



# Upgrading the M4 to a smart motorway

– road users' views  
May 2019

# Foreword



**U**pgrading transport networks is welcomed by users. Unfortunately, such investment will generally bring short-term disruption.

Users of the M4 motorway between Reading and London are starting to experience such short-term pain while the road is upgraded to a four-lane smart motorway. Transport Focus is pleased to be working with Highways England to apply the knowledge and learnings from several major rail improvement projects to the M4 works, including the expertise Transport Focus has acquired in researching users' awareness and experience of, and attitudes towards, such major upgrade programmes. It

is encouraging that Highways England wants to put the road user at the heart of its thinking and, specifically, to actively seek their views.

This initial research, summarised here, paves the way for Highways England to refine its communications and operational activities relating to the M4 smart motorway construction and to provide road users with the best possible experience while these changes take place.

**Guy Dangerfield**

Head of strategy  
Transport Focus

# Foreword



**C**ustomer service is one of our key imperatives and a focus of the M4 team. We continue to make progress to improve the customer experience on our network but there's clearly more we can do, and the opportunity to work with Transport Focus so closely on the project, provides better understanding of the customer needs and where we can make the most difference.

We recognise the importance of communication with our customers and will ensure that information is reliable and timely and also ensure that users are both aware of the benefits of the M4 smart motorway upgrade and have good information during the works. We'll help road users make informed choices about their journeys and develop better ways to communicate what is happening and when. We'll improve roadside communications and use other

channels, including apps and digital media, to provide current updates about the works and how they may affect these journeys.

Evidence shows smart motorways are just as safe as traditional motorways. We recognise however, that as well as being safe, drivers want to feel safe and understand how to use our motorways and, later this year, Highways England is launching a new campaign to provide this advice.

We thank Transport Focus for this welcome opportunity to partner with them in this research, and look forward to continuing this partnership to enhance the customer experience throughout the M4 upgrade.

**Shaun Pidcock**

Smart motorways programme director  
Highways England

# Introduction

## Background

Transport Focus is the independent transport user watchdog representing the interests of:

- rail passengers in Great Britain
- bus, coach and tram passengers across England outside London
- all users of England's motorways and major 'A' roads (the Strategic Road Network).

In its work for rail users Transport Focus has studied their expectations and experiences during major infrastructure projects including the rebuilding of Reading station, electrification of the Great Western main line through Bath Spa, the rebuilding of large parts of London Waterloo and the resignalling of Derby station. These works have disrupted passengers' journeys with overnight, weekend or longer weekday closures, diverted trains, reduced timetables, and replacement buses or coaches.

Through the course of these projects Transport Focus has developed a proven approach to researching passenger awareness of the works and the inevitable disruption they have brought to journeys. Transport Focus research has tracked: how awareness and knowledge builds over time as communications activity increases; the use of, and satisfaction with, a wide variety of information sources; support for the works; and – ultimately – passengers' experiences during any closure of the railway.

Highways England operates and maintains England's motorways and major 'A' roads, the Strategic Road Network (SRN). It has embarked on a programme of works to upgrade the M4 motorway between junctions 3 (Hayes) and 12 (Theale/Reading West)<sup>1</sup> into a smart motorway<sup>2</sup>. Preparatory work started in 2018 between junctions 8/9 (Maidenhead) and 10 (A329(M)/Wokingham) and the project is due for completion in Spring 2022. During the

works road users will experience temporary speed limits, narrow lanes, lane closures, occasional overnight and weekend closures of stretches of the motorway.

Transport Focus has worked in partnership with Highways England to research road users' awareness, expectations and experiences of the M4 smart motorway work and the associated disruption to journeys on this key stretch of the SRN. Not only will this research be used to help enhance the experience for road users during the M4 works, it will also inform the planning and execution of other major Highways England projects in the future.

The starting point for the M4 road user research has been Transport Focus's established 'model' for planned engineering disruption on the railways. That model has been adapted to suit the challenges – some similar, some quite different – presented by motorway usage (see more about the research method on page 11).

The research programme to date has consisted of both qualitative research (primarily focus groups) to explore drivers' awareness, understanding and expectations, and quantitative surveys to measure awareness, knowledge and attitudes in a format that can be replicated in additional waves of research over time. This will allow Transport Focus to track changes in awareness and attitudes – potentially driven by changes made to the way the work is implemented and/or communicated as a result of learnings from each wave.

This document covers the initial qualitative research and the first wave of what is intended to be a multi-wave tracking exercise to run at intervals until the works are completed. Illustrative quotations included in the report were made by the drivers and fleet managers who Transport Focus spoke to.

<sup>1</sup> See: <https://highwaysengland.co.uk/projects/m4-junctions-3-12-smart-motorway/>

<sup>2</sup> See the RAC's explanation of smart motorways: <https://www.rac.co.uk/drive/advice/driving-advice/smart-motorways/>



## Recommendations

In light of the research summarised in this report Transport Focus offers the following recommendations to Highways England:

- Awareness of the M4 smart motorway upgrade work is at an encouraging level but there is scope to do more to ensure individual drivers are made aware of the project and its benefits, particularly those living some distance from the stretch of road concerned and/or who use it infrequently.
- Road users are keen to receive information about the work through a wide variety of channels including roadside signage, news media, mapping tools and apps as well as social media, information at motorway service areas (MSAs) and, for businesses, direct contact with Highways England. In exploring all of these, Highways England should note users' particular interest in receiving information via satellite navigation systems and from the likes of Google Maps and Waze.
- Users are particularly concerned to get timely information about overnight and weekend closures (including any changes to previously published plans). Highways England should ensure such changes are communicated in good time – both ahead of the work and as drivers approach any temporary closure. In addition, more assistance could usefully be provided to drivers regarding alternative routes (and potentially alternative modes) available during disruption or closures.
- Transport Focus notes a substantial degree of misunderstanding about the operation of smart motorways and a belief among many drivers that hard shoulder running will be implemented only at peak times. There is also considerable concern about not having a hard shoulder, both in case of breakdowns but also for the ability of emergency services to access incidents. Providing more details about the operation of smart motorways – and on the M4 in particular – may help to overcome these issues, along with statistics that demonstrate the safety of smart motorways already in operation.
- Having established benchmark levels of awareness of and attitudes towards the smart motorway upgrade and the works required to achieve it, Highways England is encouraged to work with Transport Focus to conduct further waves of research and to monitor changes in road users' awareness and understanding.



# Key findings

## Journey satisfaction

Almost three in five (58 per cent) of the drivers interviewed for this research were 'satisfied' with their most recent experience of the M4 with one in five (19 per cent) saying they were 'very satisfied'.

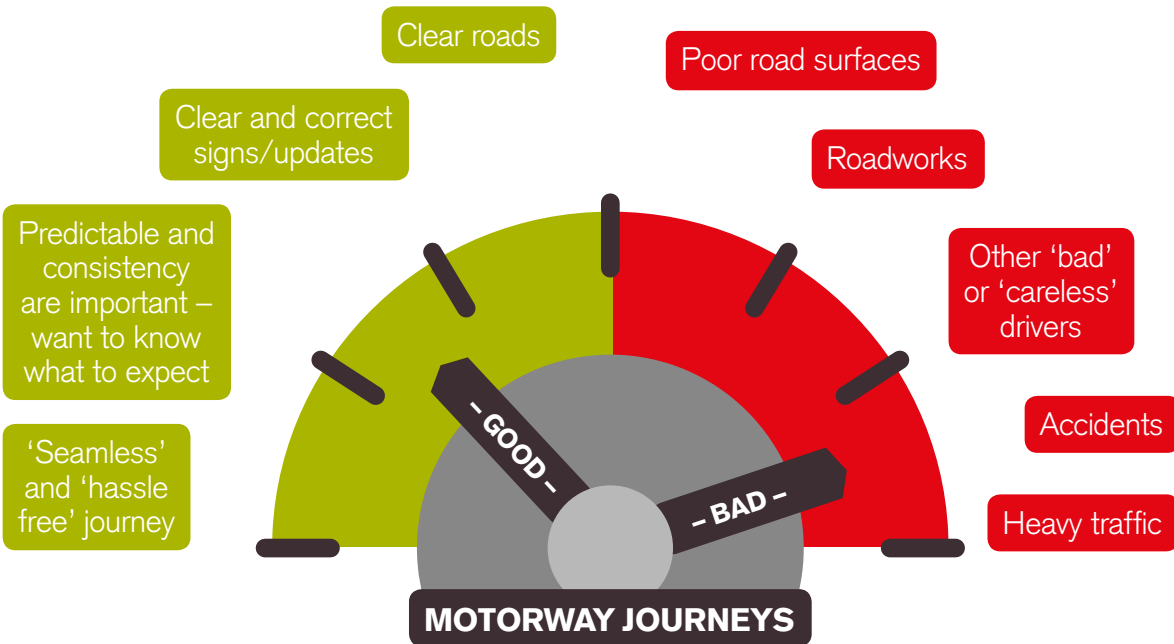
In the qualitative research road users described what makes for a good or bad journey on the motorway.

Transport Focus explored many of these areas in the quantitative research. Aspects with which drivers were most dissatisfied were:

- having somewhere to go in case of a breakdown (17 per cent)
- speed limits (13 per cent)
- the quality of the road surface (13 per cent)
- speed cameras (12 per cent)
- not seeing people actually working (12 per cent)
- the width of the lanes (11 per cent).



### What makes for a good or bad journey experience on the M4?



## Awareness of the smart motorway upgrade and potential for disruption

At the beginning of March 2019, half of drivers (51 per cent) claimed to be aware of the M4 smart motorway upgrade work. This is higher among fleet managers (65 per cent) and truck or van drivers (76 per cent). It should be noted that this stretch of the M4 (specifically junctions 8/9, 10 and 11) has been subject to roadworks over a number of years even before the start of the current programme and that road users may not appreciate which activities relate directly to the smart motorway work.

One third of drivers (34 per cent) claimed to know 'a fair amount' about the smart motorway work and six per cent 'a great deal'; more than four in ten (44 per cent) said they knew 'just a little'.

"I know that the hard shoulder is being upgraded to a lane to be used at certain times of the day and that while the work is being carried out there is a 50mph speed restriction in place."

"Extensive work in progress with a 50mph speed limit in force over most of the distance, and average speed monitoring cameras. Concrete central crash barriers are being constructed and gantries are being installed at intervals. The work will take around two years or more to complete."

"That it was planned to improve future traffic flow. Disruptions to the motorway network and local road impact assessments."

When asked what they knew about the M4 work, drivers' top, spontaneous mentions were:

- upgrade to smart motorway (17 per cent)
- traffic disruption (16 per cent)
- the hard shoulder being removed (13 per cent)
- the works taking a long time (9 per cent)
- improved traffic flow (6 per cent), and
- provision of an extra lane (6 per cent).

In drivers' minds, short-term negative consequences appear, in the main, to outweigh the ultimate benefits that the upgrade is designed to deliver.

Also, there were many mentions of the hard shoulder removal and worries about what to do in an emergency and whether this is safe. This echoes what Transport Focus has heard in both the M4 qualitative stage and other research it has undertaken,<sup>3</sup> and suggests that further efforts are required to inform motorists about the operation of smart motorways and help allay their safety

concerns. A few of the drivers Transport Focus spoke to said they would like to see comparative accident statistics for smart and other motorways.

When prompted to consider various implications of the roadworks, drivers again tended to focus on the negative impacts upon their journeys – increased journey times (72 per cent), lower speed limits (68 per cent) and narrowed lanes (52 per cent). They were less inclined to mention specific activities such as rebuilding several bridges (29 per cent), working round the clock (28 per cent) or limiting significant noise to the daytime (16 per cent).

Transport Focus asked drivers what actions they might take to limit disruption to their journeys – just under half (44 per cent) were not planning to do anything different. Around a third said they would consider alternative routes (35 per cent) or travel at less busy times (29 per cent) while one in ten (10 per cent) would use an alternative mode such as the train.

<sup>3</sup> Notably our report Getting to the heart of smart – Road user experiences of smart motorways (<https://www.transportfocus.org.uk/research-publications/publications/getting-heart-smart-road-user-experiences-smart-motorways/>)



## Benefits and support for the M4 smart motorway upgrade

Reduced congestion (38 per cent) tops the list of perceived benefits, followed by faster (35 per cent) and more reliable (28 per cent) journeys. One in five (21 per cent) mention increased driver safety while almost a quarter (23 per cent) see no benefits to them personally.

"That the motorway is being upgraded to a smart motorway with the aim of reducing congestion and improving journey times."

"The motorway is being upgraded to allow all lane running and have a smart, variable speed limit to increase capacity and improve traffic flow at peak times."

Half of all drivers interviewed (49 per cent) supported the work – rising to seven out of ten fleet managers (70 per cent). 'Opposition' to the smart motorway upgrade is low with nine per cent of drivers saying they 'tend not to' and eight per cent saying they 'do not' support the work.



"If it leads to less congestion and faster moving traffic as happened on the M1 upgrade then it is a good thing."

"My experience of smart motorways is that they cause congestion even more than they reduce it."

"I have serious misgivings regarding the loss of the hard shoulder from the safety perspective of broken-down road users and rescue personnel."

Transport Focus noted in the qualitative research that many drivers instantly and instinctively supported the idea of completing the works in the shortest possible time, seemingly keeping the inconvenience for themselves to a minimum. Given the chance to reflect on this, most concluded that undertaking the work in stages actually makes greater sense; while the disruption and inconvenience may go on for longer, limiting the stretches impacted at any one time and consequently, limiting the length of temporary speed restrictions, provides for less frustration on each individual journey.

## Information channels

Roadside signs are currently the most effective means by which drivers learn about the work (33 per cent). That said, some drivers say they experience difficulty in absorbing lengthier messages:

"I'll be driving along and suddenly I'll see the word 'closure' and then I'm gone, and I almost actually need to go back past it to see when it's actually going to be closed, because I don't know when it's going to be closed! I don't have time to register it because obviously I'm driving."

Temporary information screens (21 per cent) and overhead gantry signs (19 per cent) are also effective, followed by local media news reports (19 per cent) and word-of-mouth from friends or colleagues (18 per cent). Just six per cent mentioned the Highways England website.

Looking to the future, one third of drivers (33 per cent) would like to get information through their satellite navigation system, a quarter (26 per cent) through a mapping tool such as Google Maps, and one in five via social media (18 per cent) or through a travel app such as Google's Waze<sup>4</sup> (also 18 per cent). In essence, Highways England should look to utilise almost all available channels to communicate with road users about the work.

At the time of the survey in March 2019, one third of drivers (32 per cent) were 'fairly satisfied' and a further seven per cent 'very satisfied' with information about the works. There is clearly potential to increase these numbers.

Although virtually half of all drivers surveyed (49 per cent) said there was nothing more they wished to know about the smart motorway work, this leaves half open to receiving for more information.

The timescales for the project top the list of desired information (15 per cent of all drivers surveyed), followed by information on planned disruption (5 per cent) and the benefits of the scheme (5 per cent). There were lower level

mentions (less than 3 per cent of drivers for each) for why the work is being undertaken, guarantees that the work will be completed on time, information on the impact of the works and how to avoid them, as well as questions about what a smart motorway is, and what to do if you break down where there is no hard shoulder.

"When are the various sections having the most work done? What's the benefit in terms of journey times and congestion? Will it just encourage more traffic and so end up with same congestion in a few years (like the M25)?"

"A risk analysis of what happens to vehicles that break down on a stretch of motorway with no hard shoulder."

"What will the safety impact be - it may reduce traffic waiting times, but will it really be safe?"

"Will the works be completed on time, ahead of schedule, or behind schedule?"

4 [www.waze.com](http://www.waze.com)



## Fleet managers

In answer to the question whether the M4 between junctions 3 and 12 currently meets the needs and requirements of their company/organisation, eight in ten fleet managers (79 per cent) replied that it did, with three in ten saying 'very much' so. Just four per cent said it does not meet their needs at all.

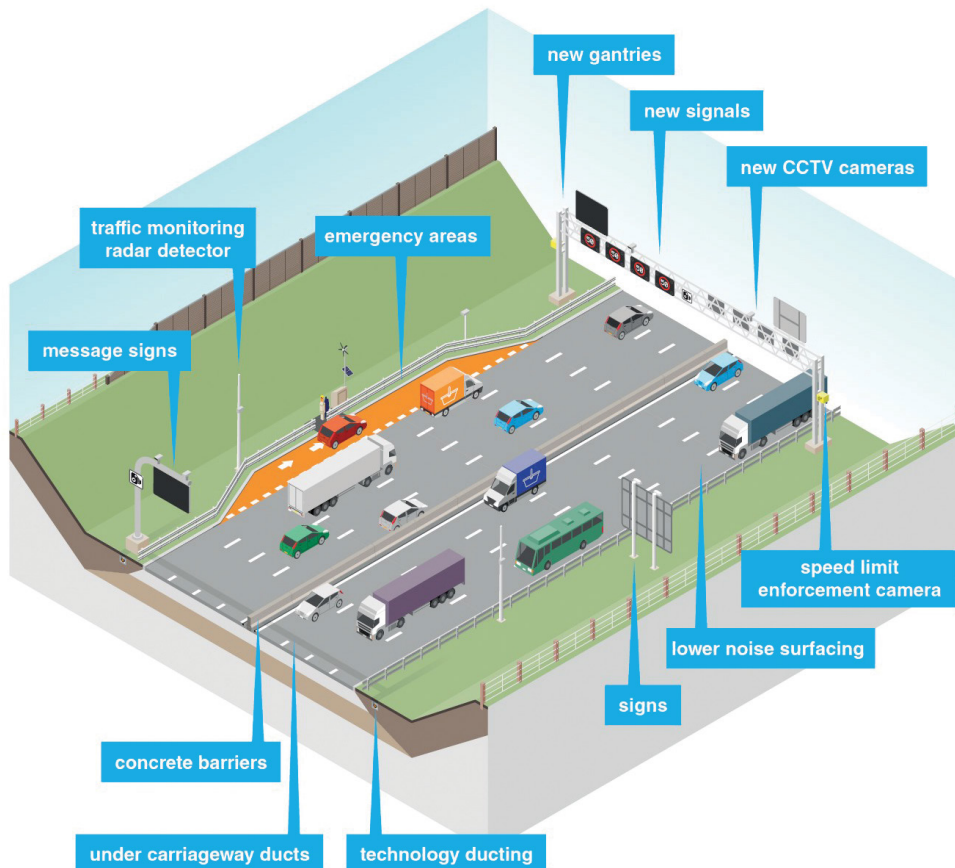
Fleet manager responses generally reflect what they experience themselves as road users and/or what is reported to them by their drivers. Many, particularly in larger organisations, have a somewhat greater focus than drivers on the overall impact and, ultimately, on the benefits to their business of the M4 upgrade. At the same time, fleet managers are generally more aware of the programme and better informed about its benefits and the implications of the works.

*"It will promote economic growth and improve safety."*

*"I'm not entirely sure that the upgrade is going to make a big enough difference to justify the disruption."*

Fleet managers also have access to a wider range of information sources than drivers themselves, including trade bodies such as the Road Haulage Association and Freight Transport Association, as well as direct contact with Highways England. Fourteen per cent of fleet managers mentioned having heard about the works directly from Highways England and 21 per cent say they would like to receive information in this way. It is notable that in this user group mapping tools, such as Google Maps, top the list of desired information sources (at 31 per cent). Coupled with drivers' interest in such tools, this suggests this is a channel worthy of further investigation.

### The M4 is the main strategic route between London, the West of England and South Wales



Seven in ten fleet managers (70 per cent) support the work, compared with half of drivers (49 per cent), and two-thirds (65 per cent) are satisfied with the information being provided (compared with 39 per cent of drivers). While there are still opportunities to improve fleet managers' awareness and knowledge of the upgrade, these findings suggest that the primary need is to focus on other drivers – probably a harder and more varied audience to address.

## Disabled motorists

Just over one in ten drivers interviewed (11 per cent) reported having a Blue Badge. The responses from these disabled motorists generally reflect the awareness, knowledge and attitudes of all drivers – with a slight tendency to be more positive/knowledgeable.

Unsurprisingly, in the light of previous Transport Focus research<sup>3</sup>, one area where Blue Badge holders show above average concern is with the removal of the hard shoulder and what they should do in the event of a breakdown or other incident. While Blue Badge holders are generally happy with information about the works, the research suggests that further reassurance would be welcomed that their specific needs in the event of an incident have been considered.

## Motorcyclists

Transport Focus picked up too few motorcyclists in the quantitative survey to talk authoritatively about their awareness or attitudes. In the qualitative research however, they told Transport Focus they feel they have to concentrate more than others to stay safe and that narrow lanes and poor road surface through roadworks can be a problem for them. Some mentioned that the narrowed field of vision caused by their helmet can also limit the information they can take in.

"I've got that thing in my head that if you do break down there's no hard shoulder."

"Because I am disabled and if I broke down without reaching a designated lay-by, I wouldn't be able to get out of my car safely."



# Research method

**This research was undertaken using an approach Transport Focus has developed over the years to measure rail users' awareness and experience of, and attitudes towards, significant infrastructure projects causing planned disruption to train journeys.**

Transport Focus believes that this M4 research demonstrates that, with some modifications to reflect modal differences and journey circumstances, the basic approach to capturing users' awareness and attitudes is equally valid in a roads context as on rail.

Transport Focus commissioned Populus, an independent market research agency, to conduct the research.

The qualitative research phase consisted of nine focus groups among drivers and six depth interviews with a selection of disabled motorists from three areas along the affected section of the M4: Reading, Slough/Windsor and Hayes. These were complemented by 12 short intercept interviews with drivers from outside the immediate area at Toddington (M1) and Leigh Delamere (M4) services. Finally, Populus undertook telephone interviews with representatives of six key local authorities.

The quantitative phase consisted of three elements:

- a face-to-face, intercept survey at five motorway service areas: Membury, Chieveley, Reading, Heston (all on the M4) and Cobham (on the M25); a total of 462 interviews were completed
- an online panel survey with drivers split between London and the South East and further afield; a total of 509 interviews were completed
- an online panel survey among fleet managers from different types and size of businesses that use the M4; a total of 205 interviews were completed.

Transport Focus believes that users' views should be captured 'in-the-moment' or as soon as possible after they have made a journey. On rail, Transport Focus intercepts

passengers at stations and on trains so a focus on the most recent journey is easier to achieve. While this is not as easy to achieve on the motorway, intercepting drivers at MSAs makes it possible to get the 'in-the-moment' picture. However, Transport Focus recognises MSA users do not provide a representative cross-section of motorway users (in particular, regular commuters may rarely stop at an MSA). The online element to the research is designed to ensure that a cross-section is obtained. In addition, a comparison of the responses from the MSA and the on-line samples has shown that there are few differences in drivers' responses.

This intercept survey was designed to capture the 'in-the-moment' views of drivers using the M4 at the time they were interviewed. This ensured that they could focus on their experience on that particular day when everything was fresh in their minds. Transport Focus is conscious and it should be noted that responses from the online survey may in some instances be an aggregation of drivers' views based on a combination of recent (and not-so-recent) journeys rather than just the last journey. Moreover, their last journey on the affected stretch of the M4 may have been up to one month ago (London and the South East) or three months ago (drivers from further afield).

In total the quantitative survey has canvassed the views of 1176 individuals covering a mix of age and gender as well as various driver types (including car, van, motorcycle, HGV) and disabled motorists. It provides a solid benchmark against which to measure changes in future waves.

This document summarises the findings of both phases of the research. It draws on three separate presentations delivered by Populus which are available on the Transport Focus website for those wanting to examine the findings in more detail:

- qualitative research
- quantitative research (intercept interviews and online surveys among drivers and fleet managers)
- a summary of local authority interviews.

# Further research

Transport Focus looks forward to working with Highways England to repeat the research at intervals during the M4 works, to monitor changes in user awareness and attitudes and to gauge the effectiveness of communications and operational activity to benefit the user experience on the M4 while it is being turned into a smart motorway.

The research agency's full report can be downloaded at: <https://www.transportfocus.org.uk/research-publications/publications/upgrading-the-m4-to-a-smart-motorway-road-users-views>



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