

Title: M25 Junctions 2 to 3 Variable Speed Limits and Enforcement Lead department or agency: Highways Agency Other departments or agencies:	Impact Assessment (IA)
	IA No: DFT00004
	Date: 23 rd July 2010
	Stage: Final
	Source of intervention: Domestic
	Type of measure: Secondary legislation
Contact for enquiries: John Martin (0)1306 878129	

Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

Secondary legislation is required to implement variable mandatory speed limits on the M25 Motorway between junctions 2 and 3 (both directions). The variable mandatory speed limits will be enforced by the police. The M25 J2-3 suffers from congestion, a high accident rate and high carbon emission levels. Variable mandatory speed limits will provide benefits by reducing these.

What are the policy objectives and the intended effects?

The objectives of Controlled Motorways are to increase the flow of traffic, reduce accidents and reduce CO2 emissions, by the introduction of enforceable variable speed limits.

The scheme will substantially assist the Highways Agency core policy, to provide 'Reliable Journey Times', 'Safe Roads' and 'Informed Drivers'.

What policy options have been considered? Please justify preferred option (further details in Evidence Base)

Option 1: (Baseline) Do nothing. To do nothing will retain the status quo for existing daily congestion, accident and pollution levels increasing pro-rata year on year.

Option 2: (Preferred) Secondary legislation in the form of regulations made under section 17 of the Road Traffic Regulation Act 1984 will be required. This policy is expected to:

- Reduce congestion
- Reduce the frequency of accidents
- Reduce driver stress
- Provide more reliable journey times
- Reducing carbon emissions

When will the policy be reviewed to establish its impact and the extent to which the policy objectives have been achieved?	It will be reviewed 1 year after operation
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For consultation stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible: Mike Penning Date: 12/01/2012

Summary: Analysis and Evidence

Policy Option 2

Description:

Price Base Year 2008	PV Base Year 2010	Time Period Years 30	Net Benefit (Present Value (PV)) (£m)		
			Low:	High:	Best Estimate: 17.86

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low		1		
High				
Best Estimate	6.7		0.149734	10.6

Description and scale of key monetised costs by 'main affected groups'

Installation =	£6,080,000
Maintenance =	£65,427
Enforcement =	£3,769,908
Renewal =	£656,670

Other key non-monetised costs by 'main affected groups'

None

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low		NA		
High				
Best Estimate	NA		0.975	29.3

Description and scale of key monetised benefits by 'main affected groups'

Accident Saving =	£23,191,062
Journey Time Reliability =	£7,847,087
Emissions =	£377,523
Journey Time =	£-2,150,794

Other key non-monetised benefits by 'main affected groups'

Increased driver information, reduced driver stress, reduced noise pollution.

Key assumptions/sensitivities/risks

Discount rate (%)

3.5

The effects of a Controlled Motorway scheme on the newly widened 4-lane dual motorway between M25 junctions 2 to 3 have been assumed to be similar as for the M25 junctions 10 to 16, which has had Controlled Motorways in operation since 2002. Note however the Controlled Motorways scheme has been operational on the western quadrant of the M25 between junctions 10 to 15 since 1995.

Impact on admin burden (AB) (£m):			Impact on policy cost savings (£m):		In scope
New AB: 0	AB savings: 0	Net: 0	Policy cost savings:		No

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?	England				
From what date will the policy be implemented?	01/08/2010				
Which organisation(s) will enforce the policy?	Police				
What is the annual change in enforcement cost (£m)?	0.1295				
Does enforcement comply with Hampton principles?	Yes				
Does implementation go beyond minimum EU requirements?	N/A				
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)	Traded: NA		Non-traded: 0.00511		
Does the proposal have an impact on competition?	No				
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?	Costs: 100		Benefits: 100		
Annual cost (£m) per organisation (excl. Transition) (Constant Price)	Micro 0	< 20 0	Small 0	Medium 0	Large 0
Are any of these organisations exempt?	Yes	Yes	Yes	Yes	Yes

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on...?	Impact	Page ref within IA
Statutory equality duties ¹ Statutory Equality Duties Impact Test guidance	No	13
Economic impacts		
Competition Competition Assessment Impact Test guidance	No	13
Small firms Small Firms Impact Test guidance	No	14
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	Yes	14
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	14
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	Yes	15
Human rights Human Rights Impact Test guidance	No	15
Justice system Justice Impact Test guidance	Yes	16
Rural proofing Rural Proofing Impact Test guidance	Yes	16
Sustainable development Sustainable Development Impact Test guidance	No	17

¹ Race, disability and gender Impact assessments are statutory requirements for relevant policies. Equality statutory requirements will be expanded 2011, once the Equality Bill comes into force. Statutory equality duties part of the Equality Bill apply to GB only. The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

References

Include the links to relevant legislation and publications, such as public impact assessment of earlier stages (e.g. Consultation, Final, Enactment).

No.	Legislation or publication
1	<u>M25 Controlled Motorway Summary report (HA159/04)</u>
2	
3	
4	

+ Add another row

Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

Annual profile of monetised costs and benefits* - (£m) constant prices

	Y ₀	Y ₁	Y ₂	Y ₃	Y ₄	Y ₅	Y ₆	Y ₇	Y ₈	Y ₉
Transition costs										
Annual recurring cost										
Total annual costs										
Transition benefits										
Annual recurring benefits										
Total annual benefits										

* For non-monetised benefits please see summary pages and main evidence base section



Microsoft Office
Excel Worksheet

Evidence Base (for summary sheets)

Background

As part of the Government's targeted programme of investment in trunk road improvements, the Highways Agency has been tasked with developing its role as Network Operator by implementing traffic management, network control and other measures aimed at:

- Making best use of the existing infrastructure;
- Reducing congestion, increasing the throughput of traffic and increasing the reliability of journey times.

As part of the work to tackle congestion on the motorway and trunk road network, the Highways Agency is planning to introduce mandatory variable speed limits on the M25 between junctions 2 and 3.

The Highways Agency believes that the introduction of Variable Speed Limits technology (Controlled Motorways) with enforcement can deliver a number of positive benefits with regard to congestion, without more road construction. These are:

- Reduced traffic flow breakdown
- Reduced accidents
- More reliable journey times
- Reduced CO₂ emissions

Since 1995, Controlled Motorways has been operational on the western quadrant of the M25 between Junction 10 (A3) and Junction 15 (M4). In 2002, the scheme was extended to cover Junctions 15 (M4) to 16 (M40) of the M25.

Controlled Motorways have the following key features:

- Mandatory speed control, using variable speed limits displayed on special Advanced Motorway Indicators (AMIs) equipped with 'Red Rings', mounted above each lane on standard gantries (installed at nominal 1km intervals);
- Automatic signal setting in response to traffic conditions, driven by the Motorway Incident Detection and Automatic Signalling (MIDAS) system, with additional driver information on Enhanced Message Signs (EMS);
- Provision of speed enforcement using automatic camera technology.

The Controlled Motorways system displays 60mph and 50mph congestion signal settings in response to traffic conditions on the motorway. In addition, 40mph signals are set to protect backs of queues.

A detailed "before and after" study was carried out when the original scheme was implemented on the M25 between Junctions 15 and 16. The study team included recognised experts in traffic behaviour, air quality, noise pollution, accident analysis, statistics and economic appraisal. The project team was accountable to a specially created Steering Group, comprising suitably qualified representatives from the Department for Transport and the Highways Agency. Methodology and results were reviewed on at least a quarterly basis, with interim meetings focussing on more technical detail as required.

In determining the methodology for guiding the business case work, the Project Steering Group recommended that the New Approach to Transport Appraisal (NATA) be adopted. (This has now been superseded by the web-based Transport Analysis Guidance – WebTAG.) The Business Case itself was established using a "before and after" comparison of key variables such as journey time, safety and capacity. The "before" scenario was the conventional gantry-mounted lane-signalling and cantilever mounted carriageway signals, with manually set signals and automatic queue protection using advisory speed limits. The "after" scenario (after implementation, i.e. with Controlled Motorways operational) was Controlled Motorways with mandatory variable speed limits, speed enforcement, and congestion algorithms.

The project team conducted a comprehensive data analysis as part of developing the business case methodology. There were several sources used to collect this data:

- MIDAS loop detectors provided minute-by-minute data on flows, speeds, vehicle type and vehicle spacing;

- Specific journey data from instrumented vehicles provided information about stop-start behaviour and verified journey time measurements;
- Automatic Number Plate Recognition (ANPR) data provided a larger volume of information on actual journey times between Junctions 15 and 16;
- Noise surveys assessed the impact of the scheme on noise levels close to the road;
- Typical driving profiles (from the instrumented vehicles) and a large database for vehicle emission values were used to measure and model exhaust emissions;
- STATS19 injury accident records provided extensive accident data.

The studies showed that there were impacts from introducing Controlled Motorways on the M25. The effects are described in the M25 Controlled Motorways Summary Report (HA159/04). Table 1 summarises the key outcomes.

Table 1 - Impacts of Controlled Motorways on M25

Impact Area	Indicators of Impacts	Overall Improvement (Y/N)
Safety	Safety benefits arose as a result of a culmination of impacts on the driving environment and on driver behaviour. Injury accidents were reduced by 10%, and there was a 20% drop in the ratio of injury to damage only accidents.	Y
Journey times	There was an increase in peak-time journey times on the clockwise carriageway and a decrease on the anticlockwise carriageway. Combining the two carriageways made the peak-time effect of Controlled Motorways neutral. Off-peak, there were small increases in journey times on both carriageways.	N
Journey time reliability	There was a small improvement in overall journey time reliability, indicating a smoother journey.	Y
Emissions	Emissions decreased overall by between 2% and 8%. The smoothing effect of the system reduced fuel consumption, with a commensurate impact on emissions.	Y
Noise	Weekday traffic noise adjacent to the scheme was reduced by 0.7 decibels.	Y
Throughput	There was no increase in the peak 1-hour throughput.	N
Speed limit compliance	There was a reduction of 5% in the proportion of drivers exceeding the 40mph speed limit, which is now displayed as a mandatory limit.	Y
User reaction	The Controlled Motorways scheme was well accepted and there was a perception of key benefits.	Y

Subsequent to these studies, additional work has been carried out to determine the effect of Controlled Motorways on safety, using additional data (up to the end of 2006). This analysis has shown that the best estimate of the effect of Controlled Motorways on injury accidents is a reduction of 15%.

M25 CONTROLLED MOTORWAY SCHEME JUNCTIONS 2 TO J3

As part of the work to tackle congestion on the motorway and trunk road network, the Highways Agency is planning to introduce variable mandatory speed limits on the M25 between junctions 2 to 3 (“the Controlled Motorway Scheme”). Variable Mandatory Speed Limits will be used to smooth traffic flow and prevent stop-start conditions. A map for the Controlled Motorway Scheme is shown below at Figure A.

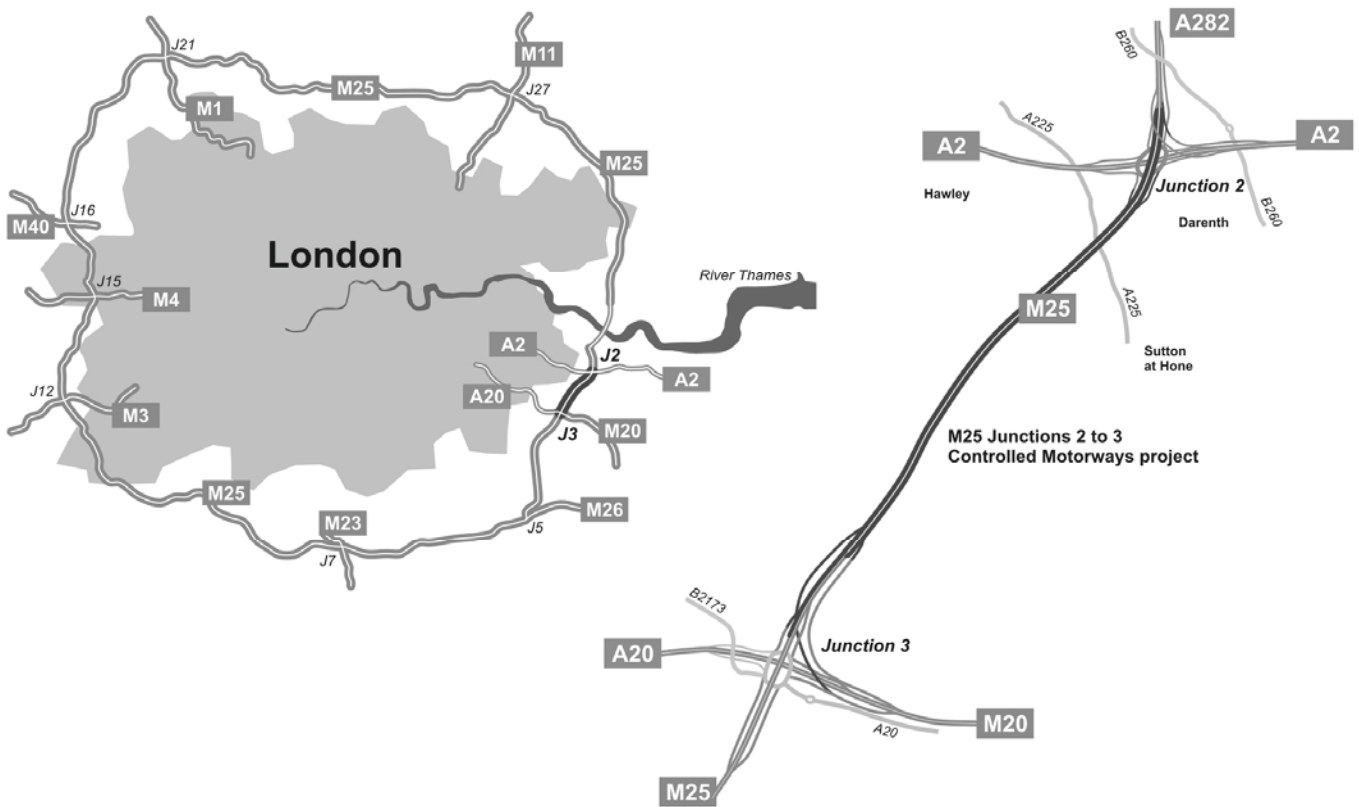


Figure A: Scheme Map

THE EFFECT OF INTRODUCING THE CONTROLLED MOTORWAY SCHEME

The benefits of introducing the Controlled Motorway Scheme on to the M25 junctions 2 to 3 have been modelled against those observed on the M25 between junctions 10 and 12

The impact of the introduction of Controlled Motorways is proportional to the flow levels and to the distance over which the scheme is implemented. The impacts are expressed as per vehicle or per vehicle km; these have been factored according to the measured flow levels on the M25 and the distance over which the scheme is to be applied.

The economic values in the Summary Information have been expressed in 2008 prices. The Appraisal Period has been set at 30 years because this is a technology project, and the entire infrastructure would need to be replaced after 30 years.

The costs and benefits of the scheme over the 30-year Appraisal Period have been calculated in accordance with the Department for Transport’s Cost Benefit Analysis Guidance¹. Changes in the value of time and vehicle occupancies have been obtained from the Values of Time and Operating Costs guidance².

The anticipated effects of the scheme in future years have been estimated by applying a flow growth to the current measured flow profile. A medium growth rate has been applied to provide the NPV Best Estimate. The traffic growth for the M25 used in the calculations was:

Table 2 - Estimated traffic growth for the M25 J2 to 3 – (based on historic traffic growth rate on the M25, plus a conglomeration of traffic growth forecasts)

Year	Traffic Growth (per annum)
2009-2013	2.5%
2014-2018	2%
2019-2023	1.5%
2024-2028	1%
2029-2038	0.5%
2039 onwards	0%

¹ TAG UNIT 3.5.4: http://www.dft.gov.uk/webtag/webdocument/3_Expert/5_Economy_Objective/3.5.4.htm

² TAG UNIT 3.5.6: http://www.dft.gov.uk/webtag/webdocument/3_Expert/5_Economy_Objective/3.5.6.htm

Benefits

The benefits of Controlled Motorways that can be expressed as economic values come from:

- a reduction in accidents
- a reduction in carbon emissions
- an improvement in journey time reliability

The current accident rate of 18.2 PIAs/100m veh km has been obtained from the HA's Stats19 database. The national average is 9.8 PIAs/100m veh km, so there are nearly twice as many accidents on this section as on a typical motorway. An accident saving of 15% on the current accident rate is predicted with a 30-year monetary saving of £23.1m.

On the M25 J10 – 16, CO₂ emissions were reduced by 1,184 tonnes in the first year. It has been assumed that it is possible to factor this by the relative flows and the lengths of the two schemes to apply this to M25 J2 to 3. The tonnes of CO₂ emitted are then converted to a carbon value, followed by an economic value as described in the Greenhouse Gases Sub-Objective guidance³. The benefits in future years have been calculated using the flow growth rates in Table 2, plus the predicted changes in individual vehicle emissions contained in the WebTAG guidance. An emissions saving of £377,523 is predicted over the 30-year period.

Based on results from the M25 J10 to 16 scheme, journey time reliability will be improved due to the reduction in stop-start driving. The savings from improved journey time reliability over the 30-year period are estimated to be £7.84m.

³ TAG UNIT 3.3.5: http://www.dft.gov.uk/webtag/webdocument/3_Expert/5_Economy_Objective/3.3.5.htm

Costs

The monetised costs of Controlled Motorways come from:

- installation costs;
- maintenance costs (including renewal after 15 years);
- enforcement costs; and
- an increase in overall journey times.

The installation cost for the Controlled Motorways Scheme on the M25 J2 to 3 is £6m. This covers all the required infrastructure (gantries, Controlled Motorways Indicators, EMS, enforcement and CCTV cameras, MIDAS), plus management costs.

The renewal costs of the system have been based on the generic values developed from the M25 J10 to 16. The total spent on renewal over the 30-year period is estimated at £656,670.

The Police will enforce the speed limits on the Controlled Motorway Scheme. Discussions with the Police authority, in this case Kent are ongoing with regards to finalising agreement of the costs to enforce the scheme. The Highways Agency will pay an estimated annual administration charge of £259,000 to the Police authority, in this case Kent which covers the both the M20 J4-7 and M25 J2-3 schemes.

On the M25 J10 to 16 the peak-time effect of Controlled Motorways on journey times was neutral (see Table 1). Off-peak, there were small increases in journey times (the signals slow down the traffic, but flow breakdown was unlikely to occur). Overall, this meant that there was a small disbenefit in journey times from the introduction of Controlled Motorways.

To estimate the effect on journey times for a generic motorway, Faber Maunsell and TRL developed a complex spreadsheet that models the effect of Controlled Motorways at various flow levels. Controlled

Motorways show a journey time benefit at certain flow levels, a disbenefit at others, and are neutral at other times. Over the 30-year period there is estimated to be a slight increase in overall journey times to a cost of £2.1m.

Breakdown of Net Benefits of the Controlled Motorway Scheme

The following table details the costs and benefits that contribute to the Net Benefit in the Summary Information on Page 5. All costs and benefits are over a 30-year period and are expressed as Present Value (PV) prices. (i.e. the value today of amounts of money in the future).

Table 3 - 30-year BCR for the Controlled Motorway Scheme

(2008 prices)

	Anti-clockwise	Clockwise	Overall
Journey Time	-£872,064	-£1,278,729	-£2,150,794
Accident Savings	£12,267,345	£10,923,718	£23,191,062
Journey Time Reliability	£3,603,730	£4,243,357	£7,847,087
Emissions	£184,680	£192,842	£377,523
Installation	-£3,040,000	-£3,040,000	-£6,080,000
Renewal	-£328,335	-£328,335	-£656,670
Maintenance	-£32,714	-£32,714	-£65,427
Enforcement	-£1,884,955	-£1,884,955	-£3,769,908
Total	£9,897,687	£8,795,184	£18,692,873
BCR	2.87	2.66	2.77

The Controlled Motorways Scheme would be tuned to optimise the benefits of the scheme. This would likely be to result in an improvement in the BCR for the scheme.

Other Issues

Controlled Motorways has a small impact on a number of measures, including noise and fuel consumption. These changes have not been included in the economic assessment.

Controlled Motorways on the M25 will have no discernible impact on the landscape. There is no new land take for the scheme, and no new gantries have been constructed as part of the scheme.

The introduction of Controlled Motorways will improve driver compliance with speed limits, in line with Government policy.

OTHER INFORMATION

Operational Regimes

The AMI signals will implement mandatory variable speed limits as flows reach capacity, in exactly the same way as the CM scheme on the M25 J10-16. The AMI signals will remain blank in periods of low traffic flow, indicating to drivers that they should treat the Variable Speed Limit (VSL) stretch as any other stretch of motorway.

Fixed Signing

Fixed gateway signs will be used to inform motorists entering VSL that they are in a VSL area and that overhead signs and signals should be obeyed. There will be fixed gateway signs to inform motorists when they are exiting a VSL Area and returning to normal motorway operation.

Enforcement

In order to achieve compliance with the Operational Regimes, it will be necessary to enforce them. Highways Agency Digital Enforcement Camera System (HADECS-Home Office Approved) will be used to automatically enforce variable speed limits. The enforcement of variable speed limits will be undertaken utilising experience gained from the M25 and M42 schemes.

Options considered

Option 1 (Baseline) – To do nothing will retain the status quo for existing daily congestion, accident and pollution levels increasing pro-rata year on year.

Option 2 – The Variable Speed Limit proposal between Junctions 2 and 3 will contribute to:

- Reducing congestion.
- Providing more reliable journey times.
- Reducing driver stress.
- Reducing accidents.
- Reducing CO2 emissions.

The Highways Agency recommends Option 2.

Business Sectors Affected

All businesses have the potential to benefit from the introduction of Controlled Motorways.

The M25 scheme will be of particular benefit to the people living in Kent.

Issues of Equity or Fairness

The legislation does not favour any particular type of road user above others. The variable speed limits may slow some vehicles, but overall, congestion is expected to reduce together with overall journey times.

Compliance Costs for Business, Charities and Voluntary Organisations

The legislation will not add to compliance costs for business, charities or voluntary organisations.

Competition Assessment

The measures are not expected to have any implications for competition.

Enforcement and Sanctions

The legislation does not introduce any new offences or sanctions. Variable speed limits will be enforced using gantry-mounted speed enforcement cameras.

Monitoring and Review

The operation of the variable speed limit scheme will be monitored and assessed to establish the effectiveness of the system on traffic flows, accidents and environmental factors.

Consultation

The scheme designers recognise the need to consult on the detailed proposals prior to the scheme's introduction. A consultation took place with affected stakeholder groups and interested parties. The outcome of the consultation can be found in the Summary of Consultation Responses document which is available on the HA website.

Implementation and Delivery Plan

The current scheme has now completed construction.

Post Implementation Review

A period of traffic behaviour analysis and assessment will take place once the system is operational, but before the enforcement equipment is made active. This period of time will be used to review traffic flows and conditions thus enabling the computer algorithms which control the system to be 'fine tuned' if required.

Summary and Recommendations

The Highways Agency recommends the introduction of Controlled Motorways onto the M25 J2-3. This will produce considerable benefits:

- A reduction in emissions
- A reduction in noise levels
- A reduction in vehicle operating costs
- Improved driver behaviour
- A reduction in driver stress

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added to provide further information about non-monetary costs and benefits from Specific Impact Tests, if relevant to an overall understanding of policy options.

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

<p>Basis of the review: [The basis of the review could be statutory (forming part of the legislation), it could be to review existing policy or there could be a political commitment to review];</p> <p>The review will be undertaken to assess the benefits of introducing Variable Speed Limits on M25 J2-3. Following the opening of a road scheme, the Highways Agency undertakes an evaluation to see whether it has brought the benefits anticipated and whether the other impacts of the scheme were as predicted. This ongoing programme of evaluation is called POPE (Post Opening Project Evaluation).</p>
<p>Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?]</p> <p>The operation of the scheme will be reviewed to ensure that the system is operating as expected, and that the information and instructions provided to drivers is consistent, coherent and appropriate to the traffic conditions</p>
<p>Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]</p> <p>Assessment of system parameters to ensure that the scheme is operating correctly. Assessment of driver compliance with the system.</p>
<p>Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured]</p> <p>Current traffic conditions after widening.</p>
<p>Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]</p> <p>1) The scheme should be displaying appropriate signals. Inappropriate signals will be eliminated by retuning the system parameters.</p> <p>2) Drivers should be complying with the signals. High levels of non-compliance will be addressed by increased enforcement and/or additional driver education.</p>
<p>Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review]</p> <p>Real-time traffic and signal data is currently being collected and analysed from the M25 J2-3. This will continue once the scheme has been implemented.</p> <p>Journey time and accident data will also be available.</p>
<p>Reasons for not planning a PIR: [If there is no plan to do a PIR please provide reasons here]</p>

Annex 2: Specific Impact Tests

Statutory Equity Duties Impact Test

The M25 Controlled Motorways scheme was assessed according to the Equity and Human Rights Commission's guidance. A screening test demonstrated that the wider EIA test would not be of relevance.

Screening Test

Does the policy affect service users, employees or the wider community?

No, the M25 controlled motorways scheme will not likely affect the public services, employees or the wider community.

Is it a major policy, with a significant effect on how functions are delivered?

No, the M25 controlled Motorways scheme will not affect how public service functions are delivered

Will it have a significant effect on how other organisations operate?

No, the M25 Controlled Motorways scheme will not affect how organisations operate

Does it involve a significant commitment of resources?

No, the M25 Controlled Motorways scheme represents a smaller resource commitment than alternative civil projects.

Does it relate to an area where there are known inequalities?

No, the motorway transport infrastructure is not known to be affected by equality issues.

Competition Assessment

The M25 Controlled Motorways scheme was assessed according to the Office of Fair Trading's guidance. A set of filter questions demonstrated that the wider SIT test would not be of relevance.

Filter Questions

Directly limit the number or range of suppliers?

No, the M25 Controlled Motorway scheme will not limit the number or range of suppliers.

Indirectly limit the number or range of suppliers?

No, the M25 Controlled Motorway scheme will not indirectly limit the number or range of suppliers.

Limit the ability of suppliers to compete?

No, the M25 Controlled Motorway scheme will not limit the ability of suppliers to compete.

Reduce suppliers' incentives to compete vigorously?

No, the M25 Controlled Motorway scheme will not reduce suppliers' incentives to compete.

Small Firms Impact Test

The M25 Controlled Motorways scheme was assessed according to the Department for Business Innovation and Skills' guidance. The following initial assessment was carried out to assess whether small firms would be affected. It was determined that the wider SFIT test would not be required.

Filter Questions

Does the regulation apply to small businesses or affect the business environment in which they operate?

No, the M25 Controlled Motorway scheme will not affect the business environment in which small businesses operate.

Greenhouse Gas Impact Test

The M25 Controlled Motorways scheme was assessed according to the Department for Energy and Climate Change's guidance. Petrol use for transport was identified as a non-traded source of greenhouse gas emissions.

On the similar M25 J10-16 Controlled Motorways scheme CO₂ emissions were reduced by 1,184 tonnes in the first year. It has been calculated that £377,523 emissions saving (2008 prices) will be made as a result of the proposed M25 Controlled Motorways scheme, equivalent to 5110 non-traded tonnes of CO₂.

Wider Environmental Impact Test

The M25 Controlled Motorways scheme was assessed according to the Department for Environment Food and Rural Affairs' guidance. The following initial assessment was carried out to assess whether small firms would be affected. It was determined that the wider SFIT test would not be required.

Filter Questions

Will the policy option be vulnerable to the predicted effects of climate change?

No, the M25 Controlled Motorway scheme will not be vulnerable to the predicted effects of climate change.

Will the policy option lead to a change in the financial costs or the environmental and health impacts of waste management?

No, the M25 Controlled Motorway scheme will not lead to a change in the financial costs or the environment and health impacts of waste management.

Will the policy option impact significantly on air quality?

No, the M25 Controlled Motorway scheme will not lead to significant impacts on air quality. There will be a small reduction in CO₂ emissions as a result of the scheme.

Will the policy option involve any material change to the appearance of the landscape or townscape?

No, the M25 Controlled Motorway scheme will not lead to any material change to the appearance of the landscape or townscape.

Will the proposal change 1) the degree of water pollution, 2) levels of abstraction of water or 3)

exposure to flood risk?

No, the M25 Controlled Motorway scheme will not change the degree of water pollution, levels of abstraction of water or exposure to flood risk.

Will the policy option change 1) the amount or variety of living species, 2) the amount, variety or quality of ecosystems?

No, the M25 Controlled Motorway scheme will not change the amount or variety of living species or the amount, variety and quality of ecosystems.

Will the policy option affect the number of people exposed to noise or the levels to which they're exposed?

No, the M25 Controlled Motorway scheme will not affect the number of people exposed to noise or the levels to which they are exposed.

Health and Well-being Impact Test

The M25 Controlled Motorways screen was assessed according to the Department of Health's guidance. The screening questions demonstrated that a wider impact test would be necessary due to the effects on transport and accidents. A positive impact was demonstrated.

Health and Well-being Impact Test

Are the potential positive and/or negative health and well-being impacts likely to affect specific sub groups disproportionately compared with the whole population?

There are potential positive impacts of the M25 Controlled Motorways scheme in the following areas:

- Accident reduction – accidents will be reduced a result of the scheme.
- Accident response – attendance speeds of emergency services, as well as the safety of service personal will be enhanced by incident management features described within the consultation document.
- Transport reliability – journey time reliability will be improved as a result of the scheme. This will improve reliability for public transport and commercial users, but not encourage increased motor vehicle usage.

No specific sub groups are likely to be disproportionately affected compared to the whole population.

Are the potential positive and/or negative health and well-being effects likely to cause changes in contacts with health and/or care services, quality of life, disability or death rates?

The M25 Controlled Motorways scheme will have the following health effects:

- There will be no affect upon community contact with health and/or care services.
- There will be an improvement in quality of life through an increase in transport reliability, reducing levels of stress; and
- Disability and death rates will be reduced due to improvements in motorway safety within the scheme area.

Are there likely to be public or community concerns about potential health impacts of this policy change?

It is unlikely that there will be public or community concerns about potential health impacts of the M25 Controlled Motorways scheme.

Human Rights Impact Test

The M25 Controlled Motorways scheme was assessed according to the Ministry of Justice's guidance. All possible human rights were considered and it was concluded that the proposed scheme will not impact upon these.

Justice Impact Test

The variable speed limits being introduced by the legislation will have a minor impact on the justice system. The variable speed limits on the overhead gantries will be enforced by the HADECS enforcement cameras. No new offences are introduced as a result of the scheme and the offenders to be prosecuted will be at the discretion of the police. There may be a slight increase in the applications to the courts but this will depend on the levels of compliance and the level to which the police decide to prosecute offenders.

Rural Proofing Impact Test

The M25 Controlled Motorways screen was assessed according to the Commission for Rural Communities' impact toolkit. It was concluded that there would be a minor positive impact upon rural communities.

Rural Proofing Impact Test

Will the policy affect the availability of public and private services

No, the M25 Controlled Motorway scheme will not affect the availability of public and private services.

Will the policy rely on existing service outlets, such as schools, libraries and GP surgeries?

No, the M25 Controlled Motorway scheme will not rely on existing service outlets.

Will the policy rely on the private sector or a public-private partnership?

No, the M25 Controlled Motorway scheme will be maintained under public sector maintenance contracts.

Will the cost of delivery be higher in rural areas where clients are more widely dispersed and economies of scale can be harder to achieve?

No, the M25 Controlled Motorway scheme is funded by the Highways Agency and will not place an increased cost upon rural areas.

Will the policy rely on local institutions for delivery?

No, the M25 Controlled Motorway scheme will not rely on local institutions for delivery.

Will the policy affect travel needs or the ease/cost of travel?

The M25 Controlled Motorway scheme will ease travel due to improvements in journey reliability. The cost of travel will be reduced due to reductions in motorway delays.

Does the policy rely on infrastructure (e.g. broadband ICT, main roads, utilities) for delivery?

The M25 Controlled Motorway scheme will rely on motorway infrastructure and there may be off peak lane closures to facilitate delivery. However, the scheme will bring about long term transport benefits.

Will delivery of the policy be challenging at the 'edges' of administrative areas?

No, the M25 Controlled Motorway scheme will not be challenging at the 'edges' of administrative areas.

Is the policy dependant on new buildings or development sites?

No, the M25 Controlled Motorway scheme is not dependant on new buildings or development sites.

Does the policy rely on communicating information to clients?

No, the M25 Controlled Motorway scheme does not rely on communicating information to clients.

Will the policy impact on rural businesses, including the self employed?

No, the M25 Controlled Motorway scheme will not impact upon rural businesses or the self employed.

Will the policy affect land-based industries and, perhaps, rural economies and environments?

No, the M25 Controlled Motorway scheme will not affect land-based industries, rural economies or environments.

Will the policy affect people on low wages or in part-time or seasonal employment?

No, the M25 Controlled Motorway scheme will not affect people on low wages or in part time or seasonal employment

Will the policy target disadvantaged people or places?

No, the M25 Controlled Motorway scheme will not target disadvantaged people or places.

Sustainable Development Impact Test

The M25 Controlled Motorways scheme was assessed according to the Department for Environment Food and Rural Affairs' guidance. A full sustainable development impact test has been completed and it has been concluded that there will be no impact upon sustainable development as a result of the scheme.

1. Environmental Standards

1a. Are there any significant environmental impacts of your policy proposal (see Wider Environment Specific Impact Test)?	
Yes	No ✓
If the answer is 'yes' make a brief note of the impacts below:	
No, there are no significant environmental impacts as a result of the M25 Controlled Motorways proposal. A small reduction in CO ₂ emissions will result from the scheme.	

2. Intergenerational impacts

2a. Have you assessed the distribution over time of the key monetised and non-monetised costs and benefits of your proposal? This assessment can be included in your Evidence Base or put in an annex.	
Yes ✓	No
A full assessment of the key monetised and non-monetised benefits of the M25 Controlled Motorways scheme has been included.	

2b. Have you identified any significant impacts which may disproportionately fall on future generations? If so, describe them briefly.
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Yes	No ✓
No, the M25 Controlled Motorways scheme will not result in impacts which fall disproportionately on future generations.	

3. The purpose of the second stage is to bring together the results from the impact assessment with those from the first stage of the SD test. The following questions are intended to reflect the uncertainties in the cost benefit analysis and help you consider how to proceed in the light of further evidence from the first stage of the SD test.

3a. Indicate in the appropriate box whether the balance of monetised costs and benefits is:				
Strongly positive	Moderately positive	Roughly neutral / finely balanced	Moderately negative	Strongly negative
	✓			

3b. Indicate in the appropriate box whether the balance of non-monetised costs and benefits is likely to be:				
Strongly positive	Moderately positive	Roughly neutral / finely balanced	Moderately negative	Strongly negative
	✓			

3c. Indicate in the appropriate box whether the results of the SD questions 1-3 are, on balance, likely to be:				
Strongly positive	Moderately positive	Roughly neutral / finely balanced	Moderately negative	Strongly negative
	✓			

3d. Indicate in the appropriate box whether, overall, the balance of the monetised and non-monetised costs and benefits and the sustainability issues is considered to be:				
Strongly positive	Moderately positive	Roughly neutral / finely balanced	Moderately negative	Strongly negative
	✓			

3e. Provide an explanation of the final result from 3d, explaining, for example, how you have compared monetised and non-monetised costs and benefits and how you have resolved any conflicts between the cost-benefit results and the SD results.

A full costs/benefits assessment has been made as part of the Impact Assessment. There were no conflicts between this and the SD results. Positive benefits are likely to result from the M25 Controlled Motorways scheme.