Title: **M1Junction 6A-10 Controlled Motorway**	Impact Assessment (IA)
Lead department or agency: HIGHWAYS AGENCY	**IA No:** Dft00006
	Date: 01/09/2010
	Stage: Final
Other departments or agencies:	**Source of intervention:** Domestic
	Type of measure: Secondary legislation
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Summary: Intervention and Options

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

The M1 J6A to 10 Widening scheme was completed recently and opened in December 2008. Since then, advisory speed limits and associated messages have been displayed on new overhead gantry electronic signs by Highways Agency (H.A.) control centre in order to manage traffic flow at times of traffic queuing or when congestion occurs. The level of compliance experienced is below that considered satisfactory and necessary to realise the optimum benefits in terms of safety and congestion relief from the controlled motorway infrastructure built into the Widening scheme.

Secondary legislation is required to implement variable mandatory speed limits on the M1 Motorway between junctions 6A and 10 (both directions).

What are the policy objectives and the intended effects?

The enforcement of variable mandatory speed limits on the M1 J6A-10 will maximise improved traffic flow by reducing congestion through the securing of greater compliance with speed limits. This will lead to increased safety through a reduction in accidents, and will result in a lower environmental impact through the reduced carbon emissions from smooth flowing traffic.

The enforcement procedure will be managed by the police utilising data provided by speed cameras and vehicle recognition systems mounted on M1 Junction 6A-10 overhead gantries.

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

Option 1: (Preferred): To Introduce Secondary legislation in the form of regulations made under section 17 of Road Traffic Regulation Act 1984 to introduce mandatory speed limits. This policy will contribute to:

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

Option 2: (Baseline) : Do nothing. This retains the exisiting operation of advisory speed limits, when conditions require, and existing congestion, accident and pollution levels.

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 commencing in 2011
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For final proposal stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.

Signed by the responsible SELECT SIGNATORY: ..... Date: .....

Summary: Analysis and Evidence

Policy Option 1

Description:

Price Base Year 2008	PV Base Year 2008	Time Period Years 30	Net Benefit (Present Value (PV)) (£m)		
			Low: Optional	**High:** Optional	**Best Estimate: £39.8M**

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional		Optional	**Optional**
High	Optional		Optional	**Optional**
Best Estimate	£9M		£303k	**£13.8M**

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

Installation costs £8,700,000
Maintenance £ 200,000
Renewal £3,100,000
Enforcement £1,800,000

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

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional		Optional	**Optional**
High	Optional		Optional	**Optional**
Best Estimate	N.A.		£3.26M	**£53.6M**

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

Reduction in accidents £ 47,600,000
Reduction in carbon emissions £ 1,200,000
Improvement in journey time reliability £ 9,900,000
Improvement in journey time £ - 5,100,000

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

Reduction in noise levels

Key assumptions/sensitivities/risks **Discount rate (%)** 3.5

1) The impacts of a controlled motorway on the M25 junctions10 to 16 will be transferable to the M1 junctions 6A -10

2) The flow growth over the life of the scheme

Impact on admin burden (AB) (£m):			Impact on policy cost savings (£m):	In scope
New AB: Nil	**AB savings:** No	**Net:**	**Policy cost savings:**	Yes/No

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			England		
From what date will the policy be implemented?			01/12/2010		
Which organisation(s) will enforce the policy?			police		
What is the annual change in enforcement cost (£m)?			£0.1M		
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:**	**Non-traded:** 0.065	
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:** N.A	**Benefits:** N.A	
Annual cost (£m) per organisation (excl. Transition) (Constant Price)	**Micro** 0	**< 20** 0	**Small** 0	**Medium** 0	**Large**
Are any of these organisations exempt?	No	No	No	No	No

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	12
Small firms Small Firms Impact Test guidance	No	12
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	Yes	12
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	12
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	12
Human rights Human Rights Impact Test guidance	No	13
Justice system Justice Impact Test guidance	No	12
Rural proofing Rural Proofing Impact Test guidance	No	13
Sustainable development Sustainable Development Impact Test guidance	No	12

[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	
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

The M1 J6a-10 Widening scheme was carried out between 2005 and 2009; during that period it was determined that additional infrastructure to enable the operation of Controlled Motorway would be provided concurrently with the widening works. The widened motorway was opened to traffic in December 2008 and since that date the signal setting capability provided by the controlled motorway infrastructure has been operated in advisory mode with respect to displaying of variable speed limits.

The H.A. is proposing to implement regulations to introduce variable mandatory speed limits on the M1 between junction 6A and junction 10 ("the Controlled Motorway Scheme").The Controlled Motorway Scheme together with the ability to enforce the variable mandatory speed limits will deliver a number of positive benefits with regard to, safer roads and a reduction in journey times without the need for more road construction. These are:

- Making best use of the existing infrastructure;
- Reducing congestion, and thereby maintaining the throughput of traffic
- Reduced traffic flow breakdown
- Reduced accidents
- More reliable journey times
- Reduced carbon dioxide emissions

Since 1995, a controlled motorway 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 (AMI) 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 variable mandatory speed limits signals will be displayed on gantries. The signals mounted on overhead gantries are capable of automatically displaying one of 3 mandatory settings, 40 mph, 50 mph or 60 mph. All the lanes above the main carriageway will automatically display the mandatory speed limit as appropriate to the road conditions. In addition, 40mph signals are set to protect backs of queues. Lower speed limits such as 20mph or 30mph can be manually set by operators when considered necessary for the safety of the travelling public or those working within the carriageway.

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 Project Steering Group, comprising suitably qualified representatives from the Department for Transport and the H.A.. Methodology and results were reviewed on at least a quarterly basis, with interim meetings focusing 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 Traffic Appraisal (NATA) be adopted. 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 was a controlled motorway with variable mandatory speed limits, speed enforcement, and congestion algorithms.

The M25 project team conducted a comprehensive data analysis as part of developing the business case methodology. There were several sources used to collect this data:

- Carriageway 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 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 a controlled motorway 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 a controlled motorway 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 can now be displayed as one of the alternative mandatory speed limits.	Y
User reaction	The controlled motorway 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%.

ESTIMATE OF EFFECT OF INTRODUCING A CONTROLLED MOTORWAY ON TO THE M1 JUNCTIONS 6A TO 10

The general effects of introducing a controlled motorway on to the M1 between junctions 6A and 10 have been assumed to be the same as those observed on the existing section of controlled motorway on the M25.

The impact of the introduction of a controlled motorway 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 M1 and the distance over which the scheme is to be applied (16.7 km).

The economic values in the 'Summary: Analysis & Evidence' information (see p2) have been expressed in 2008 prices. The Appraisal Period has been set at 30 years (DfT requirement). This is 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 guidance (TAG [Traffic Appraisal Guidance] Unit 3.5.4). Changes in the value of time and vehicle occupancies have been obtained from the Values of Time and Operating Costs Guidance (Unit 3.5.6).

The anticipated effects of the Controlled Motorway 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 [Net present Value] 'Best Estimate'. Low and high flow growth rates have been applied to provide estimates of the sensitivity of the impacts; these have been used to provide the Net Benefit Range. The traffic growth for the M1 used in the calculations was:

Table 2 - Traffic growth

Years	Flow growth rate (per annum)		
	Low	Medium	High
1-5	1%	2%	2.5%
6-10	1%	1.5%	2%
11-15	1%	1%	1.5%
15-20	0.5%	1%	1%
20-25	0.5%	0.5%	1%
25-30	0.5%	0.5%	0.5%

Benefits

The monetised benefits of controlled motorways come from:

- a reduction in accidents;
- a reduction in carbon emissions;
- an improvement in journey time reliability;
- a disbenefit from an increase in journey times.

The benefits achieved are proportional to the traffic flow. The two-way AADT [Average Annual daily Traffic] on the M1 junctions 6A to 10 (following the widening to four lanes) is 141,000.

There is currently no data on accident rates from the newly-widened M1 junctions 6A to 10. Accident rates from the period prior to the widening are not relevant, as the road layout has been redesigned, in particular around junction 7 (A414, formerly M10). For the purposes of this assessment, it has been assumed that the accident rate on the M1 junctions 6A to 10 is the same as that on the M25 junctions 7 to 10 (a 4-lane section with similar daily traffic flows).

The accident rates on the two carriageways of the M25 junctions 7 to 10 are 11.7 and 13.0 PIAs [Personal Injury Accidents]/100m veh.Km [vehicle kilometres]. The average rate for English motorways is 9.2 PIAs/100m veh km (from the Stats19 database for 2002-2006), so there is a slightly higher rate of

accidents than on an average motorway (due to the higher than average flows). To provide a conservative estimate for the calculation of accident savings on the M1 junctions 6A to 10 following the introduction of a controlled motorway, the lower accident rate of 11.7 PIAs/100m veh Km has been assumed to be prevailing before scheme implementation. in this assessment of benefits.

The application of a 15% reduction (as found on M25) in accidents leads to 9.45 PIA's/100 veh Km This gives a number of accidents saved, which is converted to an economic value using the cost per injury accident obtained from the Highways Economic Note, 2002, Table 4a. This provides an economic benefit of £1,580,000 in the first year; the benefits in future years have been estimated using the flow growth rates in Table 2.

On the M25 controlled motorway section, CO2 [carbon dioxide] emissions were reduced by 1,184 tonnes in the first year. Factoring this number by the relative flows on the current and proposed sections of the M25 and M1, and the relative lengths of the schemes, provides an estimated reduction in CO2 emissions on the M1 junctions 6A to 10 of 1,784 tonnes in the first year. This has been converted to a carbon value and then to an economic value, as described in the Greenhouse Gases Sub-Objective Guidance (TAG Unit 3.3.5). The economic benefit for the first year is estimated to be £46,000. The benefits in future years have been estimated using the flow growth rates in Table 2, plus the predicted changes in individual vehicle emissions contained in the WebTAG Guidance.

On the M25 (junctions10 to junctions16), journey time reliability was measured across a variety of day types. On a typical weekday (Tuesday, Wednesday,Thursday), journey time reliability improved: there was a reduction in standard deviation of 0.005. On other days (Mondays, Fridays, Saturdays and Sundays), no discernible change was detected. The benefits for a typical weekday have been converted to an economic value as described in the Reliability Sub-Objective Guidance (TAG Unit 3.5.7). The economic benefit for the first year has been estimated by multiplying this by 150 (the number of typical weekdays in a year). The effect on the other 206 days of the year has been assumed to be neutral. The benefit in the first year is estimated to be £156,000. The benefits in future years have been estimated using the flow growth rates in Table 2.

On the M25 junctions10 to 16, the peak-time effect of the controlled motorway 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 the controlled motorway.

To estimate the effect on journey times for a generic motorway, Faber Maunsell, a consultant, and Transport Research Laboratory (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.

The flow profile for the Controlled Motorway Scheme has been inserted into the Journey Time spreadsheet, and the yearly traffic growth has been applied. This has provided a yearly total for the impact of the Controlled Motorway Scheme on journey times. The effect in the first year is estimated as a disbenefit of £63,000. The journey time impacts have been added to the costs in the 'Summary: Analysis & Evidence' information.

Costs

The monetised costs of controlled motorways come from:

- installation costs;
- maintenance costs (including renewal after 15 years);
- enforcement costs;

The installation cost for the Controlled Motorway Scheme is £9M. This covers all the required infrastructure (gantries, AMIs, EMS, enforcement and CCTV cameras, MIDAS), plus management costs.

The maintenance and renewal costs of the system have been based on the generic values developed from the M25. These are typically £11,200 per year (current prices), plus a renewal cost after 15 years of £5,500,000 (constant prices).

The Police will enforce the speed limits on the Controlled Motorway Scheme. The H.A. will pay an estimated annual administration charge of £100,000 to a Police authority, in this case Hertfordshire Constabulary.

Breakdown of NPV Best Estimate

The following table details the costs and benefits that contribute to the Net Benefit in the 'Summary: Analysis & Evidence' information. All costs and benefits are over a 30-year period and are expressed as Present Value (PV) prices.

Type	Cost
Installation	£8,700,000
Maintenance	£ 200,000
Renewal	£3,100,000
Enforcement	£1,800,000
Total	£13,800,000

Type	Benefit
Accidents	£47,600,000
Journey time reliability	£9,900,000
Carbon	£1,200,000
Journey Time	-£ 5,100,000
Total	£53,600,000
Net Benefit	£39,800,000

Other Issues

A controlled motorway has a small impact on a number of measures, including noise, fuel consumption and operating costs. These changes have not been included in the economic assessment.

The Controlled Motorway Scheme utilises infrastructure provided for the Widening scheme; there is no new land take for the scheme, and all the gantries with motorway indicators are already in place. The landscape impact assessment and mitigation measures implemented for the widening scheme took into account the controlled motorway infrastructure. The scheme will, therefore, have no discernible further impact on the landscape.

The introduction of the controlled motorway on M25 (see table 1) has been shown to improve driver compliance with speed limits; it is expected to have the same effect on the Controlled Motorway Scheme.

OTHER INFORMATION

Operational Regimes

The gantry mounted AMI signals will implement variable mandatory speed limits as flows reach capacity, in exactly the same way as the scheme on the M25. 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 mandatory speed limits. The enforcement of variable mandatory speed limits will be undertaken utilising experience gained from the M25 and M42 schemes.

Options considered

Option 1: (Preferred) – The variable mandatory speed limit proposal between junctions 6A and 10 will contribute to:

Reducing congestion.

Providing more reliable journey times.

Reducing driver stress.

Reducing accidents.

Reducing CO2 emissions.

Option 2: (Baseline): – To do nothing will retain the status quo for safety, congestion and pollution levels on this section of the M1 motorway. The existing daily congestion, accident and pollution levels will increase pro-rata year on year.

The Highways Agency recommends Option 1.

Business Sectors Affected

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

The Controlled Motorway Scheme will be of particular benefit to the people living in the Hemel Hempstead and Luton areas.

Issues of Equity or Fairness

The legislation does not favour any particular type of road user above others. The variable mandatory 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 (HADECS 2 - Highways Agency Digital Enforcement Camera System 2).

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 recognised the need to consult on the detailed proposals prior to the scheme's introduction.

A consultation has taken place with affected stakeholder groups and interested parties. Consultation packs were issued. Following completion of the consultation, stakeholder feedback has been assessed and a report on results from the consultation has been prepared and will be published.

In keeping with similar controlled motorway schemes, a Project Board will be set up to discuss the proposals, this board will consist of members from:

- Highways Agency, Bedford
- The E TechMAC [Technical Managing Agency Contractor] (Peek - Mouchel)
- The TMC [Term Maintenance Contractor] for Area 8 (CarillionWSP)
- Hertfordshire Constabulary
- TRL (Transport Research Laboratory)
- Hertfordshire County Council

Additional publicity material will be sent to:

- RAC and AA motoring organisation
- Hertfordshire Fire and Rescue Service
- Local Road User Groups

Implementation and Delivery Plan

The Controlled Motorway Scheme completed its design and provision of basic infrastructure in common with the M1 junctions 6A to 10 widening scheme between 2006 and 2009. Commissioning will be in Winter 2010, subject to ministerial acceptance of the proposals and supporting conclusions reached from the consultation.

Post Implementation Review

A period of traffic behaviour and assessment is taking place before the enforcement equipment is made active. This data from this period will be used as base data to review subsequent data of traffic flows and conditions under controlled motorway operation thus enabling the computer algorithms which control the system to be 'fine tuned' if required. Consultation with Hertfordshire Safety Camera Partnership will be an essential element of this task.

Summary and Recommendations

Business case benefits have already been assessed on a similar scheme operating on the M25 between junctions 10 and 15 since 1995, and this was extended to junction 16 in 2002. The following benefits have been demonstrated as part of that scheme:

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

Note: A relatively small negative benefit due to very slightly increased journey time (duration) occurred.

The Highways Agency recommends Option 1, outlined at the beginning of this document. The Controlled Motorway Scheme has the potential to produce considerable benefits by aiming to reduce congestion, improve journey time reliability, reduce accidents, driver stress and pollution levels.

Specific Impact Tests

Competition Assessment

The Office of Fair Trading (OFT) guidelines have been followed in order to assess the impact of the Controlled Motorway Scheme upon market competition.

It has been concluded that there will not be any adverse effects upon competition in the marketplace. The introduction of the Controlled Motorway Scheme will reduce travel times and improve journey reliability which will contribute positively to competition in the marketplace. There will be agglomeration and competition benefits resulting from employment density change, due to improved journey times and productivity working.

Small Firms Impact Test

The Department of Innovation, Business and Skills (BIS) guidelines have been followed in order to assess the impact of the Controlled Motorway Scheme upon small firms. The Controlled Motorway Scheme will not have an adverse effect upon small firms. The proposals do not impose any new or increased burden. Small businesses have not been consulted separately. However, the Highways Agency and their partners will be sending targeted information on the scheme to numerous organisations within the area.

Legal Aid

The Department for Constitutional Affairs (DCA) guidelines have been followed in order to assess the impact of the Controlled Motorway Scheme upon Legal Aid.

There are no new criminal sanctions or civil penalties that will be introduced as part of the Controlled Motorway Scheme. Therefore, a full Legal Aid impact test is not required.

Sustainable Development

The Government's Sustainable Development Strategy guidelines have been followed in order to assess the impact of the Controlled Motorway Scheme upon sustainable development.

The Controlled Motorway Scheme will not have an adverse effect upon sustainable development.

Carbon Assessment

The Governments carbon assessment guidelines have been followed in order to assess the impact of the Controlled Motorway Scheme upon carbon emissions.

The Controlled Motorways Scheme will provide a reduction in the emission of harmful gases and noise pollutants. The Controlled Motorway Scheme will not have an adverse effect upon carbon emissions.

Other Environmental

Full environmental assessments have been carried out in accordance with the Highways Agency (HA) national and local environmental strategies and policies including:

- Towards a Balance with Nature: The Highways Agency Environment Strategic Plan; and
- Living with Roads: An Environmental Strategy for England's Main Roads.

Health Impact Assessment

The Department of Health (DH) guidelines have been followed in order to assess the impact of the proposed scheme upon public health.

A full health impact assessment will not be necessary as the Controlled Motorways Scheme will not have a significant impact upon public health.

Race Equality

The Commission for Race Equality guidelines have been followed in order to assess the impact of the Controlled Motorways Scheme upon race equality.

The Controlled Motorways Scheme aims to establish a sustainable balance between wider economic growth, social inclusion and environmental objectives. It is therefore not expected that the Controlled Motorways Scheme will impact upon race equality.

Disability Equality

The Disability Rights Commission (DRC) guidelines have been followed in order to assess the impact of the Controlled Motorways Scheme upon the disabled.

A full disability impact assessment will not be necessary as the Controlled Motorways Scheme will not have an adverse impact upon the disabled.

Gender Equality

The Government Equalities Office guidelines have been followed in order to assess the impact of the Controlled Motorways Scheme upon gender equality.

A full gender equality assessment will not be necessary as the Controlled Motorways Scheme does not discriminate between genders.

Human Rights

The Ministry of Justice guidelines have been followed in order to assess the impact of the Controlled Motorways Scheme upon human rights.

The Controlled Motorways Scheme will not have an adverse affect upon human rights.

Rural Proofing

The Commission for Rural Communities (CRC) guidelines have been followed in order to assess the impact of the Controlled Motorways Scheme upon rural circumstances and needs.

The Controlled Motorways Scheme will not have an adverse affect upon rural circumstances and needs.

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added where the Specific Impact Tests yield information 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.

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]; Review after operational 'switch on'.
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?] The operation of the scheme will be reviewed to ensure that the system if operating as expected, and that the information and instructions provided to drivers is consistent,coherent and appropriate to traffic conditions.
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] Assessment of system parameters to ensure that the scheme is operating correctly. Assessment of driver compliance with the system.
Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured] Current traffic conditions.
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] 1. The scheme should be displaying appropriate signals. Inappropriate signals will be eliminated by re-tuning the system parameters. 2. Drivers should be complying with the signals. Low levels of compliance will be addressed by increased enforcement and/or additional driver education.
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] Real time traffic traffic and signal data is currently being collected and analysed from the M1 J6A-10. This will continue once the scheme has been implemented. Journey time and accident data will also be available.
Reasons for not planning a PIR: [If there is no plan to do a PIR please provide reasons here] The scheme is one of several being rolled out on to the H.A. Network. The controlled motorway concept has already been proved from studies on the M25 J 10-16. Therefore, no formal benefit evaluation is planned for the M1 J6A-10 scheme.

Add annexes here.