

Ramp metering

Keeping traffic running smoothly

What is ramp metering?

The Highways Agency is continually looking at ways of keeping motorways and trunk roads running smoothly. Ramp metering is a key measure for reducing delays at junctions. It works by managing the traffic on slip roads.

During busy periods, signals release a few vehicles at a time. This prevents merging and mainline traffic from bunching together and creating a bottleneck which delays everyone.

Sensors in the road monitor the congestion and adjust the signal timings. The system also monitors the slip road to minimise the possibility of queues forming on local authority roads.

Where has it been implemented?

Ramp metering is used extensively in the United States, Germany, Holland, France and other parts of the world.

Drawing on these countries' experience, we undertook trials on the M6, M3 and M27, and have since successfully implemented ramp metering at 60 locations.

There are now sites in the South East, Midlands, North West and North East, for example, on the M1, M4, M6 and M42. Each one has been designed to suit local conditions.

The benefits

Sites are monitored regularly and the signals adjusted to optimise performance.

Surveys have shown that on average:

- travel time past the junction falls by 13%;
- downstream speed increases by 7.5%;

- delays to vehicles on the slip road are relatively short.

These benefits generate a strong case for continuing to implement ramp metering.

Long-term evaluations of sites overseas have also found reductions in accidents and emissions.

| Area | Operation | Reduction in journey time |
|---------|-----------|---------------------------|
| 9 & 11 | AM peak | 12.2% |
| 10 | AM & PM | 14.0% |
| 12 | AM & PM | 10.4% |
| Average | - | 13.0% |

The future

We are investigating other locations where ramp metering can help to reduce congestion. Factors such as the traffic flows, the severity and duration of congestion and the physical characteristics of the location affect the site operation.

More sites are being designed and will be implemented this winter in the South East, Midlands and North West.

We are working with local authorities on how best to link ramp metering and signal controls on roundabouts.

"The signals respond very quickly once the queue reaches the back of the slip. We are seeing some benefit to the motorway with no apparent compromise to our local roads."

[Dennis Beever, manager of the Urban Traffic Control Centre, Wakefield Council, one of the first local authority areas to receive ramp metering.]

Implementation areas

Sites currently operating in Areas:

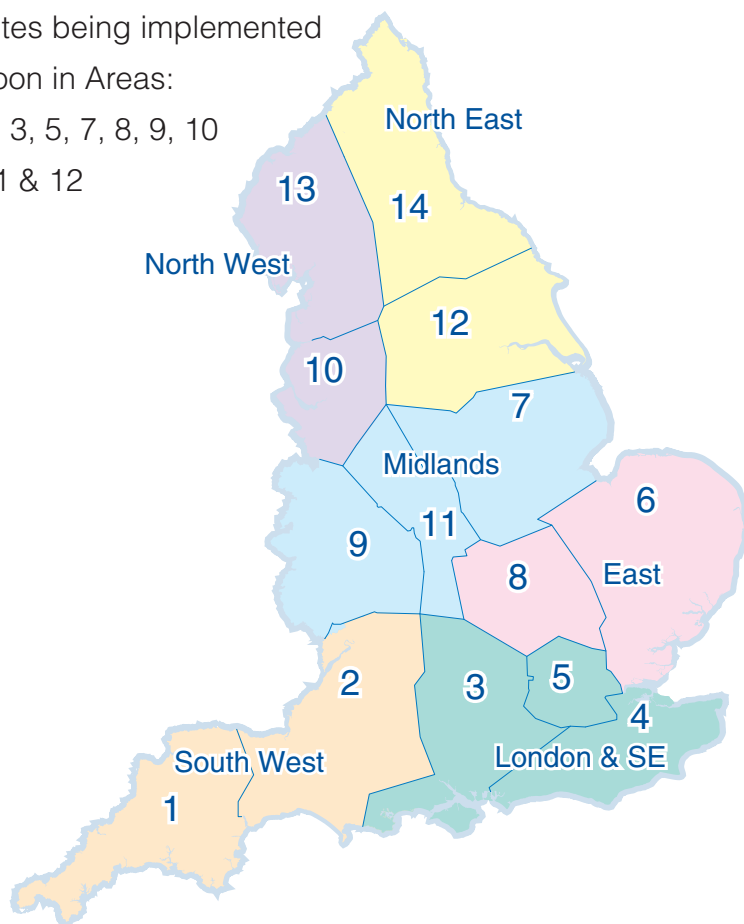
3, 5, 7, 9, 10, 11 & 12

Sites being implemented

soon in Areas:

2, 3, 5, 7, 8, 9, 10

11 & 12



For real time traffic information:

08700 660 115

www.highways.gov.uk/trafficinfo

24 hours a day, 365 days a year

(Calls from BT landlines to 0870 numbers will cost no more than 8p per minute; mobile calls usually cost more)

For general Highways Agency information:

08457 50 40 30

email: ha_info@highways.gsi.gov.uk

24 hours a day, 365 days a year

(Calls from BT landlines to 0845 numbers will cost no more than 4p per minute; mobile calls usually cost more)

Safe driving at roadworks

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



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.