duty holders assess work-related risks and eliminate or control significant risks, so far as is reasonably practicable.

Clients need to ensure that they appoint competent designers and contractors and that they provide sufficient information, time and resources to enable the works to be planned and executed safely. Competence can be judged on the basis of the appointee's relevant experience, skills, knowledge and adequacy of their safety management systems. The performance of appointees should be monitored and reviewed as part of the project safety management system.

Designers and contractors should assess the risks involved in their projects to identify the systems of work which present the lowest risks to workers and road users, for each activity, in each specific road environment.

Operatives must receive relevant training to ensure they are competent to perform their assigned tasks and be provided with appropriate equipment. They should follow safe systems of work and refrain from taking shortcuts.

Design and planning

Designers of roadworks need to ensure that the risks associated with the installation, alteration and removal of the temporary traffic management aspects of their designs are assessed and where reasonably practicable, are eliminated or reduced. Any remaining significant risks should be highlighted and subsequently controlled by the careful planning and management of the works.

Chapter 8 of the *Traffic signs manual* provides information on the design standards for temporary traffic management arrangements. Local conditions may dictate the need for higher standards to be employed to reduce risks to workers and road users. Close liaison with the police should take place early in the design process, particularly in situations which are high risk or are not covered in Chapter 8.

Those with responsibilities for designing and planning roadworks and traffic management schemes on high-speed roads, should:

- ensure that temporary traffic management layouts start in safe locations by avoiding hazardous positions, eg close to a bend, slip road, junction or the brow of a hill;
- ensure there is a minimum clearance space of 1.2 m between the edge marking of the carriageway and the safety fence in the central reserve at locations where workers are expected to position signs, etc;
- consider specifying the use of remotely-operated roadwork signs in high-risk situations, such as tidal contraflows;
- consider the installation of permanent sign support brackets or remotely-operated signs in locations where there are frequent works;
- consider alternatives to the use of liquid petroleum gas (LPG) for lighting signs to remove the risks from manual handling and explosion of LPG cylinders;
- before work begins, hold planning meetings with the traffic management contractor, main contractor, resident engineer, police and highway authority to determine appropriate systems of work for projects (eg the use of variable message signs (VMS), speed cameras, emergency procedures, etc).

Systems of work should not rely on workers crossing the

carriageway unless there are:

- adequate sight lines;
- traffic flows that generate suitable gaps;
- no more than four continuous lanes to cross (including slip roads); and
- a central reserve that provides a safe place to conduct work.

If these criteria cannot be met, other methods of work need to be considered.

Crossing the carriageway on foot should only be considered as a system of work when suitable gaps in which to cross are regularly generated (see section on *Safe crossing*). Traffic flows should be assessed at the design and planning stage, and before beginning temporary traffic management works to ensure flows are appropriate for the system of work employed. Local conditions should be taken into consideration if they affect the generation of safe gaps in the traffic, eg significant gradients.

Health assessments

Traffic management workers require good standards of physical fitness, eyesight and hearing. Their health should be assessed before they are assigned to traffic management activities. Health assessments should ensure that workers:

- have full use of neck, trunk and legs;
- have at least 6/12 distance vision when wearing glasses or contact lenses;
- have good hearing;
- are suitable for this work if they suffer from specific conditions, eg vertigo and balance disorders, psychotic illnesses, diabetes, cardiovascular and gastrointestinal conditions, and sleeping disorders;
- are not taking inappropriate medication, illegal drugs, or excessive amounts of alcohol.

Training

All operatives must receive appropriate training to allow them to carry out their work safely. Training should be given on safe systems of work and the relevant legal requirements. Appropriate training will usually consist of off-site induction and health and safety instruction, as well as on-site practical training. The County Surveyors Society, HA and TMCA have jointly developed a national training and registration scheme for workers and supervisors involved in traffic management on high-speed roads. This competency-based scheme involves accreditation, the issue of identity cards and a training log book.

Personal protective equipment (PPE)

High-visibility garments (jackets with sleeves to BS EN 471: 1994, Table 1: Class 3) and non-slip soled footwear with toe-caps (to BS EN 345: Part 1 1993) should be worn when working on or near live high-speed roads. High-visibility clothing should be maintained in a clean state and should not be covered or obscured during work.

Advance signing

Advance signing is important in alerting drivers to the presence of workers crossing the carriageway on foot, particularly on motorways. Position sign NP7015.1 'Workforce in road slow' on the near side of the carriageway, in advance of the first crossing point. Remove this sign as soon as the works involving people crossing the carriageway are complete.

Safe crossing

Crossing the carriageway on foot should only be undertaken at times when traffic flows are low enough to regularly produce sufficient gaps between vehicles to allow time for workers to cross safely. Workers should not be expected to wait for longer than 5 minutes before a safe gap occurs in the traffic.

When estimating how long it will take to cross and judging what is a safe gap in the traffic, use the following two rules:

- allow at least 3 seconds per lane when estimating crossing times, eg at least 9 seconds for crossing three lanes;
- to estimate the length of a safe gap in metres, multiply the number of lanes to be crossed by 150.

Allow more time to cross in poor weather and when carrying loads. Allow greater distances when judging safe gaps at night and where traffic speeds and/or crossing times are high.

When crossing the carriageway on foot operatives must be able to estimate the distance of approaching vehicles. Distances can be estimated by counting marker posts, lamp posts, or by other effective means. When crossing the live carriageway of high-speed roads, ensure that you:

- are wearing appropriate PPE;
- can see and be seen by the oncoming traffic;
- can estimate appropriate safe gaps in the traffic;
- stand 1.2 m back from the edge of the live carriageway before setting off;
- set off only when a safe gap is present in the traffic;
- walk straight across the carriageway;
- avoid running or zig zagging between lanes;

- avoid cats eyes and other tripping hazards;
- carry signs and equipment in a way which minimises the risk of dropping them, including reducing their resistance to the wind;
- avoid displaying the front of signs to oncoming traffic,
- do not obscure your high-visibility clothing;
- move to a position of safety after crossing at least 1.2 m from the live carriageway or protected by safety fences or cones;
- take care when moving equipment so as not to endanger yourself or road users.

Items of equipment carried to the central reserve should be small and light enough to enable one person to move them. Tandem lifting should be avoided as far as is reasonably practicable. Secure light items to resist the wind.

Managers and supervisors should judge whether or not to start work when poor weather conditions are forecast. If weather conditions deteriorate while work is in progress, the supervisor on site should decide on whether to stop working or not.

Hours of work

The Working Time Regulations 1998 limit working hours to 48 per week, including overtime averaged over a 17- or 52-week period. However, workers can elect not to be bound by the 48-hour limit. Night workers (ie those regularly working between 11 pm and 6 am unless specified elsewhere in a written agreement) who are involved in hazardous, heavy or stressful work should not work more than 8 hours in any 24-hour period, averaged over 17 weeks. Workers are also entitled to daily and weekly rest periods and paid annual leave. Further information regarding leave and rest entitlements are available from your local ACAS public enquiry point.

Reporting accidents

The police investigate road traffic accidents at road works. HSE has responsibilities where an accident on or near a road is connected with construction work activities associated with the road. People with the duty of reporting accidents under RIDDOR 1995 should be aware that an accident may be reportable both as an RTA (police) and as a RIDDOR (HSE) accident.

Legislation

Construction (Design and Management) Regulations 1994
 Construction (Health, Safety and Welfare) Regulations 1996
 Health and Safety at Work etc Act 1974

Health and Safety (Consultation with Employees) Regulations 1996
 Management of Health and Safety at Work Regulations 1999
 Personal Protective Equipment Regulations 1992.
 Provision and Use of Work Equipment Regulations 1998
 Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995
 Traffic Signs Regulations and General Directions 1994 (as amended)
 Working Time Regulations 1998

References

Specification. Part 1 Basic and additional requirements for safety footwear fitted with toe-caps designed to give protection against impact when tested at an energy level of 200 J BS EN 345: Part 1 1993 ISBN 0 580 21091 X

Specification for high-visibility warning clothing BS EN 471: 1994 ISBN 0 580 22399 X

Traffic signs manual Chapter 8 'Traffic safety measures and signs for road works and temporary situations' Department of Transport/Scottish Office/Welsh Office/Department of Environment for Northern Ireland 1991 ISBN 0 11 550937 2

Further reading

Notes for guidance on safety at roadworks Third edition County Surveyors Society/Department of Transport 1994 (New edition in production from County Surveyors Society/Highways Agency).

Planning for safety: Guidance notes for the health and safety of workers at in-service motorway roadworks sites Department of Transport/FCEC 1992

Guide to the Working Time Regulations Department of Trade and Industry 1998 (DTI enquiries line: 08456 000925 or www.dti.gov.uk)

Design manual for roads and bridges (DMRB): 'Road safety audits' HD19/94, Vol 5, Section 2 Highways Agency 1994 ISBN 0 11 551208

Design manual for roads and bridges (DMRB): 'Road safety audits' HA42/94, Vol 5, Section 2 Highways Agency 1994 ISBN 0 11 551281 0

Design manual for roads and bridges (DMRB): 'Narrow lanes and tidal flow operations at road works on motorways and dual carriageway trunk roads with full-width hard shoulders' TA64/94, Vol 8, Section 4 Highways Agency 1994 ISBN 0 11 551607 7
Design manual for roads and bridges (DMRB): 'Mobile

lane closures' TD49/97, Vol 8, Section 4 Highways
Agency 1997 ISBN 0 11 551904 1

*Design manual for roads and bridges (DMRB): 'Convoy
working'* TA63/97, Vol 8, Section 4 Highways Agency
1997 ISBN 0 11 551921 1

Guidelines for the safety audit of highways Institution of
Highways and Transportation 1994

*Notes for guidance for static temporary traffic
management on motorways and high speed dual
carriageways* Traffic Management Contractors
Association 2000

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accuracy of the references listed in this publication, their
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