

Managed Motorways

M4 Junctions 19 – 20

M5 Junctions 15 – 17



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Welcome

Thank you for taking the time to join us at this Public Information Exhibition.

In January 2009 the Secretary of State for Transport announced the M4 motorway, junctions 19-20 and the M5 motorway, junctions 15-17, would move forward as a Managed Motorways Scheme. The M4 and M5, around Bristol and through the Almondsbury interchange, is an important route which suffers from heavy congestion on a daily basis.

Following study work we propose to install a Managed Motorways system between Junction 19 of the M4 and Junction 17 on the M5. The following boards aim to explain the proposed improvements and the Managed Motorways concept.



Please feel free to ask for further information from our representatives who will be happy to help. You can also give us feedback by filling in one of our feedback forms or visiting:

www.highways.gov.uk/roads/projects/23382.aspx

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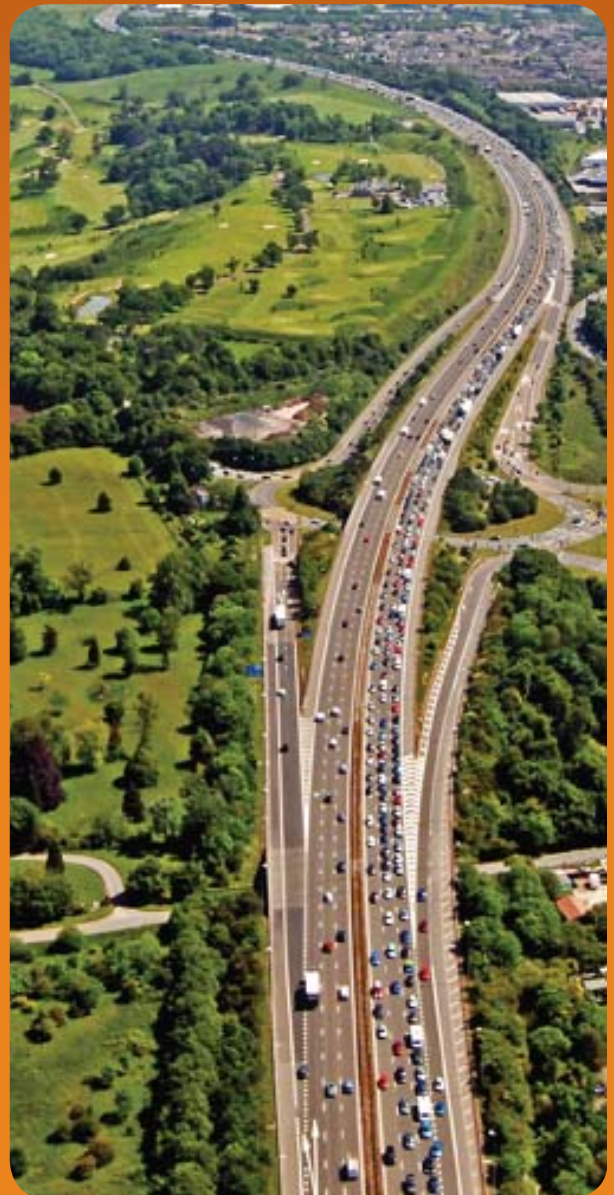
Background

The motorway sections considered for the scheme are located on the North West corner of Bristol providing links to London, South Wales, the South West and the Midlands. The motorway serves traffic to:

- Cribbs causeway shopping area
- Aztec West Business Park
- Bristol Airport
- National traffic accessing the South West, especially during the holiday season

The M4/M5 currently suffers from heavy congestion which is set to get worse in the future. This happens because of:

- Short distances between junctions
- Complicated weaving and turning needed at junctions
- High volumes of commuter and HGV traffic
- Different types of traffic patterns
- Changes to traffic flows due to seasonal weather
- Higher average accident rate than most motorways



We aim to relieve congestion and improve journey times by installing a Managed Motorways system and introducing hard shoulder running during peak times.

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What are Managed Motorways

The new scheme will make available the hard shoulder for traffic use at times of significant congestion at peak times and to assist in incident management.

This will increase the capacity of the motorway and reduce congestion. Information signs will inform drivers of:

- Traffic conditions ahead
- Mandatory speed limits
- The availability of lanes, including the hard shoulder

Sensors in the road will enable traffic and congestion to be detected. The speed and availability of lanes will then be managed to allow traffic to flow smoothly, helping reduce congestion.



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M42 Managed Motorway Pilot Scheme

We have delivered a successful Managed Motorways pilot on the M42. Early results have shown benefits in:

- Journey times – road users' ability to predict weekday journey times increased 27%
- Road safety – the accident rate decreased on the M42
- Vehicle emissions – 10% decrease in the scheme's operating area
- Fuel consumption – 4% reduction in the scheme's operating area

The work we have done on the M42 has a high level of customer satisfaction with recent surveys showing:

- 68% of road users felt more informed about traffic conditions
- 60% said they would welcome this type of scheme elsewhere on our network



The M42 pilot delivered many of the benefits of motorway widening at a lower cost e.g. no additional land take is required and the scheme is contained within the existing motorway boundary

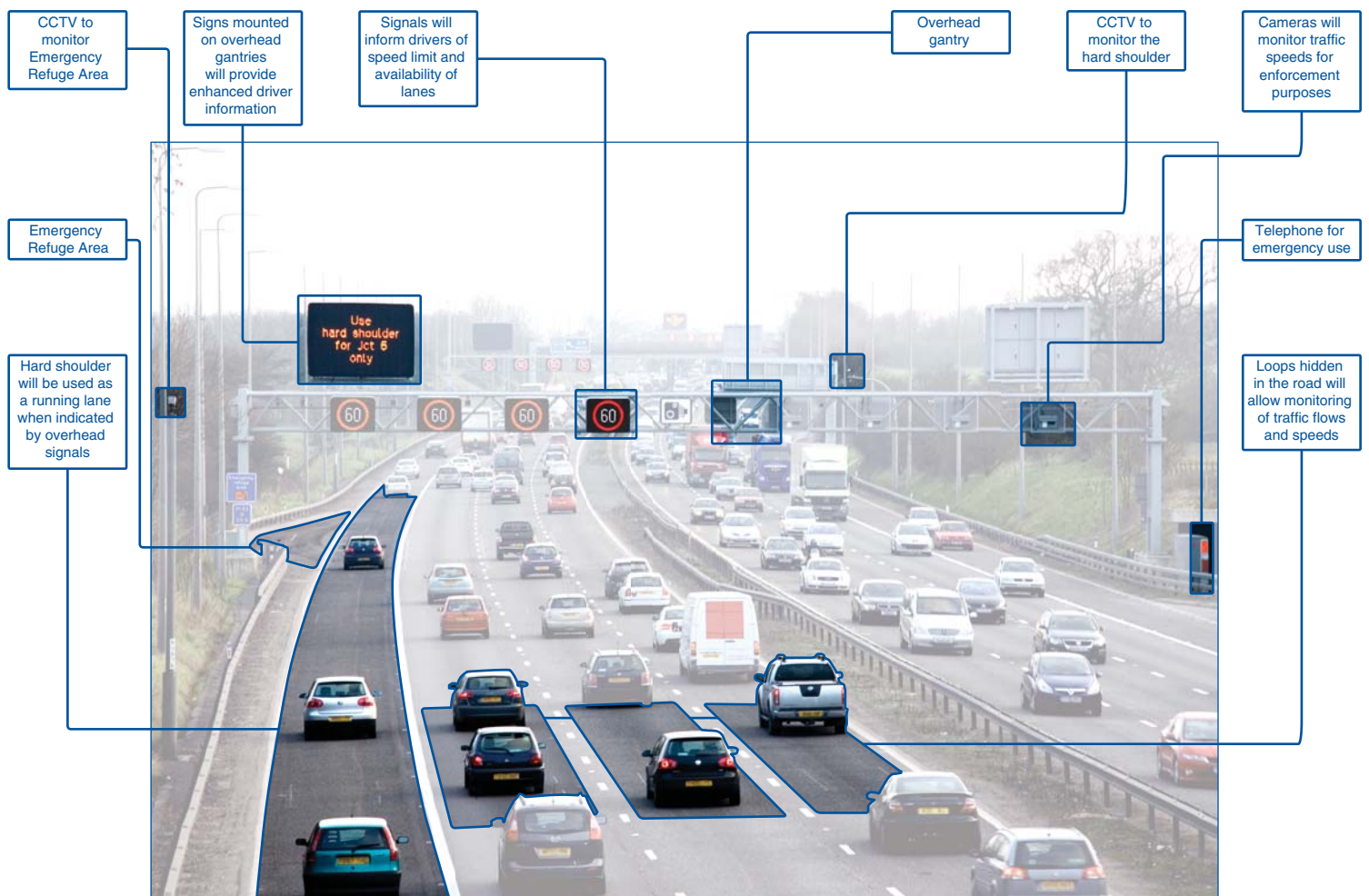
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What the system will include

Figure 1 below of the M42 pilot scheme shows a typical layout of a Managed Motorways scheme utilising hard shoulder operation. This equipment will be placed between Junction 19 on the M4 and Junction 17 on the M5.



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Scheme layout



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Hard shoulder running

Figure 1 shows the existing motorway without hard shoulder running. Figure 2 shows how the hard shoulder within the existing motorway will be used by live traffic during congested periods.

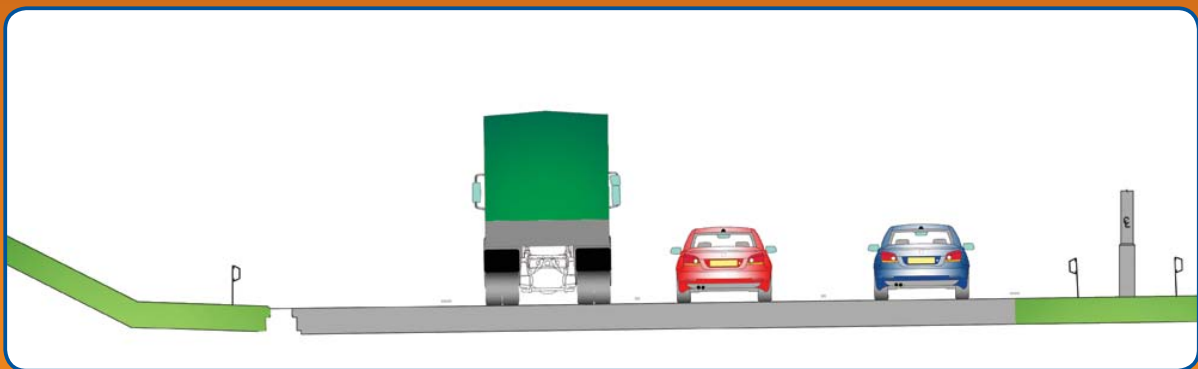


Figure 1. Existing cross-section

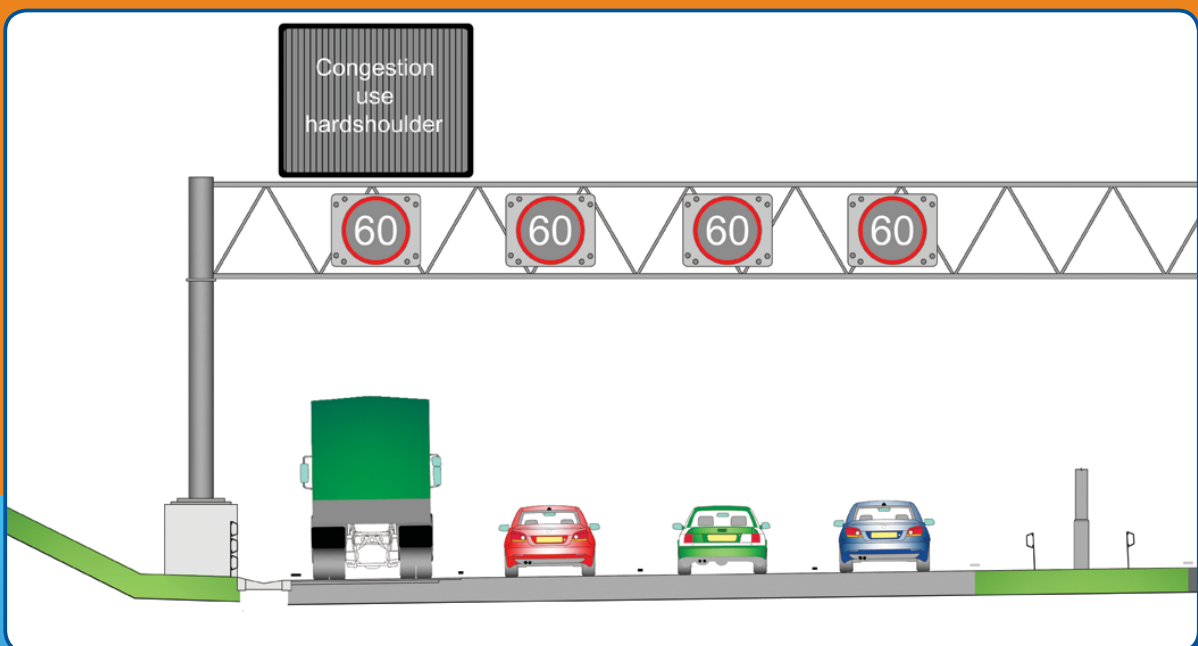


Figure 2. Dynamic hard shoulder running cross-section

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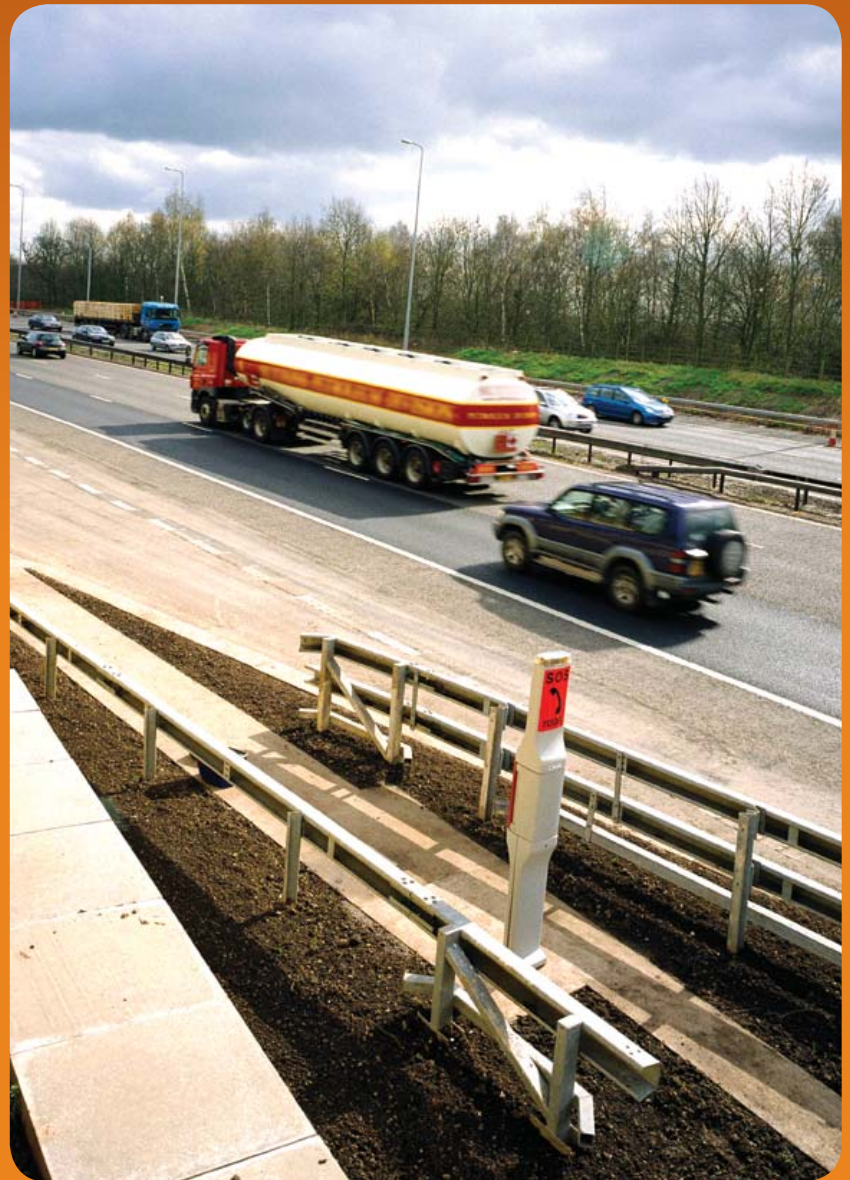
What to do in an emergency

Emergency Refuge Areas (ERAs) will be spaced at intervals of approximately 800m throughout the scheme.

They provide a place to stop in an emergency or breakdown when the hard shoulder is in operation as a running lane.

In addition, they should be used as the preferred emergency/breakdown stopping location when the motorway is operating under normal conditions.

Once in the ERA an emergency roadside telephone should be used to phone the Highways Agency's Regional Control Centre for assistance.



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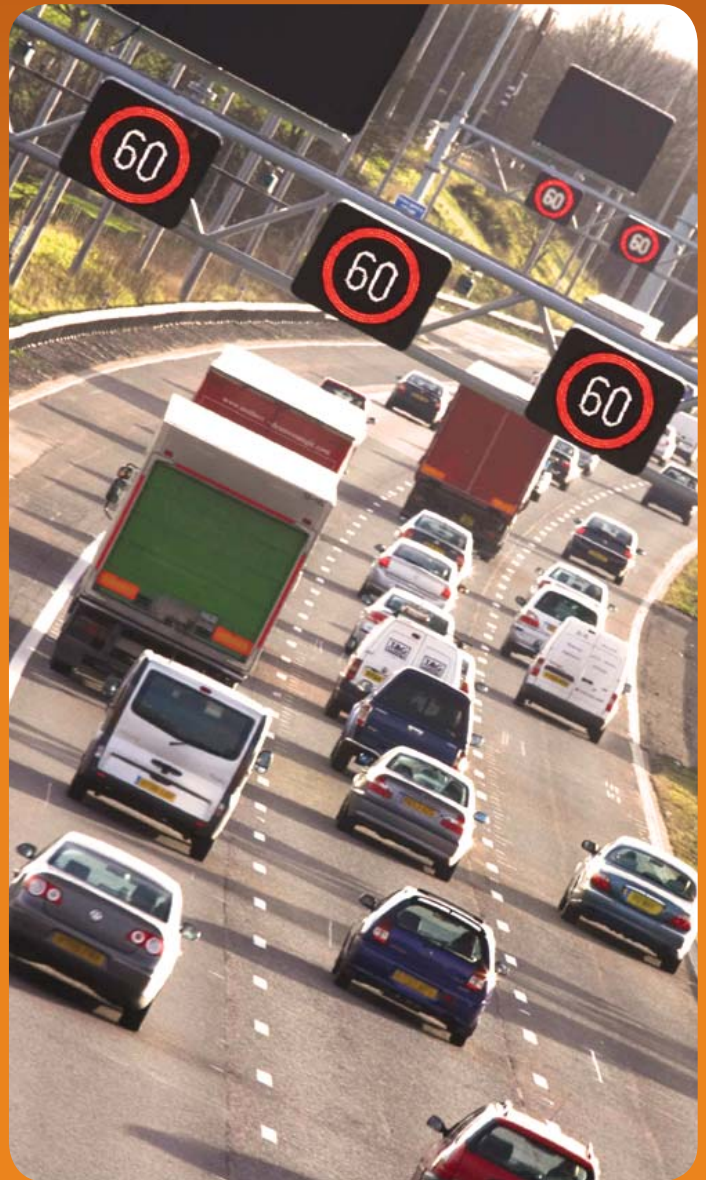
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Safety and Control Measures

Safety of road users and motorway workers is the Highways Agency's top priority. The Managed Motorways system allows safe motorway operation through the management of traffic during congested periods and while maintenance work is carried out.

- CCTV and sensors in the road will enable incidents to be identified swiftly.
- new signs and signals will be used to help move live traffic around the emergency by :
 - managing traffic speeds
 - advising of closed lanes
 - relaying messages on display boards

The flexibility afforded by the electronic signs will be used to support the Emergency Services in reaching the scene of incidents promptly.



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Environmental Issues

We share people's concerns about noise and air quality near motorways. There are strict EU air quality guidelines and we have been carrying out extensive air quality surveys within the scheme area.

The trial of a Managed Motorways system on the M42 found that overall fuel consumption reduced by 4% and vehicle emissions fell by up to 10% following the implementation of the scheme as a result of smoother traffic flows.

We will take care of the local ecology and are conducting surveys for great crested newts, reptiles, otters, water voles, dormice, badgers and bats.



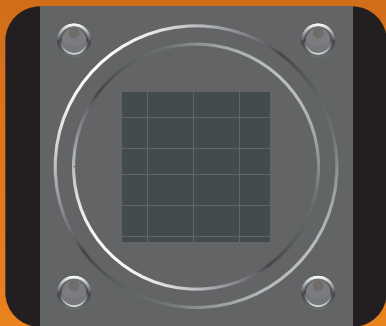
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Electronic signs and signals

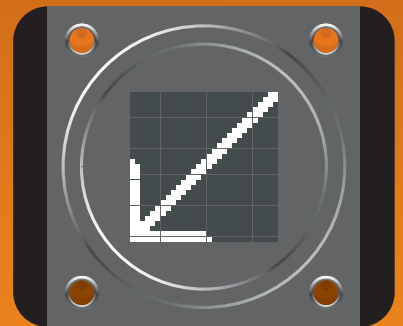
The electronic signs and signals on Managed Motorways let you know about traffic conditions on the road ahead, current speed limits and availability of individual lanes. It is important to comply with the signs in order to make your journey safer and more reliable.



Blank signal: This is applicable to all lanes, including the hard shoulder, and means that normal motorway rules apply. The hard shoulder is only for use in case of an emergency or breakdown.



Mandatory speed limit: This is applicable to all lanes, including the hard shoulder when in use, and means that this is the maximum permitted speed. The speed will be enforced by digital enforcement cameras.



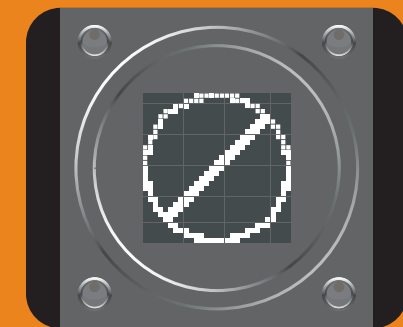
White arrow with flashing beacons: This sign is applicable to all lanes, including the hard shoulder, and means that you should move into the lane as directed.



Red cross with flashing beacons: This sign is applicable to all lanes, including the hard shoulder, and means that you must not proceed any further in this lane.



Red cross without flashing beacons: This sign is applicable to the hard shoulder only and means that you should only use the hard shoulder in an emergency or breakdown, as per the Highway Code.



National speed limit: This sign is applicable to all lanes, excluding the hard shoulder, and means that national speed limits apply.