

M1 J39 to J42 Managed Motorway
Consultation Report

M1MM



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Executive Summary

This document details the Highways Agency's response to comments raised during the consultation period on the proposal to introduce variable mandatory speed limits for the M1 motorway J39 to J42 Managed Motorway scheme.

The consultation period began on 29th July 2013 and closed on 9th September 2013 and provided an opportunity for interested parties and members of the public to comment on the proposal.

Managed Motorway Objectives

The Highways Agency is committed to building upon the success of the existing managed motorways schemes which have been implemented on a number of busy motorway sections across the country. It is expected that the managed motorways scheme will:

- Increase motorway capacity and reduce congestion;
- Smooth traffic flows;
- Provide more reliable journey times;
- Increase and improve the quality of information for the driver

Consultation Process

The consultation document M1 J39 to J42 Managed Motorway together with appendices was issued as follows:

- By post direct to around 100 stakeholders
- Made open to public consultation on the Highways Agency's website

The consultation encouraged representative organisations, businesses and members of the public to make contact with the Highways Agency and can be summarised as follows:

- 20 responses were received within the consultation period
- 8 responses were in favour
- 6 responses were not in favour
- 3 responses questioned the detail of the proposals
- 3 responses made no comment

The responses raised a number of issues that are addressed later in this report.

Recommendation

Given the positive responses and due consideration of the issues raised this report recommends that variable mandatory speed limits be implemented on the M1 between Junctions 39 and 42.

Note

Since the consultation ended, managed motorways have been renamed “Smart motorways”. However, as consultation on the implementation of VMSL on the M1 J39-42 scheme referred managed motorways, this report also refers to managed motorways.

1. Introduction

1.1 Purpose of Document

The purpose of this document is to provide a summary of the responses received during the M1 Junction 39 to Junction 42 managed motorway scheme consultation and to address the various issues raised. The 6 week consultation took place between 29th July 2013 and 9th September 2013 and provided an opportunity for stakeholders, such as road user groups, local government organisations, other interested parties and members of the public to comment on the proposal to implement managed motorways on the M1 between Junctions 39 and 42.

1.2 Background

Full details of the background to the scheme are published in the Annex 'Evidence Base' of this consultation report document.

1.3 Governments Code of Practice on Consultations

We are conducted this consultation in accordance with the Government's Consultation Principles. The consultation criteria are listed below.

- 1) Subjects of Consultation** – The objectives of any consultation should be clear and will depend to a great extent on the type of issue and the stage in the policy-making process – from gathering new ideas to testing options.
- 2) Timing of Consultation** – Engagement should begin early in policy development when the policy is still under consideration and views can genuinely be taken into account.
- 3) Making information useful and accessible** – Policy makers should think carefully about who needs to be consulted and ensure the consultation captures the full range of stakeholders affected. Information should be disseminated and presented in a way likely to be accessible and useful to the stakeholders with a substantial interest in the subject matter.
- 4) Transparency and Feedback** – The objectives of the consultation process should be clear. To avoid creating unrealistic expectations, any aspects of the proposal that have clearly been finalised and will not be subject to change should be clearly stated.
- 5) Practical Considerations** - Consultation exercises should not generally be launched during local or national election periods.

Further information about the Consultation Principles can be located on the Cabinet Office website:

<https://www.gov.uk/government/publications/consultation-principles-guidance>

2. Summary of Responses

2.1 Analysis of Responses

In total, 20 responses were received, 3 of which were nil returns with no comment. Of the respondents who made comment, 8 were for the proposal, 6 were against and 3 expressed reservations.

Those who responded in favour of the proposals are:

- 3 Members of the Public
- DM UK (Disabled Motoring UK)
- Peel Holdings
- ADEPT (Association of Directors of Environment, Economy, Planning and Transport)
- IAM (Institute of Advanced Motorists)
- RHA (Road Haulage Association)

2.2 Support for the Managed Motorway Scheme

8 of the 20 respondents to the consultation were in favour of the managed motorway scheme, agreeing that the implementation of the scheme would lead to an improvement of travelling conditions on the M1 between junctions 39 and 42.

The RHA stated that because the route is usually busy and frequently congested they see managed motorway as a sensible solution, and support the proposal which could reduce congestion, improve journey time reliability and reduce accidents at the same time as improving air quality and reducing noise pollution.

Peel Holdings, a large company, welcome the proposals as they will help to reduce congestion and improve the free flow of traffic on this section of the M1, as well as assisting in supporting economic growth in the region.

DMUK considers that the introduction of managed motorway will lead to an improvement of travelling conditions though they do have a concern about their members breaking down in a live lane.

The IAM accepts the policy of converting busy stretches to managed motorway and suggest that design and operation should be kept under constant review so any lessons learnt from previous schemes can be implemented quickly. Similarly, ADEPT is fully supportive of the concept of managed motorways as it seeks to make best use of existing national infrastructure whilst minimising intrusion onto adjacent land and local infrastructure.

Of the 9 members of the public who responded, 3 thought that it would lead to an improvement in travelling conditions on this section of the network, though 2 of them did raise concerns about increased noise and worsening air quality.

2.3 Objections to the Managed Motorway Scheme

There were 6 objections to the implementation of managed motorways and all were from members of the public. Of the 5 who cited reasons for their objection, 4 were safety related and 1 was related to increased noise and reduced air quality.

2.4 Other Representations (West Yorkshire Resilience Forum)

Kirklees Council, West Yorkshire Local Transport Partnership (WY LTP) and West Yorkshire Police all made representations which referred to an ongoing dialogue between the Highways Agency and the West Yorkshire Resilience Forum.

Whilst it is generally accepted that the extra capacity provided by managed motorway general travelling conditions should be improved and made safer because of the ability to control the speed and flow of traffic, there are some serious concerns. These mainly relate to the safety of occupants of vehicles which breakdown or are involved in collisions especially in low flow conditions in the dark because of the increased risk of being struck from the rear in a live lane. WYRF have so far not been assured that the HA will be able to spot and respond to such situations quickly enough. There are also concerns over the safety of Emergency Services' staff (including Highways Agency Traffic Officers (HATOs)).

3. Issues Raised and the Highways Agency's Response

The comments received during the consultation period have been analysed and a response prepared.

Table 3.1 sets out the results of this analysis together with the corresponding Highways Agency response.

Insert table

Table 3.1: RESPONDENTS' COMMENTS AND THE HIGHWAYS AGENCY'S RESPONSE		
Ref	Respondent's Comment	Highways Agency's Response
1	<p>It's not as safe as if someone breaks down they have no where to go. It's dangerous as on managed motorways as many people accelerate to 80-90 mph, then brake harshly before each overhead sign. On normal motorways the people stick to the limit stay to the left and and the people who don't stick to the right. Now there's higher risk, especially in the right lane, of rear end collisions.</p> <p>J39-42 doesn't need a managed motorway. We can drive perfectly fine on the motorway how it is now. Its useless to install a manged motorway as it just disturbs everyone on the M1 for the next 2 years and has little benefit (especially as its just being installed for 4 junctions)</p>	<p>Managed Motorway All Lane Running will not reduce the overall safety of road users. Existing managed motorway schemes have not only improved reliability and eased congestion, but have delivered significant safety benefits. Evidence from the M42 Managed Motorway scheme shows that personal injury accidents have more than halved and there have been no fatalities in the five years it has been in operation. The severity of accidents has also reduced significantly.</p> <p>We know that managed motorways work - they reduce congestion and improve journey times by smoothing traffic flow, all achieved by using VMSL and giving more space to road users by making the hard shoulder available as a traffic lane.</p> <p>There will be roadworks on the M1 for a period of time, so there will be disruption to road users. It will be short term pain for long term gain - and this gain means less congestion and more reliable journey times.</p>
Ref	Respondent's Comment	Highways Agency's Response

2	<p>Increased noise to local housing as cars will be running closer to them. Increased noise may decrease house prices.</p> <p>Have noise studies been undertaken to establish if there will be an increase in noise to local residents? If so have remedial measures been put in place?</p>	<p>A noise assessment has been undertaken as part of the Environmental Assessment. In the short-term (on opening) there are predicted to be some minor increases in noise. In the longer term, noise impacts are predicted to be negligible. There is the ability to make representation to the Highways Agency over this issue via the Part 1 Claims process.</p>
3	<p>An increase in the already high level of noise adjacent to my property is unacceptable. What the the impact be on the environment adjacent to my property due to increase in air pollution.</p> <p>Have you considered putting in place sound barriers and air pollution absorbing materials?</p>	<p>As part of the Environmental Assessment air quality assessment has also been undertaken, and overall, construction and operational air quality effects are not considered to be significant for the scheme. Noise impacts are also predicted to be negligible in the longer term. Currently there is no provision for noise barriers in the proposed scheme but any resurfacing of the carriageway will be completed in low noise surfacing.</p>
4	<p>The average speed on the outer lane is higher, well over 70mph. I have witnessed utter chaos when a lorry has suddenly pulled out to the second lane and speeding drivers find they have nowhere to go as everyone else changes lane. Unless there is much more public education on how to use managed motorways, there is a higher risk of accidents through drivers behaving in unexpected ways.</p>	<p>Managed Motorway All Lane Running will not reduce the overall safety of road users and we expect it will deliver safety benefits compared to the existing route (ie if no improvements were delivered). It is an evolution in managed motorway design, not a whole new concept and drivers will not be asked to do anything they do not do already. A new driver information campaign is being developed for managed motorways all lane running. The campaign will advise drivers how to drive on different types of managed motorway, help drivers understand the environment and help drivers know what to do if they break down. The campaign material will be distributed through a wide range of channels and through close working with partners.</p>
Ref	Respondent's Comment	Highways Agency's Response

5	<p>Reduced number of ERAs compared to M42 (reference scheme) along with reduced signs (using less gantries and more MS4s), limiting the visibility and effectiveness of VMSL and increased traffic is likely to result in an increase in incidents and breakdowns which may block live running lanes. Scheme is a dangerous compromise on safety which will cost lives of both members of the public and those working on the motorway. HA have not demonstrated that a tall vehicle in lanes 1,2 or 3 cannot block the view of a verge mounted MS4 from lane 4, and thus the speed limit is likely to be unenforceable. If VMSL turns out to be enforceable only when displayed on gantries then drivers will become quickly aware of this and this would remove the smoothing effect on traffic flow that VMSL has. There has not yet been a pilot of all lane running and it is likely to be dangerous. The Govt should spend more money on fewer schemes which meet the M42 standard.</p>	<p>By increasing the the spacing of ERAs we expect to eliminate as far as possible discretionary stops and therefore the risks (eg being hit by another vehicle being stopped on the hard shoulder and rejoining the mainline) associated with them. Evidence supports the view that many road users will still be able to make it to a refuge area in an emergency, even when the distance is increased. Research has been undertaken through a driver simulator with members of the public on the operation of the new specification. The results demonstrate that drivers understand that mandatory speed limit signs and signals posted over the verge or over a single lane apply equally to all lanes. None of the findings suggested that increasing the spacing between gantries would significantly affect driver compliance. Experience from monitoring the M42 and M6 demonstrates that in heavy traffic, when speed limits are posted, a driver's actual speed is largely dependent on the other traffic. In this way, traffic speed generally self regulates to the posted speeds and compliance has been very good. Speed enforcement is part of the compliance regime necessary to make journey times more reliable and the police will continue to be responsible for enforcement. The new design is being delivered to provide better value for the UK taxpayer, but without compromise to those that operate on the managed motorway.</p>
6	<p>Once the hardshoulder is converted to a running lane there is a real danger of multiple serious shunts and being stranded, possibly with critical injuries, or worse, and no access for emergency services. Will not use MM ALR under any circumstances.</p>	<p>The hard shoulder is used far less now for the purpose it was provided - emergency use only - than in the past. We will be able to create an emergency lane(s) on any lane on the motorway, managing traffic with signs and signals to provide access for the emergency services and traffic officers.</p>
Ref	Respondent's Comment	Highways Agency's Response
7	<p>Adequate resources are not in place to deal with enforcement when VMSL is introduced. Fear that pressure on road policing budget may mean enforcement will prove challenging.</p>	<p>Speed enforcement will continue to be part of the managed motorway concept and will be from a gantry or verge mounted position. The police will remain responsible for enforcement.</p>

8	<p>Introduction of MM could cause alarm to disabled drivers who are fearful of what might happen should they breakdown where there is no hard shoulder. Some fear they would be less safe than other drivers as they cannot leave their car in the event of a breakdown, and could be stuck in their vehicle in a dangerous situation.</p>	<p>Evidence from the M42 pilot suggests that using the hard shoulder as a running lane has not compromised safety. It is expected that the frequency of breakdowns in live lanes will be substantially less than the existing frequency of breakdowns on the hard shoulder as a significant proportion of breakdowns will be able to get to a refuge area. But, some vehicles will not be capable of this and will come to a stop in a live running lane. The extra controls provided through MM ALR's features will mitigate this risk. It is expected that the overall risk of the new specification is likely to be less than on dual three lane motorway with a hard shoulder. For those who cannot get off the carriageway, CCTV will be in operation and operators will be able to spot the vehicle(s). Signals and mandatory speed limits can then be set to inform other drivers of the traffic conditions, eg lane closed ahead or to slow down as there has been an incident.</p>
9	<p>Safety will be significantly worse (potentially 200% worse according to HA figures) in some circumstances ie if a vehicle stops in the carriageway or emergency services are working on the motorway.</p>	<p>The M1 will remain at least as safe as it is now. The 200% referred to is actually in relation to one specific hazard - when a vehicle stops in a running lane off-peak (when signals are not set). Although it is predicted that there will be an increased number of vehicles that stop in a live lane as a consequence of the increased number of live lanes, this does not mean there will be an increase in the number of incidents (traffic collisions) as a result. This is because managed motorways include measures to monitor traffic and to provide protection to vehicles by closing lanes and/or reducing the speed limit.</p>

4. Summary

As the response analysis shows, there has been little response from the organisations invited to comment. This may be because:

- The M1 J39-42 managed motorway scheme is well understood by users and it is felt no comment is necessary;
- The information published on the Highways Agency website, in the media, at the Public Information Exhibitions in January and February 2013, the consultation document and the opening of the M62 J25 to 30 Managed Motorway has adequately addressed concerns.

There has been a mixed response to the consultation, with 6 objections to the proposal.

It is considered that the issues raised during the consultation have been addressed in the analysis. Dialogue with the West Yorkshire Resilience Forum began, and is continuing, outside the scope of consultation on the introduction of Variable Mandatory Speed Limits.

4.1 Recommendations

In support of the introduction of Variable Mandatory Speed Limits and all lane running on the M1, evidence from the M42, where a managed motorway has been in operation since 2006 using Variable Mandatory Speed Limits and using the hard shoulder as a running lane, suggests that not only has congestion reduced and journey time reliability improved, but that safety has also improved, with accidents more than halving on that stretch.

Having addressed the various objections and issues that have been raised in the consultation process, it is recommended that Variable Mandatory Speed Limits are implemented on the M1 between Junctions 39 and 42.

Annex A: Evidence Base

Business Need

The M1 motorway is a strategic route for local, regional and international traffic, carrying in excess of 113,000 vehicles a day. Congestion is already a serious problem and, based on national road traffic forecasts, the extent and severity of congestion is expected to significantly increase over the next 15 to 20 years. Delays are experienced most week days during peak times and this severely affects journey time reliability. With a predicted rise in vehicle numbers of 19% by 2015 and 37% by 2025 from 2003 levels (Source: National Transport Model – Road Transport Forecasts 2008), this section of motorway has the potential to represent a major constraint.

- a) Daily traffic flows between Junction 39 and 42 averaged 109,038 vehicles a day during 2008 with a peak flow of 141,386 vehicles a day between Junction 41 and 42.
- b) The route is considered one of the most congested trunk roads in the north of England with levels congestion in the top twenty percent.
- c) Congestion is a particular problem between Junction 41 and Junction 42 both northbound and southbound.
- d) The route contains two-lane slip road layouts, with ghost island merges and diverges at each junction between J39 and J42
- e) The worst northbound journey times between Junction 39 and Junction 42 are approximately one and a half minutes longer than the reference journey times of five minutes forty five seconds during the morning and evening peaks.
- f) The worst southbound journey times between Junction 39 and Junction 42 are approximately one minute twenty seconds longer than the reference journey times of five minutes forty seconds during the morning and evening peaks.
- g) Heavy Goods Vehicles (HGV) make upon average 14% of vehicles using this stretch of motorway, which is in line with national averages. However, the scheme links the M1 and M62, which is a Strategic *National Corridor* for Freight movements containing 20% HGV traffic
- h) HGV traffic combined with a challenging vertical alignment, including gradients approaching 3%, can give rise to slow moving vehicles.

Development of the Scheme

This section of the M1 was included in the South and West Yorkshire Multi-Modal Study (SWYMMS) undertaken for Government Office for Yorkshire and Humber, which reported in 2002. One of the recommendations from the study was that the motorway should be widened to 4 lanes and that this capacity improvement should be protected by use of Active Traffic Management and physical demand management measures to control traffic flows.

The SWYMMS proposals were rejected on cost grounds and in July 2003 the Secretary of State tasked the HA to investigate means to increase capacity through making the best use of existing infrastructure on the M1 and M62 in South and West Yorkshire supported by appropriate Integrated Demand Management (IDM) initiatives to 'lock-in' capacity (SWYMBUS).

Following the successful pilot of hard shoulder running (HSR) at congested times on the M42 east of Birmingham, the Highways Agency conducted a feasibility study (Advanced Motorway Signalling and Traffic Management Feasibility Study) to investigate whether there was a case for rolling out HSR across the motorway network. The feasibility study, which reported in March 2008, found a strong economic case for implementing further HSR schemes and identified a number of sections that would benefit from HSR in the short and medium term, including the M1 Junctions 39-42 Managed Motorway scheme.

In January 2009, Ministers agreed that hard shoulder running (HSR) should be pursued on the M1 Junctions 39-42 Managed Motorway scheme given the strategic assessment that HSR was a technically feasible alternative to widening that might provide a high proportion of the benefits of Dual 4-lane Motorway at lower cost.

In developing a new roads programme as part of the Spending Review in 2010, the Coalition government looked to identify those schemes that offered the best investment. All major road schemes on the strategic road network were assessed against four broad criteria; public value for money, strategic value, deliverability and non-monetised impacts. The overall result of the prioritisation exercise was to ensure that the best value schemes were chosen to start in the period up to 2015. The M1 J39-42 Managed Motorway scheme was one of those identified

In the Autumn Statement in 2011 the Government announced the investment of over £1bn (of which around £900m will be in the Spending Review 2010 period) to tackle areas of congestion and improve the national road network. Additional funding was allocated to this scheme to support an earlier start of works. To help facilitate this, the Single Option PCF methodology was adopted, accelerating some of the Development Phase activities into the Options Phase.

To make the UK's infrastructure fit for the 21st century, the Government published its National Infrastructure Plan 2011 alongside the Autumn Statement. Within this document it included the aim to;

- implement a new specification for managed motorways which will reduce the costs of implementation by up to a quarter. This specification will be applied to up to eight schemes in the Department for Transport / Highways Agency investment programme which are due to get underway between now and 2015.

This included the M1 Junction 39-42 managed motorways scheme as construction will start after Autumn 2012.

The Highways Agency has subsequently announced that this scheme is expected to start in 2014/2015

The scheme supports the DfT vision by improving flow rates, reducing queues and decreasing emissions by minimising the amount of fuel used per journey. Relieving congestion will improve the living environment for the local community and transport users will benefit from improved journey times, ambience and road quality. This supports the overall competitiveness and productivity of the national economy through time savings and improved reliability for business users.

Preferred Option

The Highways Agency introduced the concept of Managed Motorway All Lane Running, now Smart Motorway All Lane Running, in March 2012 as the single option for all future MM schemes, including the M1 J39-42 scheme.

The managed motorway scheme aims to deliver a number of benefits. It is anticipated that it will;

- Reduce Congestion
- Provide more reliable journey times
- Reduce the number of personal injury accidents
- Increase and improve the quality of information for road users

Specific Measures include:

- Conversion of the hard shoulder to become a full time running lane
- Variable mandatory speed controls to regularize traffic flows during periods of congestion
- Overhead gantries after each entry merge providing speed control information
- Subsequent verge signals will repeat this information approximately every 800m
- Signals will be used to control incidents on the carriageway
- Through Junction Running (TJR) will be provided on both carriageways at J40 and 41
- Slip roads will be improved where justified:
 - lane gains at J39 northbound and J42 southbound
 - lane drops at J42 northbound and J39 southbound
 - J41 northbound is a special case where the slip road will become a lane gain joined to the J42 exit – effectively 5 lanes on the link.
- Emergency Refuge Areas (ERAs) will be included on both carriageways between J39 - 40 and J40 - 41
- Works in the central reserve to install concrete barrier throughout

- There is no room on the short link between J41 - J42 to include ERAs, but emergency telephones will be provided on the exit slip roads (where hard shoulders are present)
- Lighting requirements have been assessed
- Environmental have been made. The effect on air quality is not determined as significant.
- Safety Assessments have been made.

The Effect of Introducing the Managed Motorway Scheme

The environmental assessment has adopted the methodology contained in the HA Design Manual for Roads and Bridges (DMRB) Volume 11, Interim Advice Note (IAN)125/09, Supplementary guidance for users of DMRB Volume 11 and IAN 161/12: Managed Motorways – All Lane Running.

The environmental assessment has determined that a statutory Environmental Impact Assessment is not required for this scheme. A Notice of Determination to this effect was published on 8 July 2013.

An economic assessment has been carried out in accordance with the relevant guidance documents IAN 108/08, IAN 164/12, DMRB and WebTAG.

The economic inputs are derived from the large scale model covering South and West Yorkshire, known as the SWYMBUS model. As the base year of the SWYMBUS model was 2005, it was updated in 2010/11, with the update limited to the area affected by the scheme. This model was known as the Wakefield Area Motorway Model (WAMM). The WAMM was then updated further in 2013 to ensure it used the most up to date version of the software with the added benefits of recent recommendations for coding at motorway junctions.

Economic Assessment mainly involves the determination of the costs and benefits of the scheme using traffic flows and speeds obtained from the traffic model. The assessment excludes night time, weekend and Bank Holiday benefits, so the calculations may understate the true benefits. Costs can be defined as the total amount of money spent on constructing and maintaining the scheme.

Benefits can be defined as the total savings in terms of the following:

- Changes in journey times
- Changes in the costs of operating vehicles
- Changes in accidents
- Changes in maintenance delay
- Changes in delays during construction (always a dis-benefit, and recorded as a negative benefit)
- Changes in indirect taxes
- Changes in journey time reliability
- Changes in noise

- Changes in air quality

When a scheme is implemented the majority of benefits are usually demonstrated to be positive, however, some of them can be a negative benefit (disbenefit).

Costs and benefits are compared to determine whether the scheme represents good value for money. The costs and benefits are assessed over a 60 year period from the first year of the scheme opening

The appraisals have been undertaken using industry standard computer programmes TUBA (Transport User benefit Appraisal), INCA (Incident Analysis), COBA (Cost Benefit Analysis) and QUADRO (Queues and Delays at Roadworks).

- TUBA was used to assess travel time savings by multiplying those savings by monetary values
- TUBA was also used to assess Vehicle Operating Costs (VOCs) which is a mixture of increases and decreases, due to changes in fuel consumption and changes in distance travelled
- COBA was used to assess accident benefits by multiplying predicted increases or decreases in accident numbers by their cost
- QUADRO was used to assess accident benefits by multiplying predicted delays by monetary values
- QUADRO was also used to assess maintenance delay benefits by multiplying predicted increases or decreases by monetary values
- INCA was used to assess changes in Journey Time Reliability by multiplying predicted changes in reliability by a monetary value
- Standard environmental spreadsheets were used to assess monetary impacts of the scheme on Greenhouse Gas emissions, Noise and Air Quality

Cost Benefit Analysis

- The scheme has an initial BCR¹ of 2.4, comprising a Present Value of Benefits (PVB) of £305m and a Present Value of Costs (PVC) of £125.5m, at 2010 prices. The largest benefits are to business users (£190m) and commuting and other users (£150m), while there is a large monetised disbenefit from increased Green House Gas emissions (-£50m). The monetised analysis also includes accident benefits and disbenefits from noise and air quality.
- The adjusted BCR of the scheme takes into consideration monetised impacts of factors such as reliability which are less robust. Reliability benefits have been estimated, using the INCA software, at £106m, resulting in an adjusted BCR of 3.2.

¹ The initial BCR refers to the BCR before adjustment for less robust factors like reliability and Wider Impacts, not to the stage of scheme development.

- Low and high traffic growth sensitivity tests have been carried out around the central forecasts. Economic analysis of these alternative traffic growth assumptions is limited to time savings and vehicle operating costs. In the low growth scenario these benefits reduced by 40% and in the high growth scenario they increased by 50%. Under the assumption that the other monetised impacts (impacts during construction and maintenance, accidents, environmental factors and reliability) are unchanged, this results in an adjusted BCR range of 1.9-4.8.

Analysis of Monetised Costs and Benefits (£000s)

Noise	-£3,437
Local Air Quality	-£2,191
Greenhouse Gases	-£50,539
Journey Ambience	£0
Accidents	£9,584
Economic Efficiency: Consumer Users (Commuting)	£89,602
Economic Efficiency: Consumer Users (Other)	£60,671
Economic Efficiency: Business Users and Providers	£188,758
Wider Public Finances (Indirect Taxation Revenues)	£12,549
Option Values	
Present Value of Benefits ^(see notes) (PVB)	£304,997
Broad Transport Budget	£125,500
Present Value of Costs ^(see notes) (PVC)	£125,500
OVERALL IMPACTS	
Net Present Value (NPV)	£179,477
Benefit to Cost Ratio (BCR)	2.43
<p>Note : This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.</p>	

Non-Monetised Benefits

- There are a number of impacts which it is not possible to monetise, but which should be taken into account.

Air Quality

- Overall construction and operational air quality effects are not considered to be significant for the proposed scheme.

Landscape and Visual Impact

- The proposed scheme would have a negligible to slight impact on landscape character, given that it concerns minor modifications along an established motorway corridor which is already part of the local landscape fabric.
- The local landscape is generally of low historic value and will not be affected by the proposed scheme. There will be minimal impact on the setting of listed buildings and conservation areas.
- The key visual impact will be the new gantries which will increase the visual presence of motorway infrastructure. However they will not impact significantly on the existing views from the road.

Ecology and Nature Conservation

- Habitat loss is relatively minor and all other impacts are predicted as neutral. Construction related impacts will be controlled through the implementation of a Construction Environmental Management Plan (CEMP) which will include measure to prevent damage to designated sites, protected species and valuable habitats.

Noise and Vibration

- The results of the assessment for the opening year (2015) indicated that the majority of dwellings and other sensitive receptors are predicted to experience an increase in noise with the scheme. For the majority, the predicted increase would be negligible, though a minor increase is predicted for some. However, over the period to 2030 the magnitude of change would reduce, partly due to resurfacing of the road.

Effects on All Travellers

- Overall, during construction, traveller stress is anticipated to be moderately adverse due to the number of drivers likely to be affected by the construction period, though this would be temporary.
- With the scheme in place, the overall impact of driver stress, incorporating frustration, fear of accidents and route uncertainty is anticipated to be slightly beneficial.

Better Regulation

On 23 November 2012, DfT Better Regulation Team advised HA that managed motorway schemes with an approved business case that required regulation to enforce mandatory speed limits were out of scope of *One In One Out*. As a consequence, there is no longer an obligation to go through the Better Regulation Clearance process. This in turn, removes the need to produce an Impact Assessment (IA) or gain Regulatory Policy Committee, Reducing Regulation Committee or Economic Affairs Committee clearances. It also removed the requirement for MM Sis to be included on the Statement of New Regulation.

Although the exemption has been granted, the statutory elements of Consultation on the Introduction of Variable Mandatory Speed Limits (VMSL), and the laying of the Statutory Instrument before Parliament are still to be adhered to.

Human Rights

The Managed Motorway scheme will not have an adverse effect on Human Rights.

Enforcement

The legislation does not introduce any new offences or sanctions and VMSL will be enforced using gantry and verge mounted speed enforcement cameras.

In managed motorway schemes the enforcement of the speed limits will use the Highways Agency Digital Enforcement Camera System (HADEC). The digital photographs are transmitted electronically to a Police Fixed Penalty Office (FPO) where the offending drivers are identified and the appropriate action taken. However, experience has shown that a relatively small number of offenders will have to be processed through the Magistrates' Courts. The complete process impacts on the Highways Agency, Police, Crown Prosecution Service (CPS) and HM Courts Service.

This has been dealt with by an agreement between the four parties (Managed motorway National Enforcement Strategic Agreement, December 2009).

Offences captured by HADEC are processed with financial support from the Highways Agency by virtue of Section 38 of the Vehicle (Crime) Act 2001. This enables the Secretary of State to fund Police and others to support the enforcement of the non-compliance with posted variable speed limits.

Consultation

A consultation has taken place with affected stakeholder groups and interested parties. Stakeholder feedback has been assessed and the results from the consultation published.

Summary and Recommendations

The M1 J39-42 Managed Motorway scheme has the potential to produce considerable benefits by aiming to reduce congestion, improve journey time reliability and reduce the number of personal injury accidents.