

**M4 Junctions 19 – 20**  
**M5 Junctions 15 – 17**  
Managed Motorways Scheme

# M4/M5



Managed Motorways





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If you need help using this or any other Highways Agency information, please call **08457 50 40 30** and we will assist you.

## The proposal

The M4/M5 around Bristol currently suffers from heavy congestion on a daily basis which is set to get worse in the future. We aim to relieve congestion and improve journey times by installing a Managed Motorways system and introducing hard shoulder running during peak times.

### 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.

## How we manage the motorway

The Highways Agency's Regional Control Centre at Avonmouth will be able to observe the motorway by using CCTV cameras and other technology. The cameras will be in operation 24hrs a day, 365 days a year to identify any incidents on all lanes of the carriageway.

Highways Agency control centre operators will select the appropriate signs and signals located on the gantries to alert road users to the conditions ahead and to open and close lanes where necessary. Highways Agency traffic officers will carry out regular patrols and will be alerted to deal with problems or emergencies.

## History and background of Managed Motorways

The Managed Motorways concept has been developed using evidence from a successful trial near Birmingham on the M42. One of the most innovative technologies deployed during the pilot was hard shoulder running. The pilot has proved that, during times of congestion, opening the hard shoulder and using electronic signs above each lane to guide traffic can smooth traffic flow and offer more predictable journey times.

The success of the M42 pilot scheme near Birmingham has shown that hard shoulder running can provide significant benefits at a significantly lower cost than full motorway widening. Following the M4/M5 study work, the Secretary of State for Transport confirmed that a Managed Motorways and hard shoulder running scheme should be taken forward. We have carried out a number of studies in recent years which have examined the operation of the transport system within the M4/M5 corridor. Please see Table 1 below:

## 2009 Managed Motorways programme

The M4/M5 scheme is now part of a larger motorway improvement programme to implement similar schemes with hard shoulder running throughout England. The initial roll out of Managed Motorways includes the M4/M5 near Bristol, sections of the M1, M6 in Birmingham and parts of the M60 and M62.

### What will the improvement scheme look like?

Figure 1 on page 6 & 7 shows a typical layout of Managed Motorways utilising hard shoulder running. This layout will be implemented between Junction 19 on the M4 and Junction 17 on the M5.



*We aim to relieve congestion and improve journey times*

*Table 1. Development of M4/M5 Managed Motorways proposal*

2006 – Greater Bristol Strategic Transport Study (GBSTS)	<ul style="list-style-type: none"> <li>• Jointly funded by DfT, Highways Agency, South West Regional Development Agency and West of England Partnership</li> <li>• Developed a range of transport strategies</li> </ul>
2007 – Integrated Traffic Management	<ul style="list-style-type: none"> <li>• Identified and assessed measures to increase capacity of motorway network</li> <li>• Recommended speed cameras, speed controls and motorway widening</li> <li>• Undertaken before completion of M42 trial therefore could not recommend Managed Motorways measures</li> </ul>
2008 – Managed Motorways Study	<ul style="list-style-type: none"> <li>• Followed success of M42 hard shoulder running scheme</li> <li>• Concluded that Managed Motorways will improve capacity and reduce congestion with low cost simple engineering measures</li> <li>• Can be developed within existing motorway boundary</li> </ul>

## Managed Motorways: 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.

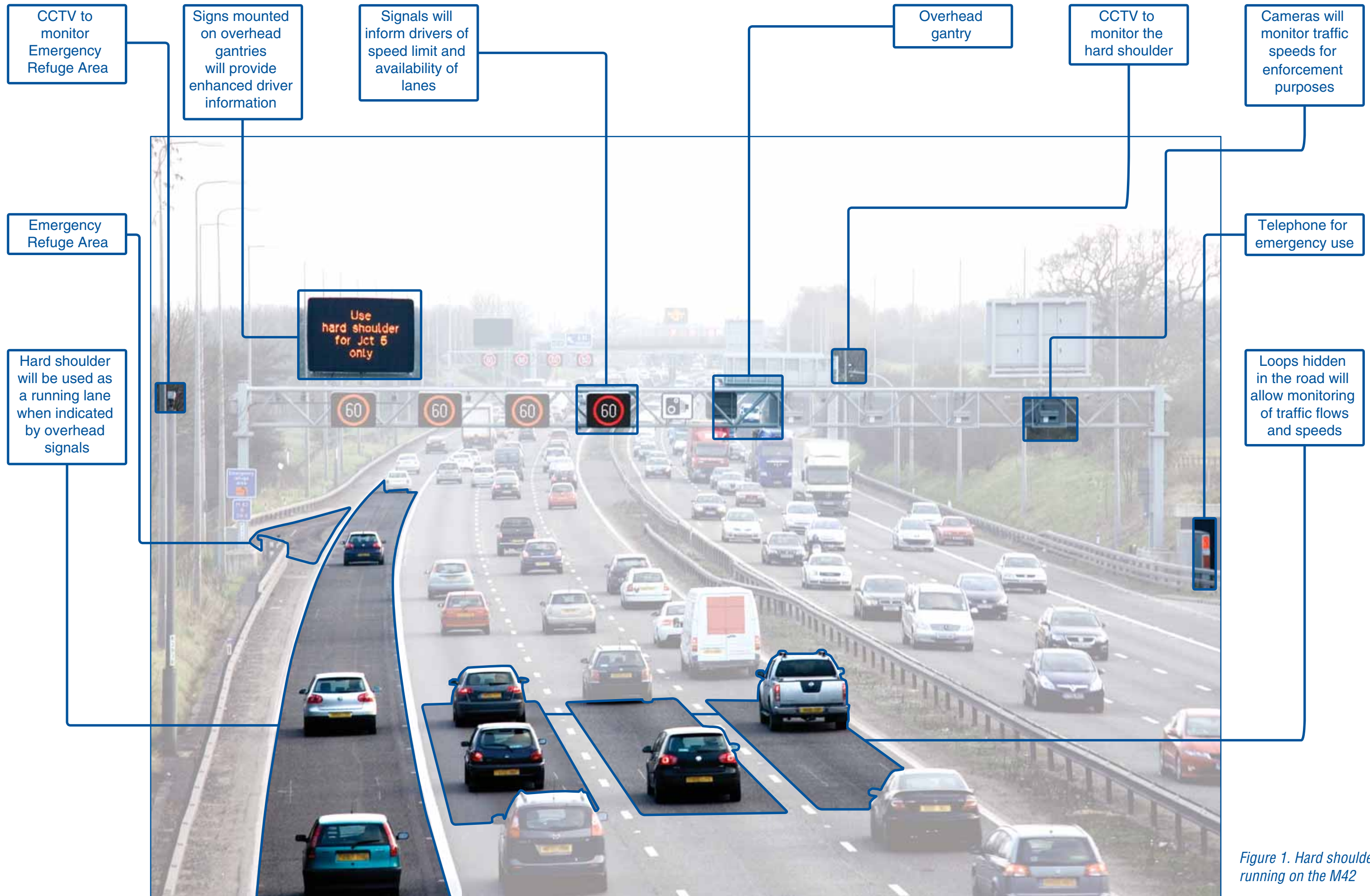


Figure 1. Hard shoulder running on the M42

## Scheme layout

Figure 2 shows the layout of the scheme on the M4/M5.

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Figure 2. M4/M5 scheme layout

## Hard shoulder running

Figure 3 shows the existing motorway without hard shoulder running. Figure 4 shows how the hard shoulder within the existing motorway will be used by live traffic during congested periods.

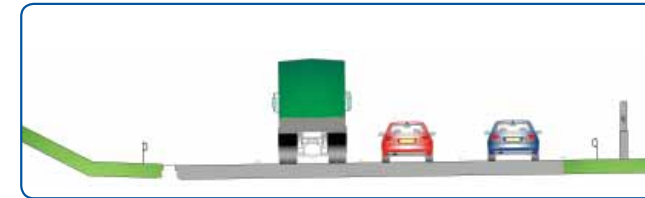


Figure 3. Existing cross section

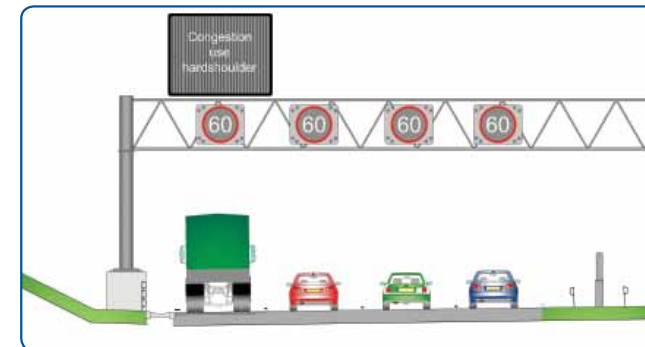


Figure 4. Dynamic hard shoulder running cross section

## Programme

Table 2. Timescales to completion

January 2009	Secretary of State for Transport confirmed the construction of the M4/M5 Managed Motorways and hard shoulder running scheme is programmed to start in 2009/2010 financial year.
June 2009	Public Information Exhibitions giving information on M4 /M5 Managed Motorways and hard shoulder running scheme.
March 2010	Construction start date.
Summer 2012	Construction completion date. Hard shoulder running now operational.



Managed Motorways equipment will be placed between Junction 19 on the M4 and Junction 17 on the M5

## 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. The new signs and signals will be used to help move live traffic around the emergency by managing traffic speeds, advising of closed lanes and 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.

## 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.

## Taking care of the environment

We share people's concerns about noise and air quality near motorways.

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 to inform our assessment of the impact the project may have. 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 are currently carrying out assessments of habitats and surveys for great crested newts, reptiles, otters, water voles, dormice, badgers and bats. We will make every effort to reduce the impact of the scheme on these habitats.



*The Emergency Refuge Areas provide a stopping area for road users in emergencies*



## Feedback

If you would like to offer feedback please contact:

### **Write:**

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**Website:** [www.highways.gov.uk](http://www.highways.gov.uk)

## Public exhibitions

To learn more about the proposed improvements on the M4/M5, please visit our exhibition on 26 June, 10:00 am to 4:30 pm or 27 June, 8:30 am to 3:30 pm at;

Cribbs Business Centre Ltd  
Hollywood Tower Mansion  
Hollywood Lane  
Cribbs Causeway  
Bristol  
BS10 7TW

### Safe driving at roadworks



**During 2006 two workers were killed and 19 seriously injured in the course of their work on Highways Agency roads.**

For the safety of all road users and roadworkers, when you are approaching roadworks:

- Keep within the speed limit – it is there for your safety.
- Get into the correct lane in good time – don't keep switching.
- Concentrate on the road ahead, not the roadworks.
- Be alert for works' traffic leaving or entering roadworks.
- Keep a safe distance – there could be queues in front.
- Observe all signs – they are there to help you.

***Remember that tiredness can kill. Take regular breaks from driving.***

