

INTERIM ADVICE NOTE 150/11

Temporary Traffic Management Signing: Simplification of lane change zone signing for relaxation schemes

Summary

Guidance to those planning traffic management on omission of certain temporary signs in the lane change zone at road works where relaxations apply.

Instructions for Use

This guidance is supplementary to (but does not replace any elements of) the existing guidance given in DfT Traffic Signs Manual – Chapter 8 (2009 Revision).

Executive Summary

The Highways Agency (HA) has set out its vision for improving road worker safety, seeking to reduce the risk exposure and to eliminate fatalities and injuries to personnel undertaking road works for the HA.

Research and trials by the Highways Agency has shown that some temporary traffic management (TTM) signs in the lane change zone may be safely omitted from relaxation scheme¹ traffic management without any identifiable change in road user behaviour. By reducing the number of signs, the time spent on-road and the number of live lane crossings by the HA supply chain operatives is reduced. This significantly reduces road worker risk from manual handling operations and crossing the live carriageway without adversely affecting road user safety.

This IAN forms guidance to the supply chain and gives the supply chain the option to vary from the relaxation scheme provision for the lane change zone as set out in guidance provided in the DfT Traffic Signs Manual (TSM) Chapter 8. Adoption of this guidance is not mandatory and it represents an alternative approach to providing lane change zone signing that may be used in place of that shown in the TSM Chapter 8 Part 1: Design Plan DZB6.

With immediate effect, where conditions permit and where the Service Provider considers (based on appropriate risk assessment) it is safe to do so, lane closure signs to Diagram 7202 / 7208 may be omitted from both the near side and off side at 600 yards and 200 yards, together with the "Detail A" elements (Table A.1.5 of the TSM Chapter 8) on the hard shoulder (where applicable) adjacent to the entry taper for single lane closures on dual carriageways for which the national speed limit applies.

¹ The term 'relaxation scheme' is used as per the meaning within the Traffic Signs Manual Part 1 sections D1.6.3 – D1.6.5 / Part 2 sections O1.6.3 – O1.6.5

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1. Introduction

This IAN provides interim guidance to the supply chain in respect of the use of temporary traffic management signing in the lane change zone at road works for which relaxations apply and where closure of a single lane is carried out on a dual carriageway for which the national speed limit applies. This interim guidance does not replace the guidance for temporary traffic management as set out in the DfT Traffic Signs Manual, but does allow (subject to appropriate risk assessment) for omission of some signs within relaxation scheme traffic management as specified at Annex C below.

The omission of some signs from relaxation scheme traffic management has the potential to make a major contribution towards the Highways Agency target to achieve a substantial reduction in carriageway crossing by road workers. It will also help the Highways Agency to fulfil its future vision for improving road worker safety and deliver the substantial reduction in carriageway crossings set out in its "Aiming for Zero" programme.

The term 'relaxation scheme' is used within this document as per the meaning within the Traffic Signs Manual Part 1 sections D1.6.3 – D1.6.5 / Part 2 sections O1.6.3 – O1.6.5

1.1 Purpose and required actions

Highways Agency research and trials have shown that some of the signs shown within the current lane change zone signing scheme drawing within Chapter 8 can be omitted at relaxation scheme works involving closure of a single lane without affecting the warning provided by the signs to road users. This simplified relaxation scheme reduces risk to road workers without any identifiably increased risk to road users.

The supply chain shall now apply this simplified relaxation scheme (subject to appropriate risk assessment) in order to achieve the safety benefit that this approach can deliver.

The omission of these sign elements at simplified relaxation scheme lane closures has been accepted by the Highways Agency as an operationally valid alternative to the current Chapter 8 Temporary Traffic Management scheme for relaxation temporary traffic management.

1.2 Relationship

This IAN is issued as supplementary guidance to the DfT Traffic Signs Manual (TSM) Chapter 8.

1.3 Impact of Implementation

This guidance affects those workers who maintain the Highways Agency road network and who operate in close proximity to fast-moving traffic that is not under their direct control. A number of these operatives are involved in setting out the temporary advance warning signs associated with road works and undertake this work in close proximity to live traffic travelling at or above the national speed limit, often during the hours of darkness. Contact between the road workers and passing traffic presents an injury risk that can result in fatal or life-changing injury to road workers.

Highways Agency research has shown that the signs relaxation referred to in this IAN has the potential to deliver the following reduction in risk to road workers:

- **a reduction in safety risk (injury likelihood and severity) of around 19%**
- **a reduction in carriageway crossings of around 40%**

In deciding the merits of deploying the full Chapter 8 relaxation scheme signing rather than the simplified relaxation scheme set out in this document, those planning traffic management must consider the balance of risk between road users and road workers. It is important to ensure that the advance signing approach taken does not use the improvement of safety for one group (e.g. road users) to justify the reduction of safety of another group (e.g. road workers). If it is considered inappropriate to use the simplified relaxation scheme, those planning traffic management should consider alternative methods of working to reduce risk to road workers.

1.4 Scope

This IAN applies only to relaxation scheme temporary traffic management in the lane change zone where closure of a single lane is carried out on a dual carriageway for which the national speed limit applies. Although it does not apply to sign schemes for long-term standard scheme traffic management, this IAN does apply to relaxed works which are being conducted as part of major schemes.

2. Guidance

2.1 Background

The Highways Agency (HA) has set out its vision for improving road worker safety and seeks to eliminate fatalities and injuries to personnel undertaking road works for the HA.

Research and trials conducted on behalf of the Highways Agency have shown that some of the signs specified for relaxation scheme signing within the current lane change zone signing specification within Chapter 8 can be omitted at relaxation scheme lane closures without affecting the warning provided by the signs to road users.

The Highways Agency conducted background research and on-road trials to determine what interventions had the potential to improve road worker safety. Details of these can be found at **Annex A**.

2.2 Guidance on the application of relaxation signage scheme

With immediate effect, **and where risk assessment indicates road conditions are suitable**, at road works sites on dual carriageways for which the national speed limit applies and where a single lane closure is being undertaken using relaxation scheme temporary traffic management, the those setting out traffic management shall omit the near side and off side Diagram 7202/7208 (TSRGD, 2002) signs at 600 yards and 200 yards, together with the Detail A (Table A.1.5, TSM Chapter 8 2009) elements on the hard shoulder adjacent to the entry taper (where applicable). This alternative scheme may be applied to offside or nearside single lane closure types where a relaxation scheme could be used as per Plan DZB6 in TSM Chapter 8 Part 1: Design 2009.

- **Annex B shows the current Chapter 8 relaxation scheme layout**
- **Annex C shows the permitted simplified relaxation scheme layout**

For the avoidance of doubt, this approach must not be used for closure of multiple lanes (reference Plans DZB7 and DZB8 in TSM Chapter 8 Part 1: Design 2009).

The relaxations contained within Chapter 8 apply the general principle that signing for relaxation schemes is a subset of signing for standard schemes. This simplified scheme applies this principle, in that the 200 yd, 600yd (and Detail 'A' signing where applicable) can be added to a simplified relaxation scheme to bring the signing up to the level of a standard scheme. This may be necessary if conditions at the site deteriorate and should be taken into account when planning works.

2.3 Factors to be taken into account

Any decision to adopt the simplified relaxation scheme traffic management layout should take account of the road conditions, as set out in TSM Chapter 8 Part 1 2009 Sections D1.6.3, D1.6.5 and D3.8 and TSM Chapter 8 Part 2 2009 Section O1.6, with definition of "low traffic flows" as per TSM Chapter 8 Appendix A2.41.

If appraisal of the aspects given in these sections of Chapter 8 indicates that the use of a simplified relaxation scheme is inadvisable, the use of the current Chapter 8 relaxation scheme should be specified, as shown in TSM Chapter 8 Part 1 2009 Diagram DZB6 (a simplified version of which is shown in **Annex B**).

3. Withdrawal Conditions.

This IAN will remain in force until such time as this change can be incorporated permanently in a future revision of the DfT Traffic Signs Manual or superseded by revised HA guidance.

4. Contacts

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5. References

DfT Traffic Signs Manual (TSM) Chapter 8 (2009) -
<http://www.dft.gov.uk/pgr/roads/tss/tsmanual/>

Traffic Signs Regulations General Directions (TSRGD) -
<http://www.dft.gov.uk/pgr/roads/tss/tslegislation/>

6. Bibliography

6.1 Highways Agency - Aiming for Zero

[Highways Agency Web Site](http://www.highways.gov.uk/aboutus/27625.aspx) - <http://www.highways.gov.uk/aboutus/27625.aspx>

- [Download Aiming for Zero \(PDF 3MB\)](#)
- [Road Worker Safety Strategy \(PDF 3.3MB\)](#)
- [Road Worker Safety Action Plan \(PDF 3MB\)](#)

6.2 TRL Reports

TRL Report RPN 479 (2009) - Driver Interaction with Temporary Traffic Management"

TRL Report RPN 887 (2010) - Driver Interaction with Temporary Traffic Management
Phase 2 Project Report -Simulation Trial

TRL Report RPN 1813 (2011) - Driver Interaction with Temporary Traffic
Management Phase 1 Project Report – On Road Trials

The above documents are available from the [Highways Agency Knowledge Compendium](#)

Annex A - Background Research and On-road Trials

A number of alternative TTM designs were considered in place of the current Chapter 8 schemes. In addition, a literature review was conducted to inform further decisions on the TTM scheme designs.

TRL Report RPN 479 (2009) "Driver Interaction with Temporary Traffic Management"

This research suggested that in the current TTM configuration, there may be more signs than are required for a driver to understand how they are required to behave in order to pass through roadworks safely.

Simulation Trials

Computer simulation trials were used to test for driver recognition of and responses to alternative signs schemes:

TRL Report RPN 887 (Feb 2010) - Simulation Trial

Each scheme reduced the number of signs on approach to the roadworks, while still informing drivers about the upcoming road configuration and the required behaviour. The simulation trial showed the drivers behaved in a safe and consistent manner in the different trial configurations.

On Road Trials

The first part of on-road trials commenced in Areas 4 and 10 in October 2010 to January 2011 to test removal of 600yd Diagram 7202/7208 signs.

Omission of the 200yd Diagram 7202/7208 (TSRGD, 2002) signs was also trialled on-road. This was conducted within the second part of the on road trials where removal of both 600yd and 200yd Diagram 7202/7208 (TSRGD, 2002) together with "Detail A" (Table A.1.5 Chapter 8, 2002) signs was tested. The following report details the findings from this second phase:

TRL Report RPN 1813 (2011) - Driver Interaction with Temporary Traffic Management – On Road Trials

Trials were conducted in two Highways Agency areas. Analysis of 120,000 vehicles travelling through alternative and control schemes showed no evidence to suggest there was any difference in lane movement of vehicles under the experimental conditions.

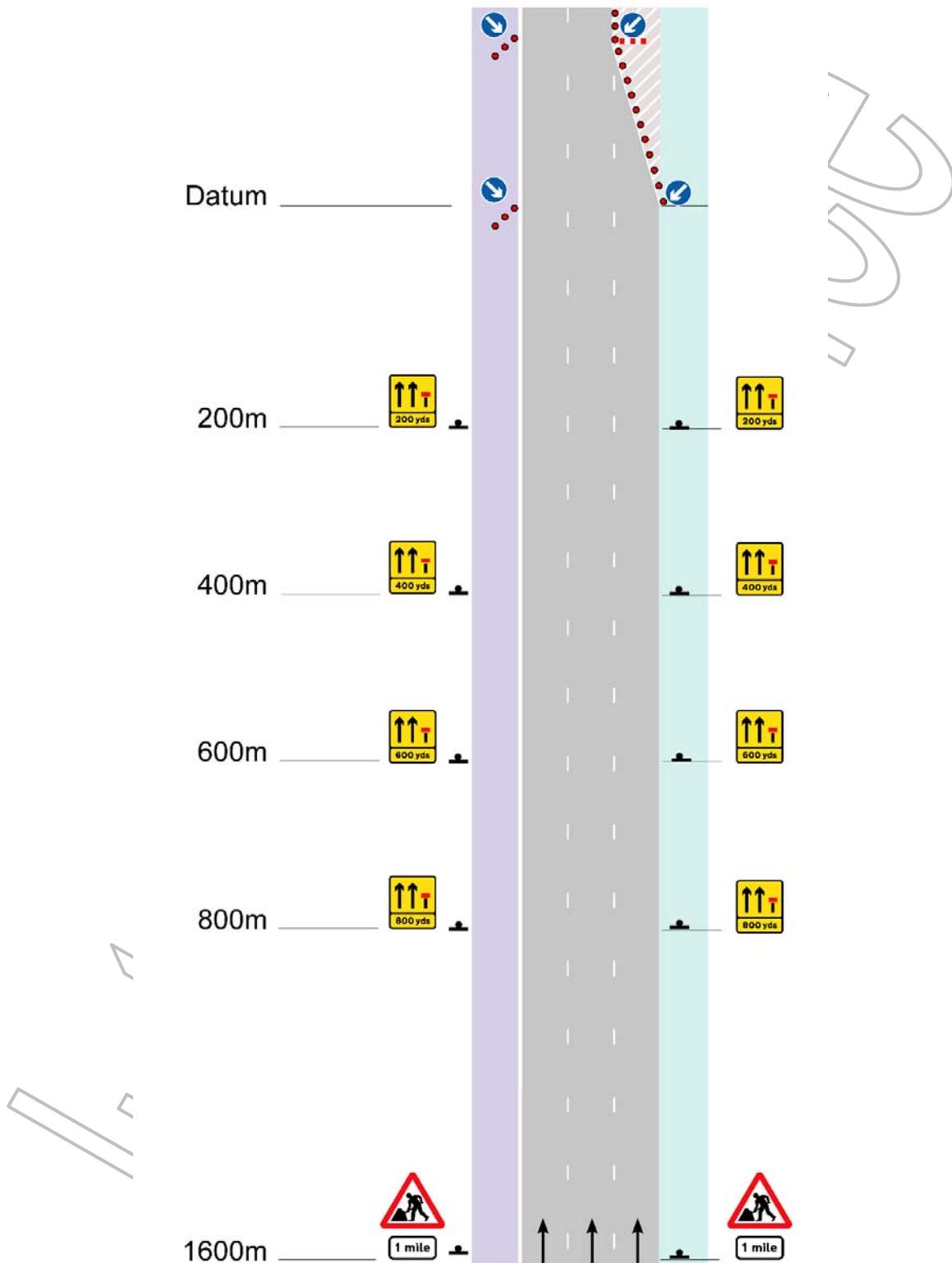
Consultation: Road Safety Working Group (RoWSaF) and Technical Project Board

The Highways Agency has consulted key stakeholders on this change of guidance and has considered any feedback received. The consultation group consisted of RoWSaF members plus other key stakeholders consulted via a "Technical Project Board".

Conclusion

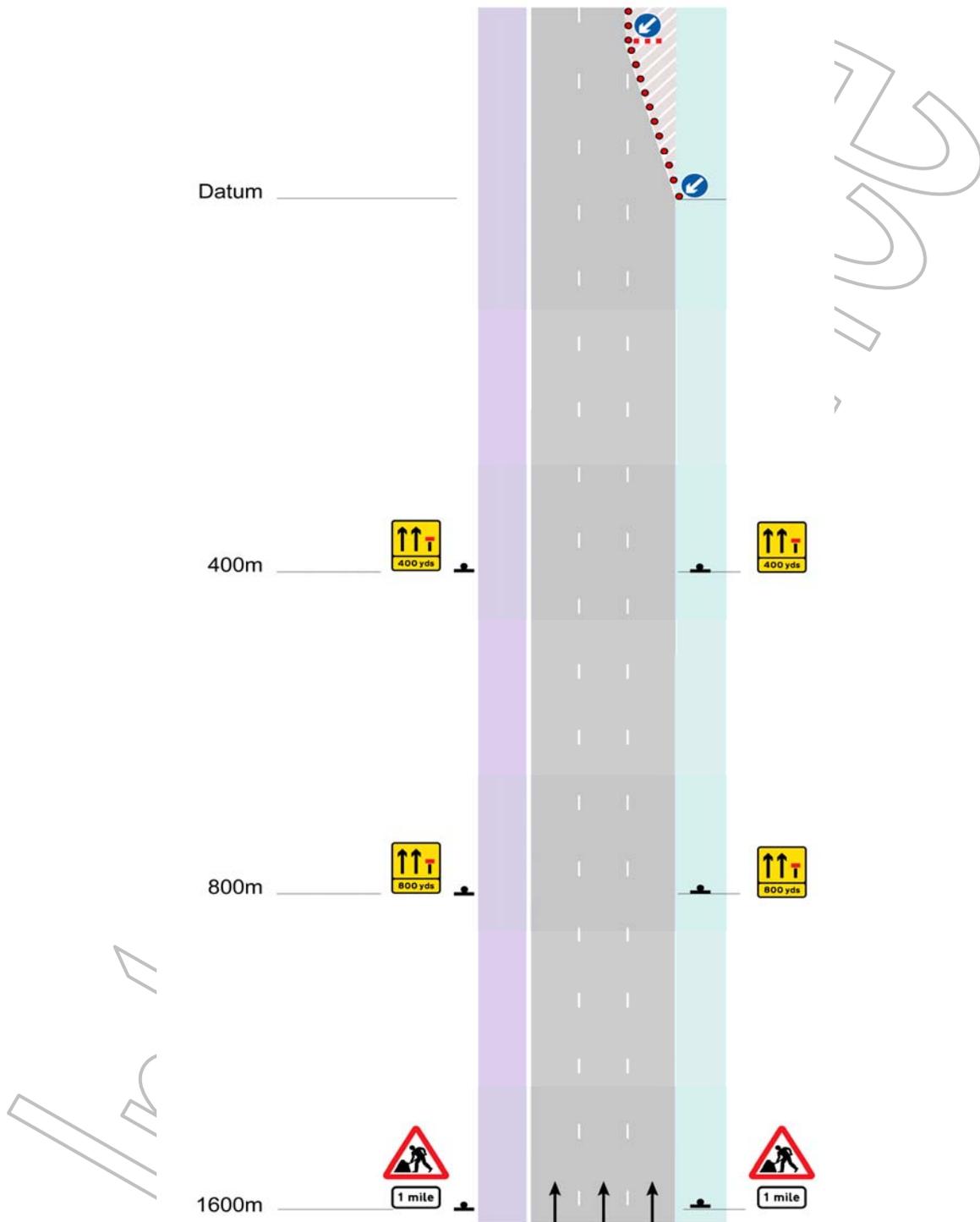
The results of this research indicated that drivers behaved in a safe and consistent manner through the modified scheme. There were no significant changes in any safety critical behaviour on the approach to road works. The Highways Agency has accepted this scheme signing arrangement as an operationally valid alternative to the current Chapter 8 TTM scheme arrangements shown in Plan DZB6 of TSM Chapter 8 Part 1: Design 2009.

Annex B – Chapter 8 relaxation scheme signing – plan for approach and lane change zones for a single lane closure on a dual carriageway road for which the national speed limit applies (adapted from Diagrams DZA3 and DZB6)



Note 1: Temporary mandatory speed limit signing has been omitted for clarity; where required, it should be placed at the distances from the datum shown in Plan DZB6 Chapter 8 Part 1: Design 2009

Annex C – Simplified relaxation scheme signing – plan for approach and lane change zones for a single lane closure on a dual carriageway road for which the national speed limit applies.



Note 1: This layout may be used for off side (as shown above) or near side single lane relaxation scheme closures on dual carriageways for which the national speed limit applies.

Note 2: Temporary mandatory speed limit signing has been omitted for clarity but may be used with this signing scheme layout; where required, it should be placed at the distances from the datum shown in Plan DZB6 Chapter 8 Part 1: Design 2009.