Understanding Strategic Road Network users' experiences and needs

Wave 2

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Contents

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1. Summary of key findings

1.1 What drives satisfaction with the SRN?

1. Satisfaction with SRN roads derives from the **extent to which road users' expectations of the journey outcomes and driving experiences that the roads deliver are met**. Users' expectations result largely from experience or knowledge of the road in question, experience of the SRN in general, and knowledge of variations in road and traffic conditions by time of day/year. They allow users to plan their journeys so as to arrive on time, and make the traffic conditions they encounter seem 'normal' and acceptable. Where expectations are met, road users feel in control of their outcomes and experience.

2. The journey outcomes that affect users' satisfaction are twofold: journey time; and the costs of making the journey. The experience involves three broad components – the extent to which the driver: feels threatened or in danger while driving; feels frustrated or stressed while driving; has to make difficult decisions, or to concentrate hard for long periods. As this suggests, **a positive driving experience is for most users a neutral state which is not necessarily felt consciously**. But the negative experience that results from one or more of the three components being undermined could be felt keenly.

3. **Roads do not need to be ideal to be satisfactory** – they need to be good enough to allow users to feel in control. An 'ideal' road would give a smooth, fast, direct, uninterrupted journey with high visibility and few other vehicles present, delivering a 'perfect' driving experience. However, most also recognise that this ideal would be unattainable. Thus a realistic 'good quality' road is one with features that deliver outcomes and experiences that allow users to feel in control of their journey and their driving.

4. **Road class does not fully determine perceptions of quality.** A well-maintained motorway with consistently good quality structural and ancillary features is an easy example of a 'good-quality' road; but not all motorways are seen as satisfactory, and some A-roads offer more satisfactory journey experience and outcomes than many motorways.

1.2 What makes a good quality SRN road?

1. The outcomes and experience delivered by a road are determined by three sets of road features: (i) structural (a road's capacity and number of impedances to free-flowing traffic); (ii) ancillary (the services provided to aid drivers on the road); and (iii) up-keep (the extent to which a road's fabric and services are maintained). Each of these features are considered in more detail below. Ultimately, **road users assess roads in terms of the journeys they make on them, rather than the roads themselves**. But a road's features are vital to the quality of journeys on it, and thus to satisfaction with the road.

   i) Structural features

2. **The most fundamental influences on satisfaction are structural** – to do with road design. Shortfalls in capacity or high numbers of impedances to traffic flow are likely to create congestion and other situations that do not meet users' expectations, reducing satisfaction. Removing these shortfalls can be achieved through investment in physical improvements to a road's design.

3. There was a widespread view that widening whole roads to increase overall capacity will only bring short-term benefits, and a presumption that an improved road that offers a better driving experience will ultimately attract more traffic, thus negating the benefits over time. Reaction to hard shoulder running was also mixed – some individuals had concerns about safety, although these were based as much on perceptions as experience. Initiatives to remove bottlenecks which slow traffic flow and cause delays were generally positively received – especially widening sections of road which have narrowed down; and bypasses to keep traffic moving.

4. Capacity also affects the degree to which road users feel able to drive as they wish, and so remain in control of the experience. Close proximity to others with driving styles and vehicles that are different (and thought inappropriate) affects the driving experience in many ways; roads which enforce this proximity by not enabling easy/safe overtaking are less satisfactory for all types of driver.

   ii) Ancillary features

5. A road's ancillary services **aid visibility, spatial awareness and decision-making**. Lighting helps road users to see the road ahead and other drivers, especially in darkness or poor weather; good quality signage makes options and instructions clear when choices need to be made quickly; road markings, barriers and other features affect road users' perception of proximity to other vehicles and the road edge.

6. Lighting, signage and road markings have a less fundamental impact on satisfaction than the road's structure, and are more important to drivers than to commercial decision-makers. However, their impact is independent of structural issues, so **a road with good structure can still be undermined by poor ancillary services**; and they play a key role in mitigating the impact of unpredictable elements of a journey (e.g. the effect of weather on visibility, and other drivers' behaviour). Their absence is also noted more than their presence – good lighting, signage and markings create a neutral sense of satisfaction where as poor provision creates active dissatisfaction – so consistent provision is key.

iii) Upkeep

7. The **quality of the road surface is a significant influence on satisfaction**; maintenance of it is the most significant element of 'up-keep'. Road users think of two types of 'poor quality' surface: primarily, where the surface has deteriorated or become damaged; and to a lesser extent, where the surface was of poor quality to begin with. A poor surface impacts on the experience for drivers, and has direct costs for commercial road users.

8. The focus on deterioration means that resurfacing is mainly seen as reactive, rather than for improvement or prevention – a responsive and 'short term cosmetic' action or quick-fix when the road deteriorates beyond a safe level. There is desire for proactive and preventative resurfacing to ensure roads operate well, and to improve surface quality rather than repair it; so there is **an opportunity to create positive news** about investment in proactive plans.

1.3 What undermines road user satisfaction?

1. Satisfaction with the service normally delivered by a road can be undermined by various temporary factors, primarily: (i) road works, (ii) accidents, (iii) poor weather and (iv) other road users. These factors are unpredictable to road users and have the potential to cause feelings of loss of control. However, **the impact of these temporary factors on satisfaction can be mitigated by minimising disruption** through planning, managing expectations through information and/or protecting the quality of experience through investment.

(i) Road works

2. Road works and accidents both cause congestion, which impacts on journey times, but users' reactions to the two differ considerably. Road works are (often) long-term, and so are open to repeated exposure and judgement or

scrutiny over time. They are known to be planned in advance, and are thus expected to be managed pro-actively. However, while they are assumed to be necessary, experience of them suggests that they are not always planned with road users' interests in mind. **Road works are therefore a potential cause of frustration as well as delay because of the way they are seen to be managed**.

3. Road users need to feel their needs are prioritised when road works are planned, and to: feel that that steps have been taken to reduce the impact on their journey; know what is happening to feel in control; understand why work isn't taking place at certain times. This means **information is required before beginning the journey to allow them to plan for disruption and adjust their expectations so that these match reality**; and prior to and at road works to communicate likely delays and workable diversions. Current experience does not always deliver these against needs, leading to dissatisfaction.

(ii) Accidents

4. Accidents, on the other hand, are occasional and each is only encountered once. They are known to be unpredictable, and thus expected to be managed reactively as effectively as possible. They are also assumed to involve a human cost (health, life etc.) and therefore to require a response in which time needs to be taken. Overall, **accidents are recognised as unfortunate and probably dealt with as well as possible**; and users' attitudes are tempered by sympathy for those involved.

5. Minimising dissatisfaction caused by accidents will require information about likely delays and diversions in advance and at the site to help road users retain a feeling of control. However, **simply telling road users early on that the disruption they have encountered is due to an accident also reduces dissatisfaction**. Current experience of information is variable, but road users are more forgiving of a lack of information about accidents than they are for road works.

(iii) Poor weather

6. Poor weather has a temporary impact on the driving experience – feelings of safety and the amount of concentration needed. It can be mitigated by permanent features such as good lighting and a good quality road surface. Roads are expected to have features that enable them to 'cope' with poor weather, so poor experiences in adverse conditions highlight deficiencies in the quality of a road's lighting, markings and surface. But **there is recognition that the unpredictable nature of the weather means there is only so much pre-planning that can be done**.

iv) Other drivers

7. Other drivers can affect the experience by preventing road users from driving in the way they would like (e.g. being held up, intruding on personal space), and by undermining the driving experience in terms of safety (e.g. feeling intimidated, unsure what is going to happen, unable to get away quickly), frustration and needing to pay greater attention. Driver education, road structure, ancillary services and enforcement are expected to help to address these issues, but **most road users recognise the limitations of trying to pre-empt and change individual behaviour**.

1.4 How can satisfaction be maintained during planned disruption?

1. It is widely accepted that implementing an initiative will involve some level of disruption. The key to whether or not this disruption is thought acceptable depends on **how much (the extent), for how long (the length), and with what end result (the benefits)**.

2. For initiatives where implementation is said to last for many months, individual road users generally wish to minimise the length of disruption at expense of extent (working round the clock, using more workers etc). For shorter implementation periods, they generally wish to minimise level of disruption (night working, in holidays etc.). Infrequent users are more likely to accept disruption than regular and frequent users, provided roads stay open and the value of the initiative is clear.

3. Commercial road users show signs of greater tolerance for long-term disruption, and/or a greater desire to minimise the extent of disruption while implementation is in progress. Across all business types, the priority is generally to keep roads open and traffic moving, or to give clear information about alternative routes. It seems more important for commercial road users to be able to plan journeys and minimise fuel and productivity costs, and impact on their customers, on a day to day basis than to minimise the length of time over which these costs are incurred.

4. Attitudes to disruption are also influenced by perceptions of the benefits that would be achieved. For many individual road users, a feedback relationship links the perceived value of an initiative and their attitudes towards the disruption caused by its implementation. **In general, the greater the perceived value of an initiative, the greater the acceptability of disruption**; and finding out there will be less disruption than expected makes people more favourable to the initiative itself.

5. Improving perceptions of the ultimate benefit improves attitudes towards the extent and duration of disruption; but the opposite is also true:

disruption is only acceptable up to a point, and going beyond that point makes the initiative in question seem less appealing. Communications about an initiative's benefits therefore have the potential to increase the acceptability of disruption while work is being done. This applies more to individuals than to commercial users – the latter are more likely to accept or believe that initiatives will benefit them directly, and accept disruption to achieve those benefits.

6. Individual road users widely feel that the most important factors to be taken into account when planning implementation of initiatives are the **quality of the work and the end result, minimising overall disruption (both length and extent), and the safety of road workers and road users (which is often taken for granted)**. Secondary considerations include the impact of the works on traffic speed, the cost of the work, information provision (although this is important, as it has the potential to increase the acceptability of disruption – see below), and environmental impacts. Primary considerations for commercial road users are minimising the impact of works on traffic flow and speed, and providing adequate information about disruption and diversions.

7. Given the above, there is clear value in providing information about the implementation of initiatives. In particular, it seems that **acceptability of disruption could be increased by providing information on practicalities** (in order to create/manage expectations and reduce impacts on outcomes and experience – and thus satisfaction), the rationale for and benefits of the initiative (to raise awareness of the initiative's value, increasing acceptability of disruption), and to a lesser extent the effects of the initiative once it is 'operational' (to increase retrospective acceptance and trust in future schemes).

8. However, general information about large-scale road works is currently thought to be limited or absent, and mostly practical (e.g. how long road works will take, or alternative routes). **There is little awareness of information about the rationale for works or the anticipated benefits.**

9. Road users call for information at three stages in the implementation process: **before work starts; during works; and after work ends**. Advance information would allow users to prepare for disruption, thus minimising its impacts on journey outcomes; set expectations to mitigate those impacts; and highlight benefits to increase the acceptability of disruption. Information while work is on-going would set expectations for those encountering the works for the first time, and maintain acceptance among those who are affected repeatedly. The need for information after works end seems more limited, but it may be useful for securing

retrospective acceptance and trust, potentially softening attitudes towards future works.

10. Overall, **providing clear information about the extent and length of forthcoming works, and alternative routes, is likely to help to minimise individuals' dissatisfaction in a number of ways**: allowing them to plan to mitigate the effects of disruption on journey times and costs; setting expectations so that they feel these journey outcomes are acceptable; and lowering the impact of disruption on the driving experience by making it as easy as possible make decisions.

2. Introduction

2.1 Research background

The motorways and major trunk roads which make up the Strategic Road Network (SRN) form a core part of England's transport infrastructure in providing the critical connections between cities, communities and major ports, airports and rail terminals. In the context of increasing passenger and freight movement and economic growth in its early days, the SRN developed into a high capacity highway network, and its expansion has changed and been changed by the country's spatial development, industry and, in many aspects, society itself. The SRN today carries a third of all national road traffic, as well as two thirds of freight traffic.

As road infrastructure developed and stabilised, SRN policy shifted away from capacity expansion to capacity management, with the view that networks were complete and returns on further infrastructure provision would be relatively low (Eddington, 2006). There were also environmental concerns about the local effects of road construction and the global consequences of road transport dependence (e.g. Stern, 2006). More recently this has been budgetary pressures have caused investment plans for the SRN to focus on resolving pressing issues rather than looking ahead to future needs.

There are, however, a number of challenges looking ahead, and early indicators of their effects. With population growth, and economic recovery, congestion is predicted to increase. Already, since 2001 traffic in England has increased seven times faster on motorways than on other roads. Future traffic trends and road user behaviour are hard to predict and are complicated in light of future fuel costs, technological advancements such as in-vehicle technologies and emerging trends such as peer to peer lift-sharing and sharing of traffic information. Furthermore, with many major highway structures due for major maintenance or renewal, there is growing awareness that the network needs to become more resilient to the effects of climate change and new techniques will be needed for these.

This growing uncertainty about the volume of traffic and travel behaviour and increasing pressure on England's major roads has been noted as a significant challenge by the Government. This has prompted a need for reforms to existing

structures to allow for more efficient management of the SRN and greater funding certainty. Alongside this, there is a need to understand road users' attitudes and experiences of the SRN.

In 2011, the Government called for an independent review, to assess whether they were taking the right approach to managing, operating and enhancing the SRN, which resulted in the Cook Report 'A Fresh Start for the Strategic Road Network'. Since then, there has been further need to inform the development of policy in this area. The Department for Transport commissioned a wide programme of social research, involving quantitative and qualitative strands, to respond to this need.

This report arises from Wave 2 of the qualitative research, conducted by TNS BMRB and the Centre for Transport & Society at UWE Bristol following the Government's publication of 'Action for Roads: A Network for the 21st Century'[1] , a Command Paper highlighting the challenges faced on England's roads, reiterating the need for investment and setting out detailed plans to improve management of the network. Wave 2 also builds on the first wave of qualitative research, conducted in May and June 2013, which examined attitudes to the performance of the SRN and the need for further investment in it (see *Understanding Road Users: qualitative research into use of and attitudes towards the Strategic Road Network; wave 1 report*). Wave 2 therefore stands alone as an independent piece of research, but the reports should also be seen as complementary.

2.2 Objectives and aims

The overarching objective of the Wave 2 research was to understand what drives and undermines satisfaction with the SRN for individual and commercial road users. More specifically, it sought to explore:

- The tangible attributes of priority areas for additional investment
- Preferences and priorities for Network/service improvements, and acceptable trade-offs to achieve desired outcomes
- Perceptions / appeal of proposed (infrastructure) initiatives
    - Benefits and drawbacks of implementation including impacts on road user experience, local communities and the environment
    - Willingness to trade off potential drawbacks / disruptions in order to achieve the outcome
- The role of technology and information provision

[1] https://www.gov.uk/government/publications/action-for-roads-a-network-for-the-21st-century

2.3 Research approach

2.3.1 Methodology

Fourteen two-hour group discussions were conducted with private individuals who use the SRN for personal travel. Twenty-three 45-60 minute interviews were conducted with people who held responsibility for decisions about procurement and management of business travel within their company (referred to here as 'commercial road users'). Fieldwork was conducted between 30 October and 5 December 2013.

The research sample, location selection, recruitment approach, discussion coverage and analysis approach are detailed as follows.

2.3.2 Sample

To ensure diversity of coverage across key variables of interest, purposive sampling was undertaken. The aim of this approach is not to create a statistically representative sample but to ensure representation of a range of potential variables of interest.

Working in conjunction with DfT, key variables were selected, a sampling grid was created and individual and commercial road users recruited to reflect combinations of the key variables. The specifics of both samples are detailed below.

Individual SRN users

Focus groups were conducted with individual SRN users in Birmingham, Ipswich, Liverpool, Epsom, York, Salisbury and Reading. These locations represent each of the seven Highways Agency regions: South West, South East, East, M25 area, Midlands, North West and North East.

All respondents were drivers and had single or joint decision making responsibility for a car. They were recruited according to the six DfT road user segments and frequency of SRN usage as detailed in Table 1. The sample also included a mix of gender and ethnicity. All individuals in Wave 2 were freshly recruited; none had taken part in Wave 1 of the research.

Table 1. Focus groups with individual SRN users

Group	Segment	Frequency	Location
1	1 – older less mobile car owners	Infrequent	Birmingham
2	1 – older less mobile car owners	Regular	Ipswich
3	2 – less affluent urban young families	Infrequent	Liverpool
4	2 – less affluent urban young families	Frequent	Epsom
5	2 – less affluent urban young families	Regular	Reading
6	3 – less affluent older sceptics	Infrequent	Ipswich
7	3 – less affluent older sceptics	Regular	Birmingham
8	4 – affluent empty nesters	Regular	York
9	4 – affluent empty nesters	Frequent	Salisbury
10	5 – educated suburban families	Regular	Liverpool
11	5 – educated suburban families	Frequent	Epsom
12	5 – educated suburban families	Frequent	Reading
13	6 – town and rural heavy users	Regular	Salisbury
14	6 – town and rural heavy users	Frequent	York

DfT road user segments were developed in 2010-2011 by TNS BMRB from statistical analysis of data from a nationally representative survey of adults living in England. The analysis identified six distinct car owing segments[2], utilised in this research, as follows:

1. **Older, Less Mobile Car Owners**
   - Older people with mobility issues which shaped their transport behaviour
   - Heavily reliant on the car to get around; often travel as passengers
   - Lower mileage than all other car owning segments
2. **Less Affluent Urban Young Families**
   - Younger age group (majority under 30) predominantly living in urban areas
   - Low education levels and relatively low income

[2] Further details of the segmentation groups can be found at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/11922/climate-change-transport-choices-summary.pdf

- Single-car households, low annual mileage, often travel as passengers
- Lower reliance on the car and higher use of public transport than other car-owning groups
- See car as a status symbol - desire to own larger/faster car

3. Less Affluent Older Sceptics

- Older group(40+ years old), a high proportion of whom are empty nesters
- Lowest levels of formal education amongst all car-owning groups; those employed are in routine and semi-routine occupations.
- Largely live in urban areas
- Frequently use the car but for short journeys resulting in low annual mileage

4. Affluent Empty Nesters

- Older, largely retired, affluent, well educated
- Average levels of car travel; drive less than younger affluent segments
- Most likely segment to buy cars brand new
- High claimed practice of 'good' driving behaviour (e.g. checking tyre pressures)

5. Educated Suburban Families

- Working age, higher income, well educated, many have children
- High travel needs; drive a lot. Many are two-car households
- Positive about and open to using other forms of transport but often default to using the car due to convenience and flexibility

6. Town and Rural Heavy Car Use

- Working age, higher income but less well educated
- Most 'rural' segment, but also living in urban areas
- Highest levels of car ownership and car travel; own largest cars
- Speed/performance and style/design important in car buying

Commercial road users

Twenty-three depth interviews were conducted with representatives of private-sector businesses – that is, people within these companies who have responsibility for decisions about procurement and management of business travel. Knowledge of the business context is critical to understanding attitudes towards and perceptions of the SRN. As part of the Wave 1 interviews participants disclosed details about their business and their use of the road network, including the SRN. To capitalise on this knowledge, fifteen participants from Wave 1 were re-contacted and invited to take part in 45-minute telephone interviews. As these respondents had already been introduced to the concept of the SRN and begun to think about the issues under discussion, it was important to gain a fresh perspective. Eight additional participants were recruited to take part in Wave 2. One-hour face-to-face interviews were conducted with these fresh participants affording the researchers the time to understand the business context and introduce the concept of the SRN.

In order to achieve a good spread of interviews across this diverse group, quotas on region, frequency of SRN use, industry, business size, extent of travel and type(s) vehicles used were in place. Table 2 outlines the sample coverage across these key variables. The sample also ensured a good spread of turnover, number of business sites and time in business.

The research revealed differences in views between commercial road users in the smallest companies, who drove themselves, and those in larger companies who had responsibility for decisions about their company use of vehicles, but did not drive for their businesses. Where these differences occur, the former are referred to in this report as 'commercial drivers' and the latter as 'commercial decision-makers'.

Table 2. Commercial road user interviews achieved by location, business size, extent of travel and frequency of SRN use.

Primary variables	Subgroup	Interviews achieved		
		Re-contact	Fresh	Total
Frequency of SRN usage	Typically frequent	8	5	**13**
	Typically regular	7	3	**10**
Region	East	2	2	**4**
	Midlands	1	3	**4**
	North East	3	-	**3**
	North West	3	-	**3**
	South West	2	-	**2**
	South East	-	3	**3**
	London	4	-	**4**
Industry	Manufacturing	6	1	**7**
	Retail and Distribution	4	5	**9**
	Services	9	4	**7**
Business size	0-4 employees	4	1	**5**
	5-9 employees	2	4	**6**
	10-49 employees	5	1	**6**
	50-249 employees	2	1	**3**
	250+ employees	2	1	**3**
Extent of travel	Local only (<15 miles)	6	5	**11**
	Regional (<50 miles)	5	2	**7**
	National	4	1	**5**
Vehicle	Cars	1	1	**2**
	LGVs	3	2	**5**
	HGVs	1	1	**2**
	Privately-owned (claimed back)	3	1	**4**
	Multi-type	6	3	**9**

2.3.3 Recruitment

Recruitment was managed by TNS BMRB's in-house team of qualitative recruitment specialists. Recruiters for the individual SRN users sample used a combination of free-find (e.g., door knocking, on-street recruitment) and telephone recruitment from recruiter databases. Respondents were recruited by quota and segmentation.

To recruit commercial road users we utilised a combination of database recruitment and free-find. Database recruitment was undertaken from recruiter databases and sample purchased from D & B Sales and Marketing Solutions (drawn by location, length of time in business, staff levels, turnover and industry type).

We also reconvened business respondents from the first wave of research. This recruitment was conducted in house.

Eligibility for participation was determined via a short screening questionnaire and quotas were set to ensure the sample was distributed across key variables. Screening questionnaires were approved by DfT prior to use.

Individual users were offered a £50 incentive and businesses a £70 incentive to facilitate recruitment and as a 'thank you' for their contributions.

2.3.4 Discussion coverage

Semi-structured discussion guides were developed to ensure consistency of topic coverage in the groups and interviews. The use of semi-structured guides allows participants to dictate the flow of discussions with guidance from the moderator, rather than the questions being administered in the question/response format. Guides were used flexibly and responsively by experienced research moderators.

Separate guides were prepared for individual SRN users and businesses. These are included in Annex 4.

This wave of research explored experiences and responses in relation to six priority areas that DfT had identified for investment. It also examined reactions to six initiative propositions. These were as follows:

Priority areas:

- Safety
- Everyday congestion
- Speed of repairs
- Handling of accidents

- Road surface quality
- General maintenance

Initiatives:

- Smart Motorways
- Expressways
- Bypasses
- Better-designed junctions
- Focussed safety interventions
- Resurfacing 80% of the SRN

To enable all six priority areas and all six initiatives to be covered in sufficient depth, coverage was rotated across the groups and interviews (Tables 3 and 4 outline these rotations). The materials used to describe the initiatives are included in Annex 2.

Table 3. Focus groups with individual SRN users by stimulus utilised

Segment	Frequency	Location	Priority 1	Priority 2	Initiative
1 – older less mobile car owners	Infrequent	Birmingham	Safety	Repairs/road works	Bypass
	Regular	Ipswich	General maintenance	Accidents/delays	Smart Motorways
2 – less affluent urban young families	Infrequent	Liverpool	Road surface quality	General maintenance	Junction Improvement
	Regular	Outer Oxford	Traffic flow/ congestion	repairs/road works	Safety & Expressways
	Frequent	Epsom	Safety	Road surface quality	Bypass
	Regular	Reading	Traffic flow/ congestion	Repairs/road works	Safety & Expressways
3 – less affluent older sceptics	Infrequent	Ipswich	Repairs/road works	Safety	Junction Improvement
	Regular	Birmingham	Road surface quality	Traffic flow/ congestion	Smart Motorways
4 – affluent empty nesters	Regular	York	Repairs/road works	Traffic flow/ congestion	Safety & Expressways
	Frequent	Salisbury	General maintenance	Accidents/delays	Resurfacing
5 – educated suburban families	Regular	Liverpool	Traffic flow/ congestion	Road surface quality	Resurfacing
	Frequent	Outer Oxford	Safety	General maintenance	Resurfacing
	Frequent	Epsom	Accidents/delays	Traffic flow/ congestion	Smart Motorways
	Frequent	Reading	Safety	General maintenance	Resurfacing
6 – town and rural heavy users	Regular	Salisbury	Traffic flow/ congestion	Road surface quality	Safety & Expressways
	Frequent	York	Accidents/delays	Safety	Junction Improvement

Table 4. Interviews with commercial decision makers by stimulus utilised

Region	Frequency of usage	Industry	No.of employees	Extent of travel	Stimulus 1	Stimulus 2	Stimulus 3
East	Frequent	Retail and Distribution	0-4	Regional	Accidents & Delays	General Maintenance	Bypass
	Regular	Retail and Distribution	5-9	Regional	Congestion	Better Designed Junctions	Safety Interventions
	Regular	Manufacturing	0-4	National	Road Surface Quality	Resurfacing 80% of the SRN	Expressways
	Regular	Services	50-249	Local	Road Surface Quality	Repairs/ road works	Bypass
London	Frequent	Retail and Distribution	250+	National	Congestion	Smart Motorway Scheme	Focussed Safety Interventions
	Frequent	Services	250+	National	Safety	Expressways	Better Designed Junctions
	Regular	Manufacturing	10-49	Local	Accidents & Delays	General Maintenance	Resurfacing 80%
	Regular	Retail and Distribution	10-49	Regional	Congestion	Focussed Safety Interventions	Resurfacing 80%
Midlands	Frequent	Services	50-249	Local	Congestion	Focussed Safety Interventions	Bypass

Region	Frequency of usage	Industry	No.of employees	Extent of travel	Stimulus 1	Stimulus 2	Stimulus 3
	Frequent	Retail and Distribution	0-4	Regional	Safety	Resurfacing 80% of the SRN	Expressways
	Frequent	Services	5-9	Local	Repairs/ road works	Expressways	Smart Motorway
	Regular	Manufacturing	50-249	Local	General Maintenance	Accidents & Delays	Smart Motorway
North East	Frequent	Manufacturing	0-4	Regional	Accidents & Delays	General Maintenance	Better Designed Junctions
	Frequent	Manufacturing	5-9	Local	Congestion	Focussed Safety Interventions	Bypass
	Frequent	Services	5-9	Local	Repairs/ road works	Road Surface Quality	Better Designed Junctions
North West	Frequent	Retail and Distribution	10-49	Local	Safety	Expressways	Smart Motorway
	Frequent	Services	250+	Regional	Safety	Bypass	Expressways
	Frequent	Retail and Distribution	10-49	National	Repairs/ road works	Road Surface Quality	Smart Motorway

Region	Frequency of usage	Industry	No.of employees	Extent of travel	Stimulus 1	Stimulus 2	Stimulus 3
South East	Regular	Manufacturing	0-4	Regional	Road Surface Quality	Repairs/ road works	Resurfacing 80%
	Regular	Retail and Distribution	5-9	Local	General Maintenance	Bypass	Safety Interventions
	Regular	Retail and Distribution	10-49	Local	General Maintenance	Accidents & Delays	Better Designed Junctions
South West	Frequent	Services	5-9	Local	Safety	Expressways	Smart Motorway
	Regular	Manufacturing	10-49	National	Road Surface Quality	Repairs/ road works	Resurfacing 80%

3. What drives satisfaction with the SRN?

Prior to Wave 2 the quantitative research undertaken as part of DfT's wider social research programme identified six priority areas that influenced people's perceptions of the Strategic Road Network. One of the purposes of Wave 2 was, as described in section 2 above, to understand these priority areas and their impact on views of the SRN in greater detail. However, while the group discussions and interviews were structured around these priority areas, they were also an opportunity to explore views of what makes a good quality and satisfactory SRN road in a more spontaneous and more holistic way. The definition of satisfaction below is the product of these unprompted explorations, and forms the basis for the analysis and reporting which follows.

3.1 Outcomes and experiences determine satisfaction

Detailed definitions of a 'satisfactory' SRN road varied, but there were broad commonalities across all groups of individual and commercial road users. In general, all types road users assessed a road (or combination of roads) primarily in terms of the level of control they felt they had over the journey outcomes and/or the driving experience when on those roads. A road's features and ancillary services (lighting, road markings etc.) were recognised to be vital to the outcomes and experiences it is able to deliver, and as such are important contributors to satisfaction. But, as discussed below, the road itself is not the only influence on users' feelings of control, and thus their satisfaction.

The journey outcomes that affected users' satisfaction with an SRN road were twofold – the extent to which:

- the **journey time** is reliable and matches what has been planned for (allowing for predictable and accurate journey planning) and what is thought acceptable
- the **costs** of making the journey are minimised (whether in terms of financial expense, disruption to personal plans, etc.)

Individual and commercial road users differed in the emphasis they placed on each of these outcomes. These differences and the reasons for them are discussed in sections 3.3 to 3.5 below, but broadly speaking individual road users were much more interested in journey reliability than costs, whereas commercial road users considered both.

The experience delivered by an SRN road involved three broad components – the extent to which the driver:

- feels threatened or in danger while driving (referred to hereafter as **safety**)
- feels frustrated or stressed while driving (referred to hereafter as **affective ease**)
- has to make difficult decisions, or to concentrate hard for long periods (referred to hereafter as **cognitive ease**)

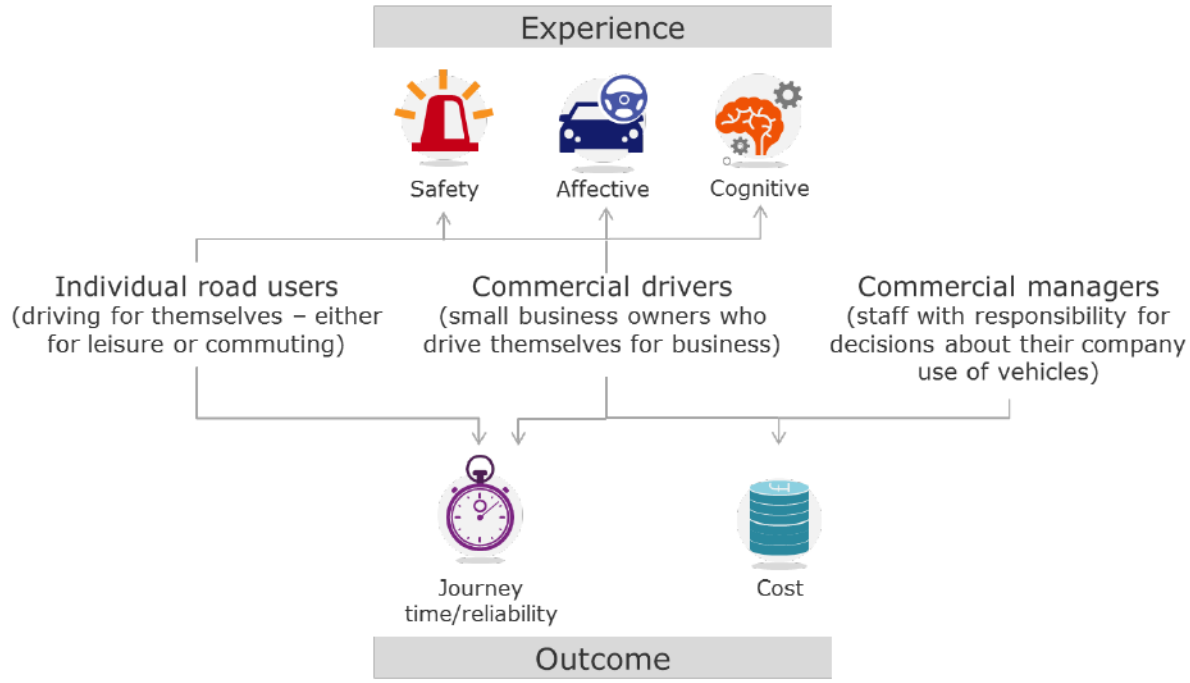
As this characterisation suggests, a positive driving experience was for most users a neutral state which is not necessarily felt consciously (i.e. people do not drive along consciously thinking 'I feel safe now'). But the negative experience that resulted from one or more of the three components being undermined could be felt keenly.

Experience was, perhaps inevitably, a much more significant influence on the views of individual road users and commercial drivers, who drove on the SRN themselves, than it was for commercial decision-makers, who did not drive themselves. Again, these differences are discussed in greater detail in sections 3.3 to 3.5.

> *"From my point of view, I just don't want any stress in the car. I just want to drive from A to B, not stop, and just get there in the time I expect to get there."* (Individual, Regular, Reading, Less Affluent Urban Young Families)

The weight given to experience and outcome in judging a journey varied between different types of road user, as illustrated in Figure 1 below.

Figure 1: the significance of experience and outcomes for different types of road user



The outcomes and experiences delivered by a road were strongly influenced by three sets of road features. These are discussed in detail in section 4, but in brief:

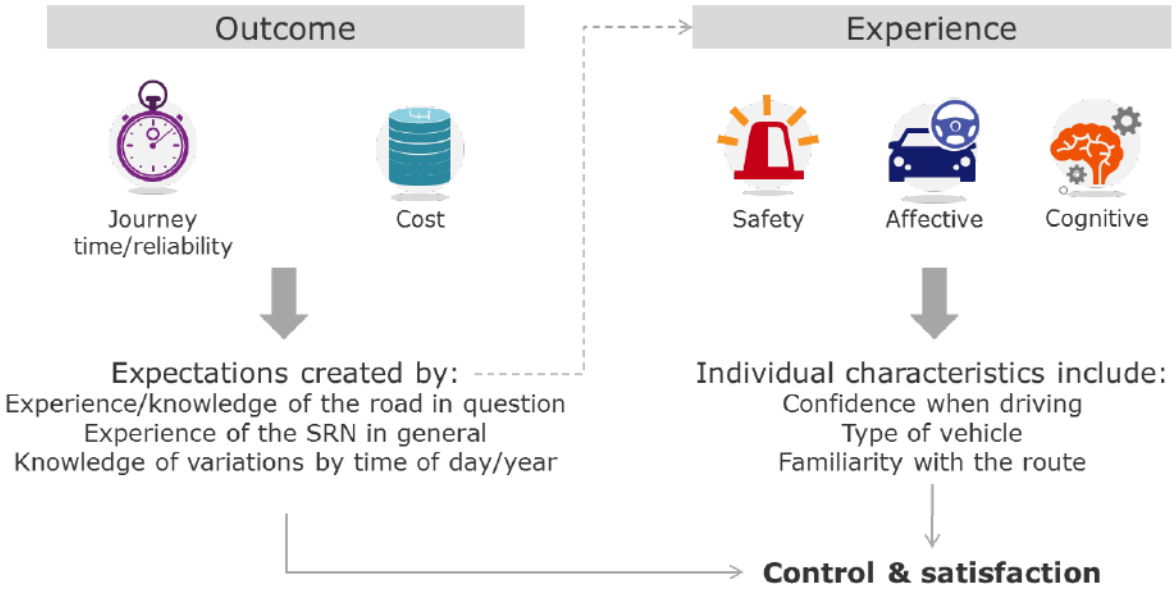
- **Structural features**: the capacity of the road to handle the amount of traffic that uses it; and the directness of the road in terms of the frequency of junctions, bottlenecks, distractions and other impedances to free flowing traffic
- **Ancillary features**: the 'services' provided to aid drivers on the road – primarily overhead lighting, effective signage and clear road markings
- **Up-keep**: the extent to which the fabric of the road and its ancillary services are maintained – primarily the road surface, but also lights, up-to-date signage and road markings

All things being equal, roads with consistently good quality and well maintained structural and ancillary features tended to deliver good outcomes and experiences. However, even on these roads outcomes and experiences could be undermined by **temporary factors**, the most significant being road works, accidents, poor weather and other drivers' behaviours. Thus satisfaction with a road also depended on the effectiveness of actions to mitigate the impacts of these temporary factors – and the extent to which road users' expectations of what *can* be done are met. These points are discussed in section 5.

3.2 The importance of expectations

As noted above, road users' satisfaction did not simply derive from the outcomes and experiences that the road delivered – it was the extent to which they felt *in control* of those outcomes and experiences that mattered. Figure 2 below illustrates how outcomes and experiences are moderated by road users' expectations and personal characteristics to produce a feeling of control.

Figure 2: determinants of control and satisfaction



As found in Wave 1, individual and commercial road users drew on their knowledge and experience of SRN roads they used frequently, and SRN roads in the UK in general, to form a realistic view of how long a journey should take at a particular time of day or year, and to plan their departure time and route accordingly. Avoiding the frustration, stress and need for additional, sometimes time-pressured, decisions caused by being late therefore depended on expectations of the journey time being met. Thus it was not the journey time per se that created satisfaction, but rather the sense of control borne of the journey time being as expected. The same is true of costs to businesses, as discussed in section 3.4.

A similar process applied to road users' sense of control over the driving experience. The driving experience is influenced to a degree by the extent to which expectations of the journey outcomes are met; but also by the other permanent and temporary factors outlined above. However, the level of control that road users felt over safety, affective and cognitive aspects of a particular driving situation also depended on personal characteristics such as their confidence, the size of their vehicle, and their familiarity with the route. For example, more confident drivers in larger cars were less prone to feeling unsafe than others; and journeys on familiar roads were less likely to induce cognitive burden than those involving less familiar routes when journeys took longer than expected.

The ways in which expectations, outcomes and experiences come together to create a feeling of control and satisfaction for different types of road user are described below.

3.3 Individual road users

Satisfaction for individual road users derived from a combination of the journey time matching their expectations (and therefore seeming acceptable and allowing them to arrive on time) and the driving experience being acceptable given their personal characteristics. They were less concerned than commercial road users about the journey costs. Although fuel costs and wear and tear on cars caused by poor road surfaces were mentioned by some, they were not significant contributors to satisfaction. The balance between journey time and driving experience depended somewhat on the journey type – there was a tendency for greater emphasis on journey times for 'functional' journeys (those with time constraints or fixed arrival times, such as commutes) – but in general both were important in most instances.

Variation also arose from some segment-specific requirements. Older individuals, in Segments 1 (Older Less Mobile Car Owners) and 3 (Less Affluent Older Sceptics), felt more strongly than others that their satisfaction with an SRN road depended on how effectively disruption caused by temporary factors (accidents and road works) is managed. Those in Segment 3 also felt a satisfactory SRN road would offer a scenic, interesting view while driving. These specific needs may derive partly from the fact that drivers in these segments typically use the SRN less frequently than others, so may have less experience of how disruption is handled and what is normal, and thus

lower tolerance when they encounter it; they also tended to make leisure rather than functional journeys.

Individuals in Segments 2 (Less Affluent Urban Young Families), 5 (Educated Suburban Families) and 6 (Town and Rural Heavy Users) – i.e. mostly parents of younger children – strongly felt that satisfactory SRN roads should have numerous and high-quality service stations and other places to stop en route. Those in Segment 5 also called for specific features that they felt would enhance safety, including chevrons (whereby instructions are given to drivers to leave two chevrons between their vehicle and the one in front) and wider lanes.

Overall, these types of specific requirement were more important to some segments than others because of the impact that they had on these individuals' feelings of safety, affective ease and cognitive ease. For example, affective ease was more easily undermined by temporary disruption for older drivers than for other types of driver, so they placed greater emphasis on managing this when thinking about what makes for a satisfactory experience.

Individual road users were set a pre-task to complete before taking part in the fieldwork, which included a describing their 'worst journeys' and why these had been so poor. In line with the points made above, users tended to focus either on a journey in which their expectations for a fast and easy journey had been failed due to delays and other problems; or a journey in which they had experienced a significantly disruptive event. In both kinds of journey, regularly reported features included traffic jams and high volume of vehicles on the road, bad weather, road works and breakdowns. For respondents across the country, the M25 was frequently named as a road on which a particularly bad journey had been experienced, most often due to an extended traffic jam or an accident. Drivers from York and Liverpool often cited bad experiences on the M26 resulting from poor weather conditions and visibility. Accidents and delays on the M6 were a common concern for drivers from Birmingham. Numerous respondents across the country also described bad experiences with poor weather conditions, low visibility and poor quality road surfacing on A-roads, but these were not clustered around specific roads to the same degree.

3.4 Commercial decision-makers

Respondents who had responsibility for decisions about their company's use of vehicles, but did not drive themselves, placed less emphasis on the driving experience than individual road users and focussed more on the outcomes of the business journeys their staff were making. As found in Wave 1, commercial decision-makers wanted their staff to be able to travel as efficiently as possible, minimising the time spent on the road, fuel costs, physical wear on vehicles and mental toll on staff. Their primary objective was to avoid incurring additional business costs and, more importantly, from passing these costs on to their clients.

However, in the same way as individuals, their expectations of what is normal meant that they accepted the costs of road travel, and made plans to mitigate these. The key for commercial decision-makers was to keep costs to an acceptable level, and to ensure that the impacts of these costs were 'internal' (e.g. on productivity or profit), rather than 'external' impacts on their relationships with and service to clients and customers. This meant taking steps to avoid late arrivals caused by journeys taking longer than expected (e.g. by leaving earlier, by traveling at different times of day, or by taking alternative routes).

Thus while satisfaction for commercial decision-makers derived from the same SRN road features as for individuals, these features were discussed in the context of:

- wanting journey times to be predictable enough for them to feel sufficiently in control of their journey planning to **avoid external costs**; and
- wanting to **minimise internal costs** such as wear and tear on vehicles and loss of staff productivity, while accepting that these are to some extent inevitable

While individual road users felt all three sets of road features were important in delivering a high quality driving experience, commercial decision-makers (of all types and in all locations) emphasised structural features (capacity and directness) over ancillary features and up-keep. For these users, a satisfactory SRN road would allow their staff to plan their journey efficiently and spend as little time on it as possible: they were more frustrated than individuals by SRN roads which passed through towns or narrowed to single carriageways, and thus restricted traffic flow and speed; they were less concerned than individuals about issues such as the quality of lighting and signage, and general maintenance.

These points assumed particular importance for representatives of freight organisations, given the level of use and reliance on the SRN in carrying out their core business activities. A reliably functioning SRN was seen as vital, both in terms of allowing their business to operate normally and in terms of the level of impact and cost of unexpected disruption. This was true of the smallest to the largest businesses in the sample.

> *"When it goes wrong… you can lose half a day, a day, and it's just a huge cost which no-one will pay for, my customers won't pay for."* (Commercial user, Frequent, NW, Retail and Distribution, 10-49 employees)

> *"I think it's no surprise that our European head office is in between those two kind of major transport roads. That [was] the decision… taken several years ago and continues to ensure that our personnel [are] able to recruit the best individuals and [are] able to recruit them in a variety of different locations."* (Commercial user, Frequent, London, Retail and Distribution, 250+ employees)

"If I couldn't use those roads or they weren't reliable... if I couldn't transport boats... then it'd be a whole part of my business that I just wouldn't do."
(Commercial user, Regular, SW, Manufacturing, 0-4 employees)

3.5 Commercial drivers

Perhaps unsurprisingly, commercial road users who drive on the SRN as part of their business role combined the attributes of individual road users and commercial decision-makers – their satisfaction derived from both types of journey outcome (journey times and costs) meeting expectations, *and* from the driving experience seeming acceptable.

3.6 How good do roads need to be?

Broadly speaking, therefore, for an SRN road to be seen as satisfactory, it needs to:

- have the appropriate capacity for the amount and type of traffic it takes;
- have as few obstructions or decision points as possible;
- take as direct a route from A to B as possible;
- provide working lighting, up-to-date signage and a quality road surface; and
- negate the impact of temporary challenges such as road works, accidents and poor weather

It also needs to achieve these attributes consistently, as a lapse in the quality of any of these features on a section of road reduces satisfaction with the whole road or journey. If a positive driving experience is essentially neutral, it is a poor experience that road users remember.

In these terms, for many road users the model for a good quality SRN road was a well-maintained motorway; but motorways were not exclusively seen as good quality. Respondents across the sample cited examples of motorways which 'fall down' on one or more attribute (most commonly not having enough capacity for the traffic it takes, not providing or maintaining lighting and signage consistently, and/or producing a type of driving that they disliked); this had a negative impact on their experience. Many also mentioned A-roads which are smaller than motorways but take less traffic, produce a more acceptable type of driving, and offer ancillary services that were seen as acceptable, and thus seemed closer to an ideal standard than many motorways.

Others (particularly in Segment 5 – Educated Suburban Families) believed that traffic density in the UK is such that no road could be considered good quality regardless of how direct or well maintained it is. A notable exception was the M6 Toll, which was routinely held up as ideal by those who had used it in part because of its structural and ancillary qualities, and in part because the toll kept the numbers of users down.

The relationship between expectations, outcomes and experiences means that roads do not need to be ideal to be satisfactory, however – they need to be good enough to allow users to feel in control. Many road users agreed that an 'ideal' road would give them (or their staff) a smooth, fast, direct, uninterrupted journey with high visibility and few if any other vehicles on the road, thus delivering 'perfect' journey outcomes and driving experiences on all levels. However, most also recognised that this ideal would be unattainable given the pressures on the UK's roads (as seen in Wave 1).

Moreover, many individuals also felt that roads need to be 'fit for purpose' and that what is good quality in one context will be unsatisfactory in another. Individuals who reviewed the Expressways initiative (see Annex 2 – this initiative proposed that strategically important trunk roads should be constructed and maintained to the same standard as motorways, to produce a more consistent driving experience across the SRN) were mostly positive about the idea of improving roads per se, but were often sceptical about the value of upgrading roads across the SRN to a uniform standard. Their main concern was to ensure that the roads they used most often were good enough; consistency across the network was less important. (Commercial users tended to be positive about the plan to increase quality and consistency across the SRN.)

Thus a realistic satisfactory road would be one that delivered outcomes and experiences to a level that met their expectations and was good enough to allow them to feel in control of their journey and the driving environment.

3.7 Delivering satisfaction

The above discussion indicates that delivering satisfaction with SRN roads involves meeting and managing users' expectations, and ensuring that road users' sense of control is maintained. The research suggests that this could be achieved by a combination of:

- Ensuring that journey times and other outcomes on roads on the SRN, and the driving experience on these roads, match users' expectations – this involves investment in structural and ancillary features and up-keep
- Minimising the impact of temporary challenges which cause outcomes and driving experiences to fall below expectations – involving investment in ancillary features, pro-active planning of road works that will cause disruption, and information about these works
- Creating expectations of outcomes that will be delivered by the SRN (or the road in particular) once work has been done, that result in acceptance of the disruption caused by the work – involving communications about the rationale for the work and the benefits that will be realised

These points regarding investment, planning and information/communications are discussed further in the sections that follow.

4. What features deliver a good quality SRN road?

The previous chapter identified three sets of road features that influence the outcomes and experiences delivered by SRN roads: structural features, ancillary features and the up-keep of the road. This chapter discusses what each set of features involves, what impact they have on outcomes and experiences, what road users' experiences of them have been, where road users feel improvements could be made, and finally the implications of this for DfT and the Highways Agency.

4.1 Structural features

4.1.1 What is meant by the term?

The structural attributes that contribute to journey outcomes and the driving experience stem from the construction and layout of the road itself. When discussing the quality of an SRN road, most individual and commercial road users factored in the capacity of the road to handle the amount of traffic that uses it. Additionally, many respondents discussed the directness of a road in terms of: the 'straightness' of its route from A to B; the number of junctions, lane reductions and other bottlenecks and impediments to free flowing traffic encountered during a journey; and the number of occasions on which decisions needed to be taken. Some respondents, particularly commercial road users, also took a wider view and discussed the 'structure' of the SRN as a whole – the linkages between roads and the ease or difficulty of travelling between them.

> *"I would expect [a good road] to be more direct, if you know what I mean. Take a straighter route, rather than follow contours and things."* (Individual, Regular, York, Affluent Empty Nesters)

4.1.2 How do structural features affect satisfaction with journey outcomes?

A road's structural features were widely seen to have a significant impact on the time taken to travel along it and (for commercial road users) the costs of travelling on it. In terms of journey outcomes, capacity and directness affect journey times more than reliability: roads with insufficient lanes for the amount of traffic they carry, or with 'bottlenecks' that reduce traffic flow, affect traffic in a largely predictable way for users who know the road. The impact of a road's lack of capacity and directness on

satisfaction therefore depends on whether the resulting congestion is thought acceptable by those who know the road and expect it, and how congestion affects those who do not know the road so well and therefore do not expect it.

The impact of 'expected' congestion was explored in some of the groups and interviews as the concept of 'everyday congestion'. This was characterised as heavy or stop-start traffic which slows a journey down in a fairly predictable way because it occurs consistently at particular times of day/week/year and/or at particular locations.

Individual road users

For individuals, the acceptability of everyday congestion generally depended on its level as compared to what their experience of that particular road and UK roads more generally had led them to expect and find normal. As in Wave 1, most individuals in all Segments expressed a degree of fatalism about congestion in the UK, feeling that there are so many vehicles in such a small space that heavy traffic in many parts of the country is to some extent inevitable, and that little can be done about it. Also as in Wave 1, and especially among more frequent SRN users, regular exposure to heavy traffic at a certain location meant that congestion had become normalised, which both made it more acceptable and allowed road users plan their journeys to mitigate its impacts (by either allowing more time for the journey or choosing alternative routes). Conversely, individuals in Segment 3 (Less Affluent Older Sceptics) were among the least tolerant of everyday congestion, at least partly because they used the SRN less frequently than other Segments and were therefore less acclimatised to it.

> *"It's not as though it's something that's happened recently – it's been a build-up over a long period of time where because of sheer volume of traffic, congestion just gets worse. And you learn to live with that and manage that and plan around it where you can."* (Individual, York, Regular, Affluent Empty Nesters)

While everyday congestion caused by a road's structural features impacted on journey times, it did not necessarily undermine satisfaction provided it met road users' expectations. This was only true up to a point, however, as road users' expectations were also set by their experience of other SRN roads. Where levels of everyday congestion were higher than what was thought reasonable, on the basis of this wider experience, its consistency had the opposite effect. Individuals often became extremely frustrated because of the repeated experience of unreasonably heavy traffic, and/or being unable to do anything about it.

> *"I drive a lot with work and I drive long distances, in some respects, and it is just that stress of driving, stress of being stuck for hours in traffic and not being able to do anything about it. Like, it is just such a waste of time."* (Individual, Epsom, Frequent, Less Affluent Urban Young Families)

Individuals' wider experience of the SRN was, as found in Wave 1, mostly based on roads in their local area. The effect of this was that views of what is reasonable varied somewhat by region. For example, when respondents in the York area travelled to other parts of the country and encountered levels of congestion that were higher than what they were used to locally, they were less tolerant of this congestion than people who lived in those regions and who were more used to it.

> *"Go on the M62, for example, or we go down the motorway down to London, then you experience a different level of congestion, which scares us. It scares us."* (Individual, York, Regular, Affluent Empty Nester)

Commercial road users

As found in Wave 1, commercial drivers and decision-makers were remarkably similar to individual road users in their attitudes to congestion: they and/or drivers in their businesses anticipated everyday congestion because it was consistent and predictable, and either made defensive plans to minimise its impact (e.g. leaving earlier) or accepted any loss of productivity resulting from congestion, provided this did not affect the service they could offer their clients and customers. Thus, as with individuals, everyday congestion did not undermine satisfaction if it met expectations for the road and for the SRN as a whole.

> *"If we are going east, fine. If we are going north, you know you have to allow more time because to do the same amount of mileage takes twice as long. So yes, logistically it is harder, more diesel, and less deliveries can be done in a day, especially if we are snowed under."* (Commercial user, Regular, East, Retail and Distribution, 0-4 employees)

> *"I think it does have an effect. Is it crippling our business? No. Would we all love it to be better? Yes. But the business is not on its knees because I can't get round the city or round the country."* (Commercial user, Frequent, Midlands, Services, 50-249 employees)

Some suggested that the prices they quoted or charged to customers took account of the effect of everyday congestion (which perhaps bolstered their acceptance of it).

> *"[It has an impact on] cost, definitely – more diesel obviously. But the profit is built into the product, so it's time more than anything."* (Commercial user, Regular, East, Retail and Distribution, 0-4 employees)

Regardless of their attitudes and desire to minimise impacts on customer service, however, no commercial road users seemed to make routine contingency plans to deal with the impact of unexpected congestion.

> *"You just have to deal with it as it comes... I don't have staff on call just in case someone's late you know; we just have to work as a team and cover it the best we can."* (Commercial user, Frequent, Midlands, Services, 50-249 employees)

4.1.3 How do structural features affect the driving experience?

Individual road users and commercial drivers

In addition to impacting on journey times and business costs, the structural features of a road directly shaped road users' core driving experience. A road's capacity and its number of lanes were closely linked to a driver's sense of control.

Many individuals in all Segments commented on roads that they felt had lanes that were too narrow or too few for the level and type of traffic they carried. The effect of this was to force them into overly close proximity to other vehicles, to restrict their personal space, and to constrain the extent to which they felt able to move and react to problems on the road. This increased their feelings of insecurity, stress and frustration, particularly among more nervous drivers but even among those who drove on the SRN frequently.

Being unable to overtake slow vehicles on single-lane A-roads was a case in point: those who want to overtake were frustrated at their inability to do so easily, and intimidate those who were driving more slowly. The most satisfactory roads were widely seen as those that allow drivers a reasonable amount of personal space, and are sufficiently wide to cope with the volume of traffic using them.

> *"I drive quite a lot in France… there, you don't feel quite so squashed in."* (Individual, Frequent, Epsom, Educated Suburban Families)

> *"So if you get to an A-road and you get a lorry, you can't get past it, whereas if it was on a motorway, you can get past it because there's another lane."* (Individual, Regular, Reading, Less Affluent Urban Young Families)

As well as the number of lanes on a road, individuals' sense of personal space was bolstered by the presence of 'safe spaces' which were open to them in case of an accident or emergency. The presence of the hard shoulder on motorways, kept clear for emergencies and breakdowns, was frequently identified as contributing to a sense of safety: the extra width it provided gave an extension to drivers' perceptions of their personal space, and to their sense of freedom of movement on the road, even if they did not need to use it during a journey. On A-roads, structural elements such as lay-bys and service stations fulfilled a similar role.

> *"So on a motorway, if you've got a puncture, there's another lane there where you can just stop where on the A-roads you don't get that lane."* (Individual, Frequent, Epsom, Less Affluent Urban Young Families)

> *"Services, if you are on a long journey you need a break, if you get tired it is dangerous."* (Individual, Regular, Ipswich, Older Less Mobile Car Owners)

In addition to providing drivers themselves with personal space, the hard shoulder on motorways also contributed to feelings of safety by providing a clear route for emergency services to get to the scene of an accident quickly.

> *"If you've got a serious pile-up … it takes a while to sort out but it's because the road is too narrow and there are too many cars on it and you've got ambulance and police stuck two miles back and can't get through."* (Individual, Infrequent, Ipswich, Less Affluent Older Sceptics)

The directness of a road was also seen to contribute to the quality of the driving experience. The ideal journey was often described as one that got respondents "from A to B" as directly and efficiently as possible. Roads which took significant detours or which lacked good connections with the rest of the SRN therefore caused individuals stress and frustration because they were seen to unnecessarily lengthen the time taken during a journey. Likewise, roads with a large number of junctions (roundabouts in particular) or other impedances to traffic flow such as residential areas were seen as frustrating because they slowed traffic down, and added cognitive burden through the need to make more decisions. These feelings were less pronounced among frequent road users, who were more familiar with the routes they used on a regular basis.

> *"[Less high quality roads] might have more junctions on them so you might have to slow down at points to go round a roundabout or something, whereas on the top [quality] road you'd just be able to go straight, you would not have to stop at any junctions."* (Individual, Frequent, Salisbury, Affluent Empty Nesters)

Many individuals cited 'poorly designed' junctions as a cause of moments of potential danger and difficulty during a journey. They found it difficult and felt unsafe when turning onto a major road from a junction, for example when it was necessary to cross a busy or wide lane of traffic in order to turn right. Likewise, once they were on a major road, some respondents were concerned about dangers resulting from reckless or unexpected behaviour by those attempting to join it.

> *"It was really dangerous. … I would have to just come out of that junction and turn right onto the ring road - it was horrible."* (Individual, Frequent, York, Town and Rural Heavy Users)

Complicated junctions which failed to give drivers a clear route to take, which provided too many options, and/or which required drivers to merge with fast or heavy traffic, also impacted on the core experience by presenting individuals with difficult decisions that needed to be made under pressure, reducing their sense of cognitive ease and the degree of control they had over the situation.

> *"[Lower quality roads] would be more stressful because, like you say – varying other road users, turn offs here, there and everywhere and junctions, lights, that sort of thing."* (Individual, Frequent, Salisbury, Affluent Empty Nesters)

Thus drivers' experience of SRN roads were closely bound up with the capacity and directness of the road, although as outlined above the extent to which their satisfaction with the experience was undermined also depended on their personal characteristics.

Commercial decision-makers

Experience was much less central to the satisfaction of commercial decision-makers (who did not drive on the SRN themselves). Most were focussed on the effects that road structure had on journey outcomes due to the implications this had for their business.[3] That said, there were some who expressed interest in the driving experience for their staff, and who were as a result less sanguine about everyday congestion. One respondent from a large business (250+ employees) based in London with drivers using the SRN frequently and on a national scale (i.e. probably one of the most intensive users in the sample), recognised significant impacts on his business and the productivity and stress levels of his staff. This business was trying to encourage flexible and home working to combat some of the effects of everyday congestion. But this experience was the exception rather than the rule: most were far more focussed on outcomes than experiences, and keen to 'internalise' costs as far as possible by planning to avoid being late.

> *"It stresses our employees out before they've even arrived at work. It means that actually they're not going to be in a position to perform at their best when they come into work."* (Commercial user, Frequent, London, Retail and distribution, 250+ employees)

4.1.4 What is people's experience of SRN roads' structural features?

Individual road users

Individual road users across the sample felt that motorways' hard shoulder, higher capacity, wider lanes and fewer junctions meant they were generally more successful than A-roads at delivering the personal space and predictable traffic flow needed to feel in control of journey outcomes and driving experience, even if they took higher volumes of traffic. Respondents who more regularly used SRN A-roads tended to have more complaints about these than respondents who mostly used motorways – the most frequent of these complaints being around the number of lanes and capacity,

[3] Wave 1 identified that unexpected disruption could have two types of impact on businesses: 'internal' costs relating to productivity, profit etc; and 'external' costs relating to client/customer satisfaction if they were late for an appointment. As in Wave 1, most commercial users in Wave 2 were keen to minimise 'external' costs, but were more accepting of 'internal' costs as part of the cost of doing business.

and the impact this had on their journeys. Likewise, some respondents cited positive experiences of A-roads local to them being made safer and less stressful by the addition of extra lanes.

> *"Motorways are far safer… they are wider and the traffic is always going in the same direction. You only exit on the left-hand-side. You don't get crossing in front of you… and it's straighter"* (Individual, Infrequent, Birmingham, Older Less Mobile Car Owners)

> *"When the majority of the A1 was a dual carriageway, I absolutely hated driving on it - and there were too many HGV's. I just, you know, I felt hemmed in. But, since they've widened quite a bit of the A1, no problem."* (Individuals, Frequent, York, Town and Rural Heavy Users)

The M6 toll road was held up by many respondents who had used it as an example of a road which provided both a large number of lanes and space between vehicles due to low volume of traffic.

> *"Yes the M6 toll is quite a good example of an [excellent] road because it's lovely because it's smooth, there's loads of lighting, there's loads of lanes and nobody's ever on it."* (Individual, Frequent, Epsom, educated suburban families)

Having said this, several motorways (e.g. M25 and M27) were also said to have numerous junctions and/or greater traffic volumes and therefore to be more prone to higher congestion levels. As noted above, not all motorways were held up as 'good quality' roads.

The general topic of congestion initially aroused strong negative feelings in most groups of individuals. However, for the most part, discussion then settled down and suggested that most individuals were at worst resigned to rather than frustrated by everyday congestion on the SRN. This was partly due to the factors outlined above, which mitigated the frustration that congestion might otherwise cause.

> *"You just live with it don't you because it's all the time, it's all the time you're just used to it, you just have to get used to it, you get angry about it but you get used to it."* (Individual, Regular, Liverpool, Educated Sub-urban Young Families)

> *"It is a drudge but it's usually getting backwards and forwards to work so it is one of those things you've got to do, however much you don't want to do it, you know the working situation these days you can't just change your job and change your destination like that because that's not how it works."* (Individual, Frequent, Salisbury, Affluent Empty Nesters)

This acceptance, or resignation, was also a consequence of the fact that, once they considered it fully, many individuals felt that SRN roads are generally less affected by everyday congestion than more minor, local, residential or urban roads. As noted, capacity and obstructions were seen as two of the main influences on congestion: and with the exception of some specific locations, motorways and A-roads in the SRN were thought to be better placed in both senses.

> *"I think generally, the examples we picked are bad examples of congestion but generally I think they [SRN roads] are congested less than the roads in the city centres."* (Individual, Salisbury, Frequent, Affluent Empty Nesters)

Negative experiences of insufficient road capacity and personal space on the road were compounded for many individuals by the behaviour and presence of other road users. A frequently expressed concern relating to personal space for individuals was the presence of large numbers of HGVs on a road – particularly if that road had fewer, narrower lanes. HGVs were seen by individuals in most Segments to severely, if temporarily, reduce the capacity of a road by taking up a great deal of lane space and being difficult to overtake. Their size in relation to cars also made them intimidating and hard to see past: again this was especially thought to be the case on roads with fewer, narrower lanes. As a result, some individuals felt that experiences of personal space and road capacity were likely to be better at times when there are reliably fewer HGVs on the road, such as weekends.

> *"It [space on the road] is noticeably better on a Sunday where if you're travelling, even on a Saturday, there are fewer lorries and stuff, you know?"* (Individual, Regular, Reading, Less Affluent Urban Young Families)

While they were less often brought up spontaneously, on prompting many respondents specified junctions which they had experienced as being unsafe and stressful. As with issues around road capacity, it was again A-roads which were seen to offer less satisfactory experiences: the need to cross a busy line of traffic when joining these roads posed a recurrent problem for less confident road users. Those who had visited or lived near London often cited complex junctions on roads around the city as the cause of stressful moments during a journey, when drivers had to ensure they were in the correct lane and quickly spot the turn-off they were looking for.

> *"I think there was an accident the other day on [a local road] for something like that. Car wanting to go right… and got hit by a car going the other way."* (Commercial, Frequent, North-east, Services, 5-9 employees, Local)

> *"The junction I come off is a bit- it's a bit peculiar for Wimbledon. You need to know exactly where you are [going] because people don't let you in. And if you don't pull off from the traffic lights you get beeped like within one second, you get beeped in rush hour."* (Individual, Frequent, Epsom, Less Affluent Urban Young Families)

Commercial road users

Most commercial decision-makers' views of everyday congestion were based less on specific experience, and more on a general sense that congestion is endemic and unavoidable. As a result, they were more 'forgiving' of congestion as long as it was sufficiently predictable for them to accommodate for it in their business planning. However, commercial drivers had more specific experience to draw on, and were more like individual road users, with more nuanced and polarised views as described above – although also like individuals these were expressed in terms of personal frustration rather than business impact.

> *"In the morning and in the evening it is unacceptable, it's ridiculous. During the day it is fairly OK."* (Commercial user, Regular, East, Retail and distribution, 0-4 employees)

4.1.5 What do people think could be done?

When discussing suggestions to improve their experience on the SRN, one of respondents' most frequent proposals was **widening existing roads** by adding lanes – some had particular roads in mind, others were thinking about roads more generally. This was expected both to increase road capacity and benefit traffic flow, and to give individual road users more personal space.

> *"Like in America they have like six lane highways type thing. Here we're mainly three lanes. The odd ones we've got four, but … we need more."* (Individual, Regular, Liverpool, Educated Suburban Families)

However, this suggestion was often made instinctively, with little thought given to the impacts of its implementation. Some respondents did consider potential implications, and were less convinced of the realism or long-term effectiveness of such proposals. These implications included immediate issues such as the loss of trees or other natural habitats alongside the roads, disruption caused by road works, and the limitations set upon potential expansion of roads by the existing structure of the network and its junctions and other fixed features. Commercial road users tended to be more aware of these types of issue than individual road users, and acceptability depended on whether or not the expansion in capacity would significantly reduce congestion.

A number of respondents – individual more than commercial road users – also looked to the future, and (as in Wave 1) expressed a belief that while increasing capacity might have short-term benefits, in the longer term an improved road that offered a

better driving experience would attract more traffic, thus negating the benefits over time.

> *"Presumably [for a road to be ideal] you have to upgrade the capacity because there'd be more people on it, more road users on it so you would need to be able to cope with that so yes it is capacity."* (Individual, Frequent, Salisbury, Affluent Empty Nesters)

The relationship between capacity and personal space is thrown into an interesting light by the response to proposals to open the **hard shoulder** on motorways (when discussed as part of the **Smart Motorways** initiative – details of which can be found in Annex 2). While this was recognised by most as a way to increase road capacity when needed without widening the road, some individuals who discussed the idea had concerns about its safety even if traffic speeds were reduced when the hard shoulder was opened. (It must be said that few if any of these individuals had personal experience of hard shoulder running, so these concerns were based on 'gut responses' to stimulus material in a research setting.)

These individuals felt that the hard shoulder is there for emergencies, to allow drivers to get off the motorway fast, and at any point: the idea of emergency refuges was reassuring, but not a substitute as there might not be one available when needed. Thus the presence of a lane kept clear for emergencies and breakdowns was important to their sense of personal space and safety on the road. There was little, if any, recognition of the fact that hard shoulders can be dangerous spaces in themselves; they were seen by respondents as improving the safety of a road overall.

> *"If one of those incidents were me I'd want that hard shoulder to protect myself and my family - whoever's around me."* (Individuals, Frequent, Epsom, educated suburban families)

Commercial users, on the other hand, were much less concerned about these issues, and much more positive about the potential of the scheme to increase capacity when required: as noted, their focus was on journey planning and ensuring minimal or at least predictable journey times rather than the personal driving experience. Several had also experienced hard shoulder running for themselves, to good effect.

> *"However, the frustration is that also I will sometimes be stuck in very heavily congested traffic and the hard shoulder will not be being used because apparently it's not congested enough."* (Commercial, Frequent, London, Retail, 250+ employees, National)

The construction of **bypasses** (primarily discussed as a result of the introduction of the Bypass initiative to groups – see Annex 2 – rather than spontaneously) was seen as a potential way to increase the directness of roads, and thus to improve traffic flow and reduce the stress and cognitive burden caused by obstructions like residential areas. Most individuals who considered bypasses were in favour of them, believing

that the benefits to traffic flow and the quality of the environment in the town being bypassed (since less traffic would go through the centre) outweighed the environmental impacts of constructing the bypass. This was true whether or not they lived near to a bypass themselves.

Those who lived near to bypasses that had attracted protests in the past (such as the M3 cutting through Twyford Down near Winchester) were more likely to see them as controversial, but not necessarily to feel that they would not be beneficial overall.

> *"I know they have been battling to try and put a bypass in and people are standing up in arms, oh you can't do that… But they really need to brainstorm something to alleviate that, and probably similar sort of thing for the capacity of the other roads to be honest as well. They need to take capacity into consideration of these big roads, to stop stressing people out."* (Individual, Frequent, Salisbury, Affluent Empty Nesters)

Reactions to the **Better-designed Junctions** initiative (see Annex 2) were more mixed, largely because road users' own experiences of alterations to junctions had been variable. There was some scepticism about the degree of local consultation that would take place to inform the re-design of problematic junctions, and therefore about whether or not reconfigurations would actually have the intended benefits. Respondents were more hopeful about the structural improvements offered through the **Focussed Safety Interventions** initiative (see Annex 2), which seemed to be expressly designed to be targeted at dangerous or problematic areas of the SRN.

4.1.6 Summary and implications for DfT and the Highways Agency

For individual and commercial road users alike, the strongest influences on journey outcomes and driving experience were structural. Shortfalls in a road's capacity or directness are likely to create traffic situations that do not meet users' expectations, reducing satisfaction. Removing these shortfalls could be achieved through investment in physical improvements to a road's design.

Individual road users and commercial drivers found that the sense of personal space they had on the road, and the number of junctions, bottlenecks and other impedances to traffic flow, had a significant effect on their feelings of safety, affective ease and cognitive ease, and on journey times, reliability and costs. Commercial decision-makers were more focussed on the impact on journey outcomes. All users believed that the greatest improvements to the SRN as a whole would be found through up-grading sections of road which lack sufficient capacity or which slow traffic down.

Road widening was a frequent knee-jerk suggestion for capacity improvement, and some commercial road users in particular had experienced improvements as a result of roads they used gaining extra lanes. However, most (especially individual road users) initially gave little thought to practicalities or issues around the implementation of works. On consideration, many presumed that the benefits of wholesale road

widening would be short-term, as an improved road that offers a better driving experience will ultimately attract more traffic, thus negating the benefits over time. Also of concern were disruption caused by road works, limitations on the potential for expansion, and the loss of trees or other natural habitats alongside the roads.

Opening up motorway hard shoulders was recognised as a way to increase capacity when needed without widening. Individuals generally saw benefits in terms of capacity, but had some concerns (based on stimulus, not experience) over safety and (less firmly) personal space. Commercial drivers and decision-makers were broadly positive about the idea due to the potential positive impact on journey outcomes.

Structural improvements that remove bottlenecks and/or allow for overtaking to improve drivers' sense of personal space seemed to be a higher priority than widening roads to increase capacity per se. Improving junctions, building bypasses and widening sections of road which have narrowed down all received a generally positive reception. While there were some concerns about impact of works on the environment and local populations during construction, and afterwards, these drawbacks were for the most part expected to be localised and outweighed by the benefits to road users in the longer term. Bypasses were expected to have to greatest potential environmental impact, but those who discussed this initiative were generally confident that the operator carrying out the works would act to minimise this impact during works, and to 'make good' as far as possible afterwards.

4.2 Ancillary features

4.2.1 What is meant by the term?

The ancillary features of a road are those 'services' provided to aid drivers on the road. The most important of these were:

- overhead lighting, which allows drivers to see the road ahead and other drivers, especially in darkness or poor weather
- clear signage and information, which helps drivers to make quick decisions and choices, often when under pressure
- road markings, barriers and other features which help drivers to feel a sense of personal space and distance from other drivers and the road edge.

4.2.2 How do ancillary features affect journey outcomes?

The impact of lighting, signage and road markings was generally said to be on the driving experience, rather than journey outcomes. There was some sense among individual road users and commercial drivers that journey times could be increased if safety concerns (see below) caused slower driving. Some commercial decision-makers recognised that a poorer experience in safety and cognitive terms could have an

impact on staff productivity afterwards. However, these were deemed minor issues next to the direct effect of ancillary services on the driving experience.

4.2.3 How do ancillary features affect the driving experience?

Ancillary elements of an SRN road predominantly affected drivers' feelings of safety and cognitive ease: the services provided for a road had the potential to reduce the extent to which individuals feel at risk and/or had to make difficult decisions. The points below reflect the views of all Segments – feelings about ancillary services were very similar across the sample. Commercial drivers seemed less concerned about ancillary features than individuals, perhaps because they were more experienced drivers and/or more familiar with the routes they used.

Indeed, many ancillary features seemed to individuals to be designed primarily for safety: for example services to improve visibility (overhead lighting, cat's eyes), driving behaviour (speed cameras, chevrons), and personal space (central reservations, road-side barriers).

> *"There's different aspects [to safety] isn't there? There's the safety that's provided by the quality of the drivers, against more passenger safety like crash barriers and speed limits and the surface of the road… the state and condition of the car that you are driving"* (Individuals, Infrequent, Birmingham, Older Less Mobile Car Owners)

> *"So in the day I feel safer because you can see everything, you are aware of what is going on, you can see the lines in the road and all the signage and everything."* (Individuals, Frequent, Epsom, Less Affluent Urban Young Families)

These safety-focussed features were also said to have benefits in terms of cognitive ease: their presence on a road simplified the mental effort and concentration required while driving. For example, lighting and cat's eyes made it easier for individuals to follow the road in the dark; chevrons and barriers helped make it easier to judge distance from other drivers, and allowed more time to notice and respond to changes in traffic flow. Road markings helped reduce cognitive burden by simplifying and clarifying the layout of a road. Conversely, poor quality signage or signage that had become worn or outdated could increase cognitive burden because of the lack of clarity.

> *"Sometimes there might not be some cat's eyes and … you have to concentrate so much and it makes you even more tired as well. … Whereas if the road's lit and it's quite easy, you know, you can sit back and relax a bit more."* (Individuals, Regular, Reading, Less Affluent Urban Young Families)

> *"I know I keep going on about the chevrons but I find them really helpful when I'm driving along on the motorways you know and it does make people think*

about the space between cars." (Individual, Regular, Liverpool, Educated Suburban Families)

"Sometimes the markings have worn off; you've got to use your initiative there." (Individual, Regular, Birmingham, Less Affluent Older Sceptics)

Signage and information had a different cognitive impact: on individuals' ability to make decisions before and during travel. Helpful signs could include details about directions and junctions, but also real-time information about variable speed limits and upcoming road works or delays. These informed and eased decisions around the route being taken, and around driving speed.

"When you are on the motorway and it says average speed, 50, coming up to a congested area and actually I find myself going oh it's absolutely right, everyone is doing the same speed…it does tell you on the signs above, I find them quite useful." (Individual, Frequent, Epsom, Less Affluent Urban Young Families)

However, as well as simply providing information, good signage also needed to be clear and economical with the directions and information it was giving, to avoid becoming a distraction and adding to the cognitive burden on drivers itself.

"You can also get information overload as well. So if you've got too much going on then that's a bit distracting." (Individuals, Frequent, York, Town and Rural Heavy Users)

4.2.4 What is people's experience of SRN roads' ancillary features?

While many of the other factors affecting the core driving experience were most conspicuous when they made negative impacts (the lack of sufficient road capacity; damage to the surface of the road; dangerous driving by other road users), respondents were more readily able to identify good experiences where the presence of certain ancillary features on the SRN had been able to create a feeling of safety and control, while reducing stress and cognitive burden.

Good quality **lighting** was frequently noted by respondents as a feature able to offset the problems of poor visibility and bad weather conditions. Motorways were perceived to have a clear advantage over A-roads in this respect – the standard of lighting on motorways was generally thought to be more uniform and more reliable. (Although there was a strong tendency for respondents to generalise about this, and not to recognise the fact that many motorway miles are unlit, and many A-road junctions are lit.)

"Motorways [are safer] because they are usually well lit, whereas A-roads they have the potential- they can be pitch black, can't they?" (Individuals, Frequent, Epsom, Less Affluent Urban Young Families)

The impact of lighting quality on road users' experience of and satisfaction with the road varied considerably: views of what is acceptable were highly subjective and based on personal characteristics such as confidence and experience as a driver, familiarity with the road, eyesight and vehicle type. For some (especially younger and more frequent drivers), a road could be seen as 'high quality' even if it lacked lighting in some sections; for others, a satisfactory road would need clear lighting throughout.

> *"Everyone is different, some people don't see well with lights and stuff and I know my mum hates driving at night. At night I find it really clear, I can see the light, I can see cars and I find it absolutely fine."* (Individuals, Frequent, Epsom, Less Affluent Urban Young Families)

Groups displayed divergent responses towards **CCTV and speed cameras**. For some respondents, they represented a way of encouraging better behaviour from other drivers. For others, security cameras created not only an increase in cognitive burden as respondents attempted to spot them and monitor their speed, but also became an active source of danger as other drivers suddenly slowed their speed in order to avoid being caught.

> *"[CCTV cameras] make me more conscious of what I am doing and other people are doing around me; but then I forget the main thing of what I am doing – just driving where I need to come off and stuff. More things to think about."* (Individuals, Frequent, Epsom, Less Affluent Urban Young Families)

4.2.5 Summary and implications for DfT and the Highways Agency

A road's ancillary services aid drivers primarily in terms of visibility, decision-making and creating a sense of personal space. As such, they impact on the driving experience more than journey outcomes, so were more pertinent to those who drive. However, commercial decision-makers also recognised the knock-on effects poor ancillary services can have on staff.

Lighting, signage and road markings seemed to have a less fundamental impact on satisfaction than the road's structure. However, they remain important for three reasons. First, their impact is independent of structural issues, so a road with good structure can still be undermined by poor ancillary services. Second, they play a key role in mitigating the impact of unpredictable elements of a journey (e.g. the effect of weather on visibility, and other drivers' behaviour). Third, their absence is noted more than their presence – good lighting, signage and markings create a neutral sense of satisfaction whereas poor provision creates active dissatisfaction. For this reason, consistency of provision is also key – for example, the transition from light to dark on a motorway is abrupt and disconcerting, and negative experience has a stronger influence on views than positive experience.

4.3 Up-keep

4.3.1 What is meant by the term?

'Up-keep' relates to the extent to which the existing fabric of the road and its ancillary services are maintained (rather than improved). The activities and issues it covers were largely seen as reactive rather than pro-active: dealing with deterioration rather than planning ahead. They were therefore typically judged by the time elapsed before they were implemented, and the quality and longevity of the end result.

The primary component for individuals and commercial users alike was maintaining the road surface. As the definition above suggests, this was widely seen by individual and commercial road users as a reactive measure: 'patching up' sections of road that had deteriorated (even if this actually meant resurfacing large areas) rather than planned resurfacing to improve the performance and longevity of the road.

Having highly visible road markings (e.g. lane lines, chevrons), working lights and clear and up-to-date signage were also important. Ensuring that roads are clean and clear of litter and debris, do not flood, and have well-kept verges was mentioned, occasionally spontaneously but more commonly when prompted, and was of lesser significance.

Individual and commercial road users described two broad consequences of deteriorating road surfaces and ancillary services: obstacles that needed to be negotiated (sometimes at speed); and reduced visibility while driving. Both of these consequences had an impact on driving experiences, and for commercial users, the costs of driving.

4.3.2 How does up-keep affect journey outcomes?

Commercial road users were mainly concerned about the impact of deteriorated road surfaces on their operating costs, in terms of vehicle damage, damage to the load, and/or fuel costs. Those involved in distribution tended to be most concerned about damage to vehicles and load – i.e. direct costs to their business. Those in larger companies (50+ employees) also tended to focus on the effects of poor road surfaces on employees who drive, either out of a duty of care or due to the impact that the experience might have on their productivity.

> *"It costs us money if [the road surface] is poor. If we had potholes, sudden dips…it will make our journeys much longer, it will increase our damage and repair bills. It will increase our fuel costs - if you are on a poor surface or there's obstacles such as potholes you're having to break and accelerate and manoeuvre round… You get fatigue to our vehicles and equipment which costs us quite severely."* (Commercial, North West, Frequent, Retail & Distribution, 10-49 employees)

However, it is notable that commercial drivers, who were best placed to 'compare' the impacts on outcomes and experience, almost all commented on the quality road surface in terms of experience more than outcomes. Individual road users did not express many concerns in terms of journey outcomes.

4.3.3 How does up-keep affect the driving experience?

Many individuals, across Segments, reported feeling less safe on roads where the surface had deteriorated, or where they came across flooding, litter or debris in the road. This was partly due to their own need to take evasive action, but also the thought of what other drivers might do if they needed to react to poor road surface or an obstacle. Accidents were thought more likely on roads with obstacles, and were easy to imagine – it was not necessary to witness one to feel unsafe. Reduced visibility had a similar effect, albeit to a lesser extent: failed lighting, unclear signage and overgrown foliage were said to reduce the time in which they and other drivers could react to events.

> *"I remember driving down the M25 a couple of years ago after the roads had taken a hammering from all the ice and snow and just fearing for my life, and you know actually thinking that's quite dangerous and imagining people swerving to miss the potholes and so I think it does throw up a safety issue."* (Individuals, Epsom, Frequent, Less Affluent Urban Young Families)

For the same reason, individuals described needing to concentrate more, to be more attuned to unknown factors, and/or to make more decisions or rely on personal judgement, when on a poorly maintained road. Thus there was a negative impact on the cognitive aspect of the driving experience: most individuals did not want to have to work that hard while driving.

The impact on individuals' affective experience was also clear, in two senses. Many expressed contrasts between feelings of comfort, enjoyment, composure, relaxation and control when the quality of the road surface is high, visibility is good and obstacles are absent; and stress, frustration, irritability, agitation and feeling overwhelmed when up-keep is poor. For individuals, this primarily related to the experience of driving: they felt stressed because of the way they were being compelled to drive. Poor quality surface meant that drivers needed to slow down in order to drive smoothly, or to avoid obstacles such as potholes. To a lesser extent stress and agitation were caused by concerns about damage to their vehicle.

"Comfortable, relaxing, safe. Enjoyable yes I like driving on a decent road. Rather than ra-ra-ra-ra-ra as you go along and stones flying up." (Individual, Liverpool, Regular, Educated Suburban Families)

As noted, some commercial decision-makers had 'duty-of-care' concerns about their employees' driving experiences, while commercial drivers were similar to individuals and impacted more by the experience than the effect on outcomes.

4.3.4 What is people's experience of up-keep on SRN roads?

As noted, the activities classed as 'up-keep' involved measures to repair and maintain roads and services, in order to keep them 'fit for purpose'. These measures, including resurfacing, were widely seen as reactive and as involving immediate, short-term actions. They included:

- Filling in potholes, and other damage to the road surface
- Replacing the surface over larger areas in response to deterioration
- Upkeep of road markings (e.g. lane lines, chevrons) and cats' eyes
- Maintaining lighting
- Keeping signage clean, well maintained and up to date
- Clearing rubbish/litter and debris (e.g. tyres, car parts, dead animals)
- Cutting back bushes, trees and shrubs, as well as cutting the grass
- Clearing drains
- Ensuring that safety mechanisms, such as emergency phones, are in good working order

In most instances resurfacing was seen as a 'short term cosmetic' action or quick-fix undertaken when the road deteriorates beyond a safe level. It was less common, especially at first, to see it as pro-active work to extend the life of a road, to improve its performance, or to prevent more serious deterioration in the future. Following discussion, some individuals and commercial users did come to the view that some resurfacing work is done pro-actively, but most still held that much of it is reactive. The same perceived lack of planning also applied to other aspects of up-keep, although feelings about these were less strong as measures were quicker and (presumed) easier to implement and they did not have such a significant impact on the experience or costs of driving. Overall, longer-term works such as major resurfacing appeared to many to be a lower priority than immediate and reactive maintenance activities to those making decisions about investments in the SRN.

The quality and timing of up-keep was generally seen as good on motorways, but patchier on A-roads, with greater variability of road surface quality and ancillary

services, greater delays before deterioration or damage is addressed, and a more 'cosmetic' approach to repairs (based in part on feelings about how long it will be before the work needs to be redone). For some this variability and inconsistency across the network was a sign of underperformance on up-keep, while others felt variability was to be expected given differing vehicle volumes, types and speeds on different roads and the need to prioritise some roads over others.

> *"You don't get potholes on motorways. Yet you do on the A-roads. And when you do get potholes on motorways they get repaired quicker. I suppose motorway by rights because it handles that much more hefty traffic load you would presume it's got to [be] more durable, a better quality, better foundation to the road, better repairs, just better quality in general."* (Individual, Salisbury, Frequent, Affluent Empty Nesters)

> *"On an A-road or a trunk road there's usually a much greater variety of surfaces, and usually a far greater variety of consistency of flatness as well. And usually more damage to them."* (Commercial, South West, Regular, Manufacturing, 10-49 employees)

All respondents had experienced disruption to traffic as a result of up-keep measures, but many individuals and the majority of commercial users recognised the impacts and costs of not having adequately maintained roads, and accepted this disruption as necessary to avoid these.

> *In order to have good roads, you've got to maintain them. So you have to put up with a certain amount of inconvenience to ensure you've got the standard of roads you need to do what you want.* (Individual, Salisbury, Regular, Town and Rural Heavy Users)

4.3.5 What do people think could be done?

In general, discussion about how up-keep activities could be improved or made more effective centred on the quality of the road surface. There were few complaints about other aspects of up-keep, and most individuals and commercial users had little to say about how lighting, signage and tidiness could be maintained, or litter and debris cleared. Cutting back foliage and grass at the road side was mentioned by a few, but not in a pejorative sense. (Fieldwork for this wave took place in the autumn of 2013; road flooding and surface water was little discussed, but this may have been a seasonal effect.)

Across the samples of individuals and commercial users there was a desire for more (or at least activities to promote greater awareness of) proactive and preventative resurfacing to ensure roads operate well in their current state – guarding against future deterioration rather than reacting to it when it occurs. There were also calls, particularly amongst commercial road users, for a greater focus on planning for the

future and enhancing the quality of the road surface (and ancillary services) to cater for increasing demands on them.

> *"The road planners need to look at vehicles, especially large vehicles. The loads have not gotten smaller; industry wants you to move much bigger and heavier machinery which means our roads need to …allow for them."* (Commercial, North West, Frequent, Retail & Distribution, 10-49 employees)

Reducing the variability of road surface quality, both on an individual road and by extension across the SRN, was also discussed as a further area for improvement.

> *"Where they have resurfaced, it's nice, and then you hit another bit. It's jarring."* (Individual, Salisbury, Regular, Town and Rural Heavy Users)

Discussion among individual and commercial road users who considered the initiative to **resurface 80% of the SRN** brought all the issues outlined above to the fore. Most eventually recognised the benefits of a smoother, higher quality, longer-lasting surface across the SRN as a whole, but initial reactions were often that this is a reactive, short-term measure made necessary by the current state of the roads, perhaps indicating widespread under-investment and lack of forward planning in the past; and one that will not address the more fundamental issues around capacity and traffic flow. This made many query, at least initially, whether the disruption caused by the work was really worth the benefits it would deliver. Commercial road users and individuals in Segment 6 (Town and Rural Heavy Users) were generally the quickest to move past initial concerns about disruption and reactivity, and to see the benefits of widespread high quality resurfacing work.

4.3.6 Summary and implications for DfT and the Highways Agency

Up-keep has impacts for all users: drivers who experience the road and own and pay for their vehicles; and commercial decision-makers who want to minimise fuel costs, physical wear on vehicles and mental toll on staff. Standards of up-keep on the SRN were generally thought to be high, or at least satisfactory: it will be important to maintain these standards, but up-keep in general was not considered a key issue requiring improvement or a priority for investment.

The aspect of up-keep which stood out for almost all was maintenance of the road surface. Deteriorated surfaces impacted on individuals' feelings of safety, affective ease and cognitive ease, and created costs for businesses; and a 'good quality road surface' was often cited as a condition for a good driving experience.

Most respondents rightly or wrongly saw resurfacing as a reactive measure to repair damage rather than a pro-active activity to protect or even improve the road. Despite (or perhaps because of) this perception, many called for more pro-active, planned work on road surfaces. This implies that people see reactive and pro-active resurfacing as different activities, and that while there is support for the idea of pro-

active work and acceptance of the benefits it will bring, a degree of information about it will be needed to prevent people from assuming it is the more 'familiar' reactive type. Given that acceptance of the need for repair works was mixed with frustration about a perceived lack of planning, any large-scale pro-active resurfacing work is likely to need to be accompanied by communications to explain why it is being done and what the benefits will be if it is not to be seen as repair work on a grand scale.

Other aspects of up-keep – activities to remove obstacles and maintain visibility – were much less significant, but this may be because they were seen to be effective already. The impact of reducing levels of service in this area is may be strongly detrimental, however, so it is likely to be important to maintain these.

4.4 Better roads – more capacity?

As discussed above, most individual and commercial users expected improvements such as a better road surface to make driving easier and prevent the need to look out for and avoid obstructions such as potholes. For individual road users, the more 'optimistic' (a group which cut across ages and segments) expected that this would translate into smoother driving and improved traffic flow. Commercial road users tended only to be optimistic about such improvements if applied on a wider scale – localised improvements were not expected to yield benefits given that commercial journeys often involved travelling across numerous different roads on the SRN.

This 'optimism' about a road's capacity was most likely to be prompted by direct structural improvements (the construction of additional lanes etc.). For example, many of the respondents (both individual and commercial road users) introduced to the Expressways initiative instinctively assumed that improvements to a road that became an Expressway would increase capacity. This was based on an assumption that Expressways would provide an improved service over a 'normal' A-road and respondents' identification of poor capacity as a major problem with some A-roads they knew.

Optimism, therefore, was based mainly on assumptions rather than experience. Those who had experience of general road improvements were sometimes critical of measures, including resurfacing and junction redesign, which had not directly increased a road's physical capacity. Others without this experience were also sceptical (again, a group which cut across segments as for optimists) about the long-term benefits, assuming that if a road's structure, surface or ancillary features were improved, there was a risk that more cars would choose that road which would counter-act any traffic flow benefits.

The most sceptical respondents also questioned whether even the direct addition of lanes could really improve traffic flow over time, given their expectation of increasing volume of traffic on the roads generally. These sceptics assumed that once the

capacity on a road had been increased, more drivers would choose to use that road and the benefit would be negated.

Given the way in which the research was designed, with each relevant topic discussed by only a small number of groups, it is difficult to draw firm conclusions about the balance between optimists and sceptics. The overall impression is that the optimists outweighed the sceptics, but the numbers explicitly discussing each type of improvement were small, and as noted optimism was more likely to be based on assumption than experience.

5. What undermines road user satisfaction?

The chapter above discusses the extent to which various attributes of a road can contribute to the level of control that users feel when driving on it, and thus the quality of their experience or service that they perceive it to deliver. However, regardless of its quality under normal circumstances, the journey outcomes and driving experiences delivered by a road can be undermined by the effects of temporary factors. This chapter discusses the four most significant: road works, accidents, poor weather and other road users.

5.1 Road works

5.1.1 How do road works affect individual road users?

Road works inevitably disrupt the normal functioning of a road. For individual road users, the impacts of this disruption on journey outcomes and the driving experience were partly linked, in that increased journey times had the potential to cause stress and frustration. But, in addition to this, road works also had a number of independent effects on individuals' driving experiences.

The impact of road works on individual road users depended partly on the effect that the resulting disruption had on traffic flow, and the length of time before normal service resumed; and partly on how predictable the disruption was. As found elsewhere, the extent to which disruption affected individual road users' feelings of control over the driving environment depended on whether or not they knew about road works in advance, and therefore knew what to expect and/or knew what to do to minimise the impacts.

Unexpected road works were a frequent source of irritation due both to the impact they had on journey times (which could not be mitigated in the same way as everyday congestion), and the effect they had on the driving experience – primarily frustration at the unanticipated delay and cognitive burden resulting from having to make quick decisions about routes and revised arrival times, but also in some cases safety if the works involved unusual requirements such as contraflows or narrowed lanes.

> *"You're kind of held to sort of ransom, really, aren't you? Because… unless you're aware of it a long way in advance, you can't take… action."* (Individual, Regular, Ipswich, Older Less Mobile Car Owners)

For longer-lasting road works, predictability could come from experience if individuals passed them frequently enough: as with everyday congestion, lower levels of disruption became normalised and built into planning and thus accepted; whereas higher levels could create heightened frustration precisely because of their predictability. However, predictability also came from being informed about the works in advance.

> *"I think the information is important because it gives the motorists choices."* (Individual, Frequent, Epsom, Educated Suburban Families)
>
> *"It's the frustration of not knowing that drives people crackers."* (Individual, Infrequent, Birmingham, Older Less Mobile Car Owners)

A second key determinant of the effect that road works have on individuals was the way in which they were perceived to be managed. The way in which different aspects of management contribute to the acceptability of disruption is discussed in depth in section 6. Here it is relevant to note that individuals were aware that road works are planned in advance: while most accepted that road works create disruption, and (to varying extents) bring benefits in the end, they were more frustrated by road works if they did not feel that attempts were being made to minimise disruption. Thus individuals were less satisfied when they:

- encountered areas of the road that were cordoned off for road works but where no work was actually taking place
- there was a perceived lack of information provision
- projected timescales were unmet
- speed restrictions, diversions or worker and road user safety were deemed inadequate.

> *"It's a nightmare [when] you have miles and miles of lanes that are cordoned off and nobody's doing anything."* (Individual, Regular, York, Affluent Empty Nesters)
>
> *"If they say they are closing the road down today, and it's going to be closed down for four weeks, [then it] should [be] closed down for four weeks – not drag it onto six weeks, eight weeks."* (Individual, Infrequent, Birmingham, Older Less Mobile Car Owners)
>
> *"Nine times out of 10 when you go past [road works] there's never anybody working."* (Individual, Infrequent, Ipswich, Less Affluent Older Sceptics)
>
> *"None of the tarmac is broken, there are no vehicles – there's just a line of cones. You know [the road workers are] not doing anything."* (Individual, Frequent, Reading, Educated Suburban Families)

5.1.2 How do road works affect commercial road users?

Commercial decision-makers and drivers wanted (their staff) to be able to travel as efficiently as possible – even for commercial drivers who drove themselves, this was more important than the experience of driving. Road works which disrupted traffic and caused delays had the potential to increase journey times, and thus to increase fuel, productivity costs to their businesses. As with everyday congestion, the impact of this disruption could be mitigated by prior warning (either through information or experience) so that journeys could be planned in order to internalise and absorb costs. On this basis, most commercial road users seemed quite sanguine about disruption caused by road works provided they knew about it in advance, and provided the extent and length of it was not too great (see section 6 for more discussion of this).

5.1.3 What is people's experience of road works on the SRN?

There was broad agreement across the sample that, in general, road works are better handled on motorways than they are on A-roads. This was largely because digital signs on motorways make it possible to alert road users to disruption more effectively than is possible on A-roads, so that they can make a diversion or have some idea of what is happening.

> *"If you're on the motorway, there tends to be more information there than there is on trunk roads."* (Individual, Frequent, York, Town and Rural Heavy Users)

> *"There's always better [information] on the motorway – better signs."* (Individual, Regular, Ipswich, Older Less Mobile Car Owners)

> *"It pre-warns you [if there's an incident on a motorway], doesn't it? And it gets your mind into a set that says, 'OK, we are going to be held up shortly', so the frustration element is lowered significantly. Whereas, when you suddenly become upon [an incident] on a trunk road you think, 'oh, what's going on here?'"* (Individual, Regular, York, Affluent Empty Nesters)

Some individuals also felt that closing a lane on a motorway has less impact than on an A-roads because motorways have more capacity to begin with.

> *"I would say [road works] are better on motorways because there is more capacity."* (Individual, Regular, York, Affluent Empty Nesters)

> *"I think the worst holdups I've ever had have been accidents on A-roads… and it's because [emergency services] can't get to the accident as easily, because on the motorway you've got the hard shoulder."* (Individual, Frequent, Epsom, Educated Suburban Families)

> *"There's more options [on a motorway] to actually get people around or off or whatever it maybe. Whereas, if [the disruption is] on a single lane 'A' road, you're stuck."* (Individual, Frequent, Epsom, Educated Suburban Families)

Many individuals also observed that road works on motorways are more likely to occur at night, as opposed to during the day for A-roads. There was a much stronger appreciation for work at night, as it was perceived to cause a great deal less disruption due to fewer vehicles being on the road at this time. (Although, as discussed elsewhere, the impact of experiencing disruption while nothing appears to be happening also needs to be taken into account.)

> *"On the motorways, I think they do more [road works] at night don't they? But, like the 'A' roads, they tend to do them in the day."* (Individual, Infrequent, Ipswich, Less Affluent Older Sceptics)

> *"I don't know why they can't do some [road works] at night… the roads are not so busy at night, and [they have] got all these big lights they can use."* (Individual, Infrequent, Ipswich, Less Affluent Older Sceptics)

> *"The night is when there's no problems, so the majority of the work that is going to take up half the road, do [at night] – then open as many lanes as you can [during the day]."* (Individual, Frequent, Epsom, Less Affluent Urban Young Families)

In more specific terms, there were some examples given of journeys where respondents felt road works had been effectively managed. These examples tended to involve effective information provision (ensuring that drivers were aware of upcoming works, and that where necessary alternative routes were clearly signposted), minimisation of disruption (speed restrictions to smooth traffic flow, clearly signposted lane closures, work taking place outside of peak traffic times) and the maintenance of safety both for road users and for workers (through clear marking out of working areas, and ensuring that workers behaved responsibly).

> *"For the first time ever this year just gone, they were doing all the expressway and underpasses, and they did them from the day the children broke up, and they were expected to finish the day before the children went back… and they actually did it. They finished the work – they showed it was possible at the right time when there wasn't as much traffic on the road."* (Individual, Infrequent, Birmingham, Older Less Mobile Car Owners)

> *"We often travel through Bristol, and recently there's been a lot of work going on [at] Cribbs Causeway on the M5, and that's been well-managed… Average speed cameras have been put in and actually that hasn't been too bad. So, I would say in a positive respect that's been long, but it's been well-managed."* (Commercial User, Regular, South West, Manufacturing, 10-49 employees)

However, individual and commercial road users alike were typically dissatisfied with their experiences of the way in which road works were handled. This was mainly due to a perceived lack of information provision, and/or being in receipt of information that was incorrect or out of date. In these situations, road users had typically felt unable to take action when encountering disruption, or had been given expectations by information that did not match reality. Both situations created frustration and loss of control.

> *"If they're going to give you the information, it's got to be accurate and true. They can't say [that a delay is] going to be twenty minutes, and then an hour-and-a-half later you're still sitting there."* (Individual, Regular, Reading, Less Affluent Young Urban Families)

> *"You certainly see signs when people have finished the job early, so you would expect to be told if it was going to be late as well."* (Individual, Regular, York, Affluent Empty Nesters)

> *"I think the one thing that isn't communicated very well is what is actually happening."* (Commercial User, Regular, South West, Manufacturing, 10-49 employees)

Instances where traffic is disrupted by road works even when work is not actively (or visibly) taking place were also thought common, and were frustrating for many. In addition diversions and alternative routes were frequently thought inadequate, either due to a lack of road signs en route or because of the added time they take. Again, these factors gave the impression that minimising the impact of works on road users was not a priority for those who plan and manage them.

> *"Durations… I think they're like only a guide, because probably they mostly run over time."* (Commercial User, Frequent, North East, Services, 5-9 employees)

> *"It's the management of road works which is sometimes at fault."* (Individual, Regular, York, Affluent Empty Nesters)

5.1.4 What do people think could be done?

Individuals and commercial users alike identified two ways in which the impacts of road works on them could be reduced. The first was more, and improved, information – both before disruption is encountered to prepare drivers or allow them to find alternative routes, and while in disrupted traffic to inform about what is being done, and how long the disruption will last. There were also a number of calls among commercial users for advance warning of road works to allow for forward planning on frequently used routes (awareness of HA and other websites was very low, and rarely mentioned). It should be noted that as in Wave 1 few users, individual or commercial, seemed to check for information on road works (current or future) on SRN roads they

used – probably in part because they were not in the habit of doing so, but also because they were unaware of convenient sources of this information.

> *"Just keeping people updated… People are more likely to accept [disruptions] if they're kept informed."* (Individual, York, Frequent, Town and Rural Heavy Users)

> *"In this day and age of technology, I don't see why we couldn't have a website… that you could go onto and look at every road in the country, and [see] road works [and]… delays and things." (Commercial User, Frequent, North West, Retail and Distribution, 10-49 employees)*

Information requirements during disruption are discussed in more detail in section 7.

The second improvement would be for greater priority to be given to reducing the effects of disruption – or, perhaps more realistically – for the efforts that are made to be more visible. Suggestions included penalties for contractors that do not complete work on time, planning to avoid too many road works taking place in a single region at one time, signs of activity during the day even if work takes place at night.

> *"[Contractors should expect] penalties if they did not complete the job in the time they said." (Individual, Infrequent, Ipswich, Les Affluent Older Sceptics)*

> *"Wouldn't it be great if they decided to do whole sections of the A30 all within... the same summer? The more they spread it out… and do sections the better. You know, you don't want the whole roads closed." (Commercial User, Regular, South West, Manufacturing, 0-4 employees)*

5.1.5 What are the implications for DfT and the Highways Agency?

Road works cause congestion which impacts on journey times. They are broadly assumed to be necessary, but the impact of congestion on satisfaction with the road depends on:

- the extent and length of disruption
- the degree to which it is expected and can be mitigated
- the extent to which the road works are seen to be managed with road users' interests in mind.

Experiences of the way road works are delivered suggests to road users that they are not always planned to minimise disruption. In particular, information about them and visible indications of efforts to reduce the extent and/or length of disruption, were often felt to be lacking. In these cases, frustration caused by the delay was compounded by frustration caused by the thought that the impacts on road users could have been reduced. Road works that take place over a long period, and thus

open to repeated exposure and judgement/scrutiny over time, raised particularly strong views.

In this context, visibly considerate management and information seems to be key to minimising dissatisfaction caused by road works. Road users need to feel that minimising the impact on them is a priority – that steps have been taken to reduce the impact on their journey. They need to know what is happening (or not happening) in order to feel in control, and to feel like disruption is being minimised. Information is needed ideally before beginning the journey to allow them to plan for disruption and adjust their expectations so that these match reality; also before and at road works to communicate likely delays and workable diversions. Current experience does not always deliver these needs, leading to dissatisfaction.

5.2 Accidents

5.2.1 How do accidents affect road users?

While acknowledged to cause temporary disruption, accidents were thought different from road works in two critical senses: they are inherently unpredictable and relatively infrequent; and there is a human cost involved. These differences had a strong influence on how individual and commercial road users felt about the disruption created – once they understood that it was an accident that had caused it.

The first encounter that road users had with an accident was usually with congestion and disrupted traffic flow. In itself, and as noted above, when encountered unexpectedly this could have a significant negative effect on journey times and the driving experience. Disruption caused by accidents therefore had a similar initial effect to unexpected disruption caused by road works. However, reports from road users of all types made it clear that once they understood that delays were the result of an accident, their reactions were generally tempered through an appreciation that the event could not have been predicted, and by sympathy for the people involved.

> *"It's just one of those things if you get stuck behind an accident – if there's been an accident that's blocked the road [and] you're sat there for eight hours or whatever, that's just unfortunate."* (Individual, Regular, Liverpool, Educated Suburban Young Families)

Thus the point at which individual and commercial road users found out that the disruption they encountered was due to an accident was key to the impact that it had on them: earlier knowledge (through information provision, or by witnessing the emergency response) generated more positive attitudes, even if the effect of the disruption was the same.

As with road works, however, the way in which accidents are managed also had an influence on the impact that they have on road users. Here, individuals and

commercial road users mentioned the speed of emergency response, the time taken to re-establish 'normal' service, and the extent to which the road is closed or traffic diverted. Ideally, respondents wanted to see each of these minimised; but in practice most appreciated that people's health and lives can be at stake, that emergency responses are probably as fast as they can be, and overall that what needs to be done should be done. Few, for example, wanted to see accident sites cleared more quickly if this would compromise the activities of the emergency services, or indeed evidence that could show who was responsible for the accident.

Given this relative acceptance of disruption, the key to maintaining positive attitudes around accidents was minimising the temporary loss of control they cause by providing information to help individual and commercial road users understand the situation they are in, and what to expect.

> *"You'd feel a bit more in control if you [knew] what was going on."* (Individual, Frequent, Epsom, Educated Suburban Families)

> *"I think the worst thing when you are in a traffic jam is the not knowing how far it is to the other end. If you could see exactly where you are in that position and what is coming, then you would feel a bit more chilled out about it."* (Individual, Infrequent, Ipswich, Less Affluent Older Sceptics)

> *"I'd like to know what they planned to do in terms of, you know, does this mean they're going to close two lanes or three or one lane."* (Individual, Frequent, Epsom, Educated Suburban Families)

5.2.2 What is people's experience of the way accidents are handled on the SRN?

In some senses, respondents found it difficult to comment on how well accidents are handled. Most encountered them rarely, and had relatively few experiences to compare as a way of judging how they should be handled. Since people may have been injured and vehicles damaged, respondents assumed that certain things need to be done in order to save lives and/or gather evidence, and that these activities take time to complete. In general, therefore, individual and commercial road users felt that accidents on the SRN are unfortunate and probably managed as effectively as could be expected.

That said, although there was a general acceptance that clearing accident sites does take time, some road users did describe feeling frustrated by perceived delays between finishing vital work and re-opening the road. Likewise, commercial drivers in particular felt that traffic officers are often over-cautious (i.e. too willing to close lanes unnecessarily) in their response to accidents. As with road works, these factors gave the impression that minimising the impact of accidents on road users was not a priority for those who manage them.

"Durations… I think they're like only a guide, because probably they mostly run over time." (Commercial User, Frequent, North East, Services, 5-9 employees)

"It's the management of road works which is sometimes at fault. You've either gone from the little fella with the board that says 'stop' and 'go' on it, or to traffic lights, or to speed restrictions which nobody seems to take any notice of." (Individual, Regular, York, Affluent Empty Nesters)

5.2.3 Summary and implications for DfT and the Highways Agency

Road users are more forgiving of delays caused by accidents than those caused by road works because accidents are unpredictable and cannot be planned for, and potentially have a human cost and so elicit sympathy. As with road works, information about likely delays and diversions in advance and at the site helps users retain a feeling of control. In addition, since attitudes are tempered by sympathy for those involved and the fact that the situation is unfortunate, telling road users that disruption is due to an accident as quickly as possible is likely to reduce the dissatisfaction it causes.

5.3 Poor weather

5.3.1 How does poor weather affect road users?

Weather conditions were a recurrent theme with regard to safety – in particular heavy rain and spray from surface water which reduced visibility and meant vehicles had less traction on the road. Poor conditions increased drivers' fear of potential accidents, and meant that they had to concentrate harder to see upcoming impediments in the road, junctions and other vehicles. These impacts were compounded by the behaviour of other road users who were thought to slow down insufficiently (or too much) in poor weather, or not to leave enough space between vehicles.

The relative unpredictability of bad weather and other road users' behaviours in it added to the sense of stress, undermined expectations of the driving experience, and enhanced the feeling of an overall loss of control. Similar concerns around visibility accompanied journeys undertaken at night, when it was felt to be harder to see other road users, road markings, signage and junctions (see section 4.2 on Ancillary Features above).

"I think there's a lot of young kids when they're driving they don't have a clue what's happening, a bit of rain, a bit of snow and they're doing 10 mile an hour, and they won't go faster, and you're stuck behind them, then you get angry." (Individual, Regular, Birmingham, Less Affluent Older Sceptics)

5.3.2 What is people's experience of poor weather on the SRN?

Many respondents shared bad experiences of driving under adverse weather conditions. A severe downpour or icy conditions were widely perceived to be equally as bad, whether experienced on a motorway or an A-road. Recollections of journeys undertaken during adverse weather conditions were some of the first and most vividly to be described when respondents were asked about their experiences relating to safety and stress on the SRN.

> *"To be honest I am scared. It seems quite scary. It was an absolutely torrential, hideously horrible, nasty rain. It's not very often you have your windscreen wipers on full speed."* (Individual, Infrequent, Birmingham, Older Less Mobile Car Owners)

> *"We [broke down and] just sat there and sat there and sat there. And it was very, very scary with lorries going past and snow and ice."* (Individual, Regular, Reading, Less Affluent Urban Young Families)

The impact of weather on road users' satisfaction with the driving experience – feelings of safety in particular – could be mitigated by effective lighting, signage and markings. But the converse was also true: roads were expected to have features that enable them to 'cope' with poor weather. Consequently, poor weather can highlight deficiencies in roads' ancillary services and up-keep where this is not thought to happen.

5.3.3 Summary and implications for DfT and the Highways Agency

Poor weather conditions can have a strong impact on drivers' experience of the road. There was widespread recognition that the unpredictable nature of the weather means there is only so much pre-planning that can be done. But there was also a sense that many roads in the UK do not have the features needed to deal with poor weather effectively, and this has the potential to result in dissatisfaction.

5.4 Other road users

5.4.1 How do other road users and vehicles affect the driving experience?

The behaviours of other road users, and the types of vehicles driven, had a significant impact on the extent to which individuals felt in control on the SRN. The effects varied considerably depending on the road user's age or lifestage, driving style and confidence, and the size of their vehicle. Essentially, however, the quality of the experience was undermined when a road user encountered another who drove in a way that was different or seen as inappropriate, and/or who intruded on their personal space.

'Dangerous driving' (a subjective term, different for each road user) presented an element of threat and danger; increased levels of sense of stress and frustration; and

meant having to concentrate harder and pay greater attention to the road and surrounding vehicles. Individuals in all segments felt they had very little control over situations in which other road users were driving in a way they thought dangerous, and found them to be particularly distressing and infuriating.

> *"I don't think it's the roads that cause the road rage, I think it's people who don't know how to drive properly."* (Individual, Infrequent, Liverpool, Less Affluent Urban Young Families)

> *"It doesn't matter how safe you feel, if someone's right up your backside."* (Individual, Frequent, York, Town and Rural Heavy Users)

It was not only 'dangerous driving' that affected the driving experience, however. Many road users commented on the frustration caused by being held up by other drivers who drove more slowly or erratically than they would have liked. It was notable, for example, that many younger drivers characterised 'problem drivers' as older people who drove too cautiously, and that older people often felt younger drivers are the problem for being too 'reckless'.

Many respondents also described feeling unsafe while driving simply due to the number and size of other vehicles in proximity to them. In particular, HGVs were frequently mentioned as the cause of 'unsafe' and frustrating experiences, as their size was intimidating and made it difficult to overtake them on single-lane roads.

The driving behaviour of other road users did not only impact on respondents' sense of safety. Difficulties in understanding or predicting the behaviour of others could have a significant impact on levels of stress and cognitive burden. Attempting to pay attention to all the vehicles around them and anticipate dangers was for many respondents an undesirable distraction from their own driving.

> *"One driver got in front of me and I pulled out and he slammed his brakes on at 70 miles an hour and I had to slam my brakes on. And I was like, whoa, this is just crazy."* (Individual, Regular, Reading, Less Affluent Urban Young Families)

> *"I think it's because everybody else is going so fast, and you, it takes so much concentration that you think oh my god."* (Individual, Regular, Birmingham, Less Affluent Older Sceptics)

5.4.2 What is people's experience of other road users on the SRN?

A key aspect of individuals' experience of 'dangerous driving' on the SRN was its unpredictability, and the sense that it could be encountered at any time. Many journeys would pass entirely without incident, but there was no sense that any part of the SRN could guarantee an absence of the unpredictable behaviour of 'bad drivers' in particular. It was not necessary to witness an accident or to have experienced one in

the past to feel under threat or stressed; the potential consequences were clear and visceral enough to most individuals.

Common experiences shared by many individuals included other drivers using mobile phones whilst driving, speeding, lane-hogging, tailgating, or overtaking aggressively. These experiences were reported across the sample – by individuals of all usage frequencies, ages, locations and segments. However, individuals who were older, less frequent, less time-pressured and/or driving smaller cars seemed most likely to be affected.

> *"I think you need a 360 degree vision because you have got under-takers, over-takers, tail-gaters."* (Individual, Infrequent, Birmingham, Older Less Mobile Car Owners)

> *"I was driving back from Manchester in the middle of the day, and … the HGVs [were] lethal… because they just change lane constantly. And like my car is fairly small, and I just remember at one point I had like a wagon on [the] side, one in front of me, one behind me, and I was just like, 'oh my god!'"* (Individual, Frequent, York, Town and Rural Heavy Users)

> *"I've only got a little Peugeot, and if someone is in a bigger car – like a Range Rover or something like that – sometimes that is quite daunting if you are pulling in and they are right next to you, because it feels like they are actually on top of you, just because you are so much lower down."* (Individual, Frequent, Epsom, Less Affluent Urban Young Families)

5.4.3 What do people think could be done?

When prompted with the proposal of **Focussed Safety Initiatives** (see Annex 2 for a full discussion of this initiative, which proposed a variety of different interventions targeted at at-risk groups of road users, and improvements targeted at particularly dangerous or poor-quality stretches of road), individuals recognised potential safety benefits from driver education programs and safety campaigns, and responded positively to the idea that these could be targeted at 'problem drivers' and locations with specific safety problems caused by the road's design. Some also welcomed the idea of being targeted themselves for further education and felt that existing driving lessons could do more to prepare new road users, especially with regards to driving on motorways.

> *"If people are made aware of how their actions can impact or what they've done, it should educate them to drive in a safer way."* (Individual, Regular, York, Affluent Empty Nesters)

> *"I don't know why [motorway driving] is not in the test. You can do all you like on an A-road but a motorway is totally different driving."* (Individual, Regular, Reading, Less Affluent Urban Young Families)

However, without being prompted by the initiative, no individuals discussed the possibility of such preventative or educational programs affecting their day-to-day experience of bad driving by other road users on the SRN.

Some respondents related good experiences regarding the presence of police patrols and Traffic Officers. These gave a sense that authorities would be looking out for bad behaviour, and were in a position to respond quickly in the event of accidents or emergencies. For these respondents, this helped reduce the cognitive burden facing drivers: particularly the degree to which they felt they needed to be watching the behaviour of other road users. But for others, the presence of police or emergency vehicles only added to the list of distractions and stress-inducing factors.

> *"I suppose on the motorways you get quite a few police patrols don't you? And… although it's a pain in one respect, it does make you feel a little bit safer because… if anything would happen there's somebody around, and also there'll not be quite as many idiots flying around if there is a police presence."*
> (Individuals, Frequent, York, Town and Rural Heavy Users)

Overall, there was little expectation that much could be done to reliably reduce the problems of bad behaviour by other road users. There was little awareness that the Highways Agency monitors the road network so that incidents can be responded to quickly, for example. For many respondents these were simply an inevitable cost of using the roads.

5.4.4 Summary and implications for DfT and the Highways Agency

Other road users can affect the journey in two ways: preventing road users from driving in the way they intended (e.g. being held up, intruding on personal space); and undermining the driving experience in terms of safety (feeling intimidated, unsure what is going to happen, unable to get away quickly), affective ease (feeling frustrated), and cognitive ease (needing to pay greater attention to other drivers' behaviour).

Although driver education, road structure, ancillary services and enforcement were expected to help to address these issues, road users recognised the limitations of trying to pre-empt and change individual behaviour. There was a view that education and apparently sporadic enforcement can only do so much, and an acceptance of the fact that there will always be 'bad drivers' on the road.

6. How can satisfaction be maintained during planned disruption?

This chapter discusses how individual and commercial road users react to the idea of disruption caused by planned road works, what they believe to be the most important considerations to be taken into account when planning road works, and the role that information and communications can play in minimising dissatisfaction with the roads in question. These topics were explored following the presentation of six proposed initiatives. Respondents in each group or interview were introduced to one or two of the six initiatives. The stimulus for each initiative outlined its purpose and potential benefit, and the level of disruption it was likely to cause. A fuller discussion of reactions to these initiatives can be found in Annex 2.

6.1 Attitudes to disruption

All respondents – individual and commercial road users – accepted that undertaking works to maintain or enhance a road would involve some level of disruption. As discussed below, attitudes towards disruption differed somewhat between individual and commercial users, but in both cases the key to whether or not this disruption was thought acceptable depended on:

- how much disruption there would be(the extent),
- for how long the disruption would last (the length)
- with what end result of the work would be (the benefits).

6.1.1 Individual road users

Where initiatives were said to take many months (7+ months) to implement, most individuals (especially regular and frequent users) were keen for the work to be done as quickly as possible. Across the sample, there was a general preference for work taking place round the clock, using more workers, and planning works to take place during summer months when there are more daylight hours and better (and more efficient) working conditions. Many individuals seemed prepared to accept an increased extent of disruption, within reason, if this meant work could be completed more quickly and that disruption could be time limited.

For initiatives which were said to take weeks or a few months, however, most individual users were keen to minimise the extent of disruption rather than the length.

Across the sample, almost all preferred work being done at night (many appreciated this still means disruption during the day, but assumed levels would be lower than if work were actually taking place during the day), and some preferred work at the weekend/school holidays only.

Attitudes to disruption were also influenced by perceptions of the benefits that would be achieved. Across the sample of individual road users, a feedback relationship emerged linking the perceived value of an initiative and their attitudes towards the disruption caused by its implementation. In general, the greater the perceived value of an initiative, the greater the acceptability of disruption in general; and finding out there will be less disruption than expected made people more favourable to the initiative itself. However, there were also signs that disruption was only acceptable up to a point, and going beyond that point made the initiative in question seem less appealing (the tipping point between acceptability and unacceptability was difficult to determine as discussions took place in the context of specific initiatives, with varying levels of disruption and benefit described). This suggests that improving perceptions of one component improved attitudes towards the other, but that the opposite was also true, as illustrated in the example in section 6.1.3.

The impact of night working on local people (primarily noise pollution) was a concern for individuals where an initiative had a local focus – i.e. it was located near to a community. In some cases this was raised by one of the respondents and in others it was prompted by the moderator; but either way it was discussed seriously once on the table. Noise pollution was rarely an issue to consider regarding initiatives without a local focus – located away from communities. This pattern held true across almost all groups in all segments.

Individuals in Segments 4, 5 and 6 (individuals with higher annual mileage) tended to be less accepting of disruption in terms of both extent and length. Those in these segments who examined initiatives with longer implementation periods (many months) strongly called for that time to be decreased. Those who looked at initiatives with shorter implementation periods (a few weeks or months) strongly called for the work to be planned so as to minimise the levels of disruption. Individuals in these segments also tended to be less willing than others to take the benefits ascribed to initiatives in the stimulus at face value, which given the relationships described above contributed to their lower acceptance of disruption.

Those in Segments 2 and 3 (less affluent and educated individuals who tend to have lower car dependence and reliance on the SRN that other road users) tended to be more accepting of the length of disruption suggested for longer initiatives, and less concerned about the levels involved. They also seemed more ready to accept that these initiatives will have value; this may have supported their more positive (or at least fatalistic) attitudes to disruption.

Infrequent users, regardless of segment, were more likely to accept disruption than regular and frequent users, provided roads stay open and the value of the initiative is clear. Regular and frequent users tended to need more convincing of the value of an initiative to accept longer periods of disruption, even if efforts were made to minimise the extent of disruption. As noted, the priority here for most regular and frequent users was to reduce time rather than level of disruption; seeing road works without workers during the day for months on end, for example, was a major irritation to many.

6.1.2 Commercial road users

Among commercial road users there were signs of greater tolerance for long-term disruption than among individuals, and/or a greater desire to minimise the extent of disruption while implementation is in progress. There were few commercial road users, for example, who were prepared to tolerate a situation in which the extent of disruption increased in return for a shortened implementation period – and a number accepted the fact that the initiatives they considered would take many months to implement (they were perhaps more realistic than individuals in this sense).

Across all business types, the priority was generally to keep roads open and traffic moving, or to give clear information about alternative routes. This accords with the emphasis that commercial road users placed on traffic flow and journey time as a measure of satisfaction with an SRN road (see Section 4). Also, while not explicitly articulated in the interviews in this Wave, commercial road users' acceptance of 'manageable levels' of disruption is likely to be due in part to their willingness to plan defensively in order to absorb the impacts of congestion, and to avoid these impacts becoming 'external' and affecting their relationships with clients and customers.

Thus predictability of traffic flow and the ability to continue operating on the same or a clearly delineated alternative route were generally prioritised over getting the work done more quickly. It seemed more important to commercial road users to be able to plan journeys and minimise productivity/fuel costs and impact on customers on a day to day basis than to minimise the length of time over which these costs were incurred.

The feedback relationship between attitudes to disruption and perceptions of benefits described above was also less evident among commercial road users, primarily because they were generally more likely than individuals to accept and believe in the benefits that initiatives (of all types) would bring, especially in terms of improved traffic flow, journey times and journey predictability across the SRN as a whole. This seemed to be because most saw the SRN as integral to their businesses, and felt that improvements to it would have direct benefits to them. They were therefore more likely to accept disruption during implementation, and adapt their planning to mitigate it, if it would lead to long-term benefits.

6.1.3 Resurfacing as an example

A good illustration of these relationships playing out is **resurfacing**. Motorway resurfacing was widely assumed by individuals to be high quality, long lasting and beneficial, whereas A-road resurfacing was often assumed to be more 'cosmetic', shorter term and lower quality. This was partly a result of experiencing both, but also due to generalised views that any work on motorways is higher quality than the equivalent on A-roads. Most individuals were therefore more positive about resurfacing in itself on motorways than on A-roads, and assumed that the former would bring greater value.

The information given to respondents suggested that resurfacing both types of road would take a fairly short amount of time. Some individuals were sceptical about this, but the idea of motorways taking longer than claimed was generally acceptable as the end product is valuable; whereas attitudes to A-roads taking longer than claimed were generally less positive. Conversely, others accepted the claimed times and found these shorter than expected/experienced, and became even more positive about resurfacing both types of roads than they had been initially.

Lastly, since the length of disruption already seemed fairly short, almost all individuals prioritised minimising the extent of disruption (e.g. through work taking place at night and/or at quiet times of the year) rather than getting the work done as quickly as possible.

Commercial road users, however, were less positive and enthused about the benefits of resurfacing (on all types of road) than they were about other initiatives: they saw road surface quality as a lesser problem than congestion in the first place, and consequently viewed resurfacing as a less dramatic and long-lasting improvement than other initiatives intended to increase a road's capacity and directness.

As noted in section 4, resurfacing was widely seen as reactive and aimed at addressing damage to the surface, rather than as routine maintenance to prevent more serious deterioration. Correspondingly, some respondents who considered the resurfacing initiative were less accepting of disruption in terms of extent and length than those who looked at other initiatives – even though the disruption suggested for the other initiatives was greater.

Across the individual and commercial road user samples, however, there was a strong and consistent view that improvements should be immediately apparent once the work is completed – especially if work has taken a number of months.

6.2 Managing implementation

6.2.1 Considerations

Individuals and commercial users discussed a number of factors that they felt should be taken into consideration when planning works. These included:

- **Quality** of the work, and longevity of the results
- **Safety** of workers and road users while works are being carried out
- Impact of the works on the predictability (and reliability?) of journey times and smoothness (/consistency?) of **traffic flow**
- Length of **time taken** to complete the works
- Impact of the works on the **speed** at which traffic can travel
- **Cost** of the works
- **Information** that is provided about the works – the level and length of disruption; alternative routes; and the purpose and anticipated benefits of the scheme
- **Environmental impacts**, such as noise and air pollution, damage to the landscape and habitats

Individual and commercial road users prioritised these considerations in different ways, as discussed below.

6.2.2 Individual road users' priorities

While individuals were consistent in their identification of the key considerations, the way in which they prioritised those considerations varied according to segment, frequency of use and the length/level of disruption involved.

Most individuals, regardless of segment, considered quality, safety, traffic flow, and getting the work done quickly to be their priority. Cost was important for some segments but not all; information was a higher priority for frequent users than lighter users; traffic speed was less significant than traffic flow and journey predictability in almost all groups; and environmental impacts were thought important where initiatives had a local focus, but much less so otherwise. All these variations are discussed below.

Quality of work

Quality of work was the highest priority for most groups. If work is being done and disruption caused, individuals and commercial users needed to know it will not need doing again for many years. They also needed to know that it would deliver the

promised benefits to the full. Quality was an especially high priority relative to the other key considerations in contexts where disruption was thought less of an issue. This was the case for:

- initiatives which were said to be quicker to implement (taking weeks or a few months, rather than several months or years), and thus expected to create less disruption overall;
- infrequent users who did not expect to encounter so much disruption anyway
- Segments 1 and 3 (older drivers who tend to use the SRN less frequently than those in other segments) who were perhaps less time-pressured and more tolerant of disruption.

In many cases this pattern is likely to be due to a relative de-prioritisation of the other key considerations, as these relate to disruption: quality was more prominent because there was less of a focus on minimising disruption. However, there was also a sense among many that initiatives which are quicker to implement are also likely to need re-doing sooner; and (less prominently in this Wave but clearly expressed in Wave 1) that works which seem short-term and reactive and appear to be poorly planned create frustration and lead to calls for more pro-active, preventative work with longer-lasting benefits. This is also likely to have influenced views that a premium should be placed on quality, at the relative expense of other considerations.

Duration of work

Conversely, for initiatives where disruption was more of an issue (e.g. Smart Motorways, which were described in the stimulus as taking up to 18 months to implement), considerations that would address it – minimising the impact on traffic flow to make journey outcomes predictable, and minimising the length of time taken to complete the works – were more prominent. This was the case for initiatives that were said to take many months to implement, and for more frequent users.

Of these, reducing the time taken was overall thought more important than minimising the impact on traffic flow, but although it was on a par with quality in many cases, only in one group (frequent users considering an initiative that was said to take well over a year to implement) did it assume the highest priority. Traffic flow was overall an important but lesser consideration, with the exception of one group (frequent urban users in segment 6) which saw it as by far the most significant issue. However, minimising the impact of works on the speed at which traffic can travel was rarely seen as a priority. Individuals accepted that works would have an impact on traffic speed, and as in Wave 1 predictable flow and journey times, were valued more than irregular flow in which journey times might be shorter but could also be longer.

Safety of work

The final key consideration for most individuals was worker and/or road user safety. The importance of this relative to other considerations is difficult to judge as in most cases it was regarded as a given – ultimately, the assurance of safety was expected, and there was an assumption that it would not be compromised. Safety did seem to be regarded as more important where concerns about disruption were lowest, but as above this is likely to be due more to a lower need to consider traffic flow than a higher need for safety.

Other considerations

Views on the relative importance of minimising **cost** varied. This was fairly significant in Segments 3 and 5 (involving more affluent/educated individuals) where initiatives seemed 'major' (e.g. Smart Motorways, bypasses); it was much less important for initiatives seen as relatively 'minor' (e.g. resurfacing, junctions). Across all groups, however, it was less of a priority than quality and time taken to complete the work – respondents seemed happy to 'pay' for an optimal outcome.

Receiving **information** was a fairly high priority for many (not all) of the more frequent users who considered an initiative with a local focus; it was unimportant for most other individuals. That said there was a clear appetite for information about works being carried out, as discussed below, and potential for information to influence attitudes to those works.

Minimising **noise pollution** and **damage to landscape** was a greater priority where these effects would be felt by local residents (e.g. bypasses and junctions), but much less where there was no local focus or where the work was expected to be completed quickly (e.g. smart motorways and resurfacing). Even among those who wished to minimise damage to landscape, however, the idea that landscape and habitat might be irretrievably damaged by works was rare: rather the concern was that damage should be 'made good' after the work had finished.

6.2.3 Commercial road users

For commercial road users, the overriding considerations were **traffic flow** and **speed of travel**: with few exceptions the most important factors in their judgements of whether disruption was acceptable were the extent to which their drivers were able to get past the works quickly (to minimise 'wasted' time) and predictably (to allow for defensive planning, as discussed above). In this sense, speed was seen as more important by commercial users than individuals.

Commercial road users in larger companies (50+ employees) also tended to place high value on **safety**, perhaps being more mindful of their duty of care to their employees. Respondents in smaller companies (with some exceptions) were more likely to focus strongly on traffic flow and speed, given their direct impacts on the business.

Other factors which did not have a direct and immediate impact on the business, such as **quality**, **cost** and **environmental considerations**, were much less important to commercial road users (although as with individuals, longer-term initiatives with a local focus did make commercial drivers think about the potential for damage to the landscape – it is likely that these respondents were thinking as individuals here.

7. Information needs

7.1 Overview

There was a general feeling among all types of road user that information about large-scale road works is limited or absent, and that what is been provided is generally practical (information about length of works, alternative routes etc). Awareness of information about the rationale for or anticipated benefits of an initiative was low; as was awareness of the HA website. As in Wave 1, and as mentioned above, individual and commercial users alike rarely checked traffic information before setting off on their journeys – likely in part because of this lack of awareness of existing sources of information.

Individual road users gave isolated examples of engagement (via A-road signs, radio, leaflets, local press, posters in shops, employers) in York, Liverpool, Salisbury and Epsom, but this was not consistently recalled; and very little was recalled for Ipswich and Birmingham apart from word of mouth.

However, there were signs, as discussed elsewhere in this report, that the acceptability of disruption can be increased by providing information on:

- **Practicalities**: creating/managing expectations and reducing impact on journey outcomes and driving experience – and thus satisfaction
- **Rationale and benefits**: raising awareness of the initiative's value, increasing acceptability of disruption
- **Impact / outcomes of the work**: increasing retrospective acceptance and trust in future schemes

As discussed in the previous chapter, commercial drivers and decision-makers explicitly called for more information, and although it was not the highest priority for individuals (compared with considerations such as quality and time to complete the work), it was still thought important. It is also likely that this lower priority results partly from the fact that people are not used to receiving this type of information and benefiting from it.

Road users called for information at three stages in the implementation process: before work starts; during works; and after work ends. Requirements at each stage, and the relative importance of each, are discussed below.

7.2 Information in advance

This is the most important stage for information, both in terms of what road users called for, and in terms of what it can achieve. Advance information would allow users to prepare for disruption, thus minimising its impacts on journey outcomes; help manage expectations to mitigate those impacts; and highlight benefits to increase the acceptability of disruption.

Individual and commercial road users called for three types of information at this stage. At the most basic level was information at the site (generally via clear, simple signage) about what will be happening and timings; all road users wanted this for all initiatives.

For schemes with a local focus, where residents would be impacted directly and perhaps to be convinced of the value of the work, there were calls from individual road users for more detailed information about what will be happening, timings of the work, and the rationale for the work. These would ideally delivered through local media – radio, newspapers and community venues (for example, libraries, town halls). There was a general feeling that this type of advance, detailed information for local schemes is currently limited or absent.

Finally, there were some calls for more detailed information about disruption on dedicated 'go to' websites about works across the whole country, or route planners: the former channel was relevant to individuals and local schemes; the latter was suggested by frequent road users and commercial road users who considered more general initiatives and thought they would want information specific to a particular journey rather than about the works overall. Some users were using the AA / RAC websites, Google maps and other services to plan routes for specific journeys, and took traffic information into account if this was clearly indicated. But few routinely checked traffic information online, and as noted awareness of the HA website as a source of information about road works was very low, for individuals and commercial road users alike.

7.3 Information during works

The role of information while work is on-going is to set expectations for those encountering the works for the first time, and to maintain acceptance among those who are affected repeatedly.

All road users encountering road works for the first time required the same information about diversions and the extent of disruption as at the advance stage. Many of those repeatedly encountering road works thought it important to have progress updates and reports on whether or not the work was proceeding according to schedule. Such updates seemed most important for longer-term initiatives and more frequent users, and for local schemes as they would help to maintain residents' support for and acceptance of the work.

Preferred channels for disruption/diversion information and progress updates varied. For the former, the same channels as at the advance stage seemed sensible (at site, a local website, and a national website or route planners). In addition, real-time information about traffic impacts as works are on-going seemed valuable to more frequent users (across segments). Radio was the most commonly mentioned channel for real-time information; some also called for information to be pushed to satnavs; and a few suggested a regularly updated website (although this was mostly raised in connection to non-local schemes where need is lower, and most others in the groups felt they were unlikely to visit it).

There was little interest in **social media** for such real-time information. One or two younger individuals used Twitter for traffic and road updates, but most did not, and could not see why they would – even those who used Twitter elsewhere. Barriers varied, but included the fact that Twitter cannot be accessed while driving (unlike radio); traffic is not an 'interesting topic' that feels suitable for social media; and social media not being used at all. The one exception to this pattern was a segment 5 group in Epsom – younger users who felt social media could be effective as they used it a lot anyway.

Real-time information was generally thought less relevant to progress updates (which could be regular updates rather than rolling information). That said, there was some interest in **mobile apps** to pull together a range of real-time information about a scheme, especially among frequent and younger users (segments 2, 5 and 6). These individuals often became enthusiastic about an app that could provide up to date information on progress, traffic impacts and other aspects of a frequently used scheme. Apps were seen as a convenient way to access a range of information both in advance of a journey and during one; they were also felt to be 'the way things are going'. Although some commercial road users were interested in information regarding travel disruption and road works that might be delivered online, as a group they did not express spontaneous interest in the idea of a mobile app.

7.4 Information after work is completed

The need for information after works end seemed limited, but it may be useful for securing retrospective acceptance and trust. Some individual road users expressed interest in knowing whether and to what extent the initiative had had the intended impact (for example, on congestion, accidents rates). This was most true for schemes that had taken longer to implement – individuals wanted to be reassured that the disruption had been worth it. Likewise some of the individuals who were most interested in quality (segments 1 and 3 – older users who tend to be less affluent, less educated, lower annual mileage and less frequent SRN users) also called for reports on assessments of the quality of the work and/or how long it would be until maintenance is likely to be needed. Likely channels for both included at-site signage and local media. For initiatives with a shorter implementation time, some individual

road users wanted to know whether the budget had been met. But most individuals (and almost all commercial road users) wanted little more than to know that the road had opened again.

Table 5. Summary of communications preferences and requirements

Advance information to allow users to prepare for disruption; help manage expectations; and highlight benefits to increase the acceptability of disruption.			
Initiative type	**Communication need**	**Audience**	**Preferred channel**
All initiatives	What will be happening and timings	All users	At-site signage
Initiatives with a local focus	Detailed information about what will be happening, timings of the work, and the rationale for the work	Local residents	Local media – radio, newspapers and community venues. 'Go to' websites with authoritative information about schemes across the country
All initiatives	Detailed information about likely disruption for specific roads and journeys	Frequent SRN users, and commercial users	Online route planners

Information while work is on-going is to set expectations for those encountering the works for the first time, and to maintain acceptance among those who are affected repeatedly			
Initiative type	**Communication need**	**Audience**	**Preferred channel**
All initiatives	Information about diversions and the extent of disruption.	All road users encountering road works for the first time	At site, a local website, a national website or route planners. Radio for real-time information
All initiatives	Progress updates and reports on whether or not the work was proceeding according to schedule	More frequent road users who repeatedly encounter road works on regular journeys	Website and mobile apps (esp for younger)

Information after works end to help secure retrospective acceptance and trust, and more positive attitudes to future works.			
Initiative type	**Communication need**	**Audience**	**Preferred channel**
Initiatives that have taken longer (many months) to implement	Whether and to what extent the initiative had had the intended impact	Some individuals	At-site signage and local media
All initiatives	Reports on assessments of the quality of the work and/or how long it would be until maintenance is likely to be needed	Individuals who were most interested in quality (esp Segments 1 and 3)	At-site signage and local media
Initiatives with a shorter implementation time	The road has opened again – nothing else	Almost all users, particularly commercial	At-site signage and local media

8. Action points: communications

Many of the points made in this report highlight the importance of providing people with information, and raise questions about how communications can secure public and commercial acceptability for work before it begins and as it progresses.

Providing clear information about the extent and length of forthcoming works, and alternative routes, is likely to help to minimise individuals' dissatisfaction in a number of ways: allowing them to plan to mitigate the effects of disruption on journey times and costs; setting expectations so that they feel these journey outcomes are acceptable; and lowering the impact of disruption on the driving experience by making it as easy as possible make decisions.

If individuals' attitudes towards implementation can be improved by greater appreciation of the initiative's value, and vice versa, communicating the benefits that an initiative will bring and being clear about the ways in which disruption will be minimised, so that both aspects seem more favourable than people had expected, is also likely to be useful. Likewise, understanding the most acceptable balance between level and length of disruption, and planning with this in mind, is likely to maximise acceptance of works.

It seemed that individuals in Segments 4 and 5 (Affluent Empty Nesters and Educated Suburban Families) were consistently among the most likely to doubt benefits of initiatives and disbelieve assertions around disruption. On this basis, they are likely to need more proof/reassurance about benefits while work is going on to make disruption acceptable.

Finally, communications about the effects of an initiative could help to secure retrospective acceptance of the disruption that has taken place: road users need to know quickly that the initiative has had the intended effects, and has been worth the disruption it has caused. They could also help to build trust, and increase the likelihood that future initiatives are accepted.

Commercial road users are also likely to value clear communications about initiatives and their implementation. They are less likely to need persuading of the value of initiatives; but information which allows them to plan their journeys so as to minimise the impact of the works and to absorb this as an internal business cost, rather than having it affect their client and customer relationships, is likely to make them more accepting of the disruption involved.

ANNEX 1: Attributes of the priority areas

When discussing the six priority areas identified by DfT, respondents were asked to identify the constituent parts of each – the components or factors that they felt contributed to or influenced the topic in question. Some of the priority areas generated a great deal of discussion, while others (such as Road Surface Quality and General Maintenance) were more difficult for respondents to articulate in detail. Each priority area was only discussed by a sub-section of the sample. Brief details about who discussed each area, and their views on what it comprised, are given below.

The priority area of **Safety** was discussed with seven commercial road users, and the following four groups of individual road users:

- Frequent SRN Users, Segment 2, Epsom
- Infrequent SRN Users, Segment 1, Birmingham
- Frequent SRN Users, Segment 5, Reading
- Regular SRN Users, Segment 5, Liverpool

This priority area covered a very broad range of concerns and respondents found it hard to produce a definitive hierarchy. However, the three most important contributors to safety identified by these groups were:

- the quality of the road itself – including both its structural attributes, (i.e. the number of lanes, amount of personal space on the road) and its level of maintenance
- the ancillary features of a road – including lighting, road markings and provision of information
- the behaviour of other drivers

Secondary to these were lesser contributors (several of which were influenced by, or expanded upon, the primary contributors) including:

- personal space on the road
- weather conditions during a journey
- drivers' experience of driving
- familiarity with the road being driven on
- information relating to safety

The priority area of **Everyday Congestion** was discussed with four commercial road users, and the following five groups of individual road users:

- Regular SRN Users, Segment 5, Liverpool
- Regular SRN Users, Segment 4, York
- Infrequent SRN Users, Segment 2, Liverpool
- Frequent SRN Users, Segment 4, Salisbury
- Regular SRN Users, Segment 3, Birmingham

The most important contributors to everyday congestion identified by these groups were (in order of importance):

- the capacity of a road (taking into account the number of lanes, and volume of traffic on it)
- accidents (including the handling and removal of these accidents)
- lack of information about alternative routes
- poorly designed junctions
- an excessive amount of HGVs, which were seen to be difficult to overtake and to occupy a large amount of space on a road

The priority area of **Road Surface Quality** was discussed with five commercial road users and the following four groups of individual road users:

- Frequent SRN Users, Segment 5, Epsom
- Regular SRN Users, Segment 5, Liverpool
- Regular SRN Users, Segment 3, Birmingham
- Frequent SRN Users, Segment 4, Salisbury

The most important features of a high quality of road surface identified by these groups were (in order of importance):

- a safe surface to drive on (free from potholes and other obstacles that could potentially damage a car or require a driver to take evasive action)
- high quality materials and workmanship
- longevity of road surface
- no noise or other discomfort from a car driving on surface

The priority area of **Speed of Repairs and Roadworks** was discussed with five commercial road users and the following four groups of individual road users:

- Infrequent SRN Users, Segment 1, Birmingham
- Infrequent SRN Users, Segment 3, Ipswich
- Regular SRN Users, Segment 4, York
- Regular SRN Users, Segment 1, Ipswich

The most important contributors to effective roadworks and repairs identified by these groups were (in order of importance):

- low level of disruption caused
- safety for both workers and road users
- high quality outcome
- low cost
- short duration
- information provided about nature and length of works

The priority area of **Handling of Accidents and Delays** was discussed with five commercial road users and the following five groups of individual road users:

- Frequent SRN Users, Segment 5, Epsom
- Frequent SRN Users, Segment 6, York
- Infrequent SRN Users, Segment 3, Ipswich
- Regular SRN Users, Segment 6, Salisbury
- Regular SRN Users, Segment 2, Reading

The most important contributors to effective handling of accidents and delays identified by these groups were (in order of importance):

- the steady flow of traffic around the site of the accident
- the speed with which debris/obstacles were removed from the road
- response time of the emergency services
- information provided about cause and length of delay
- ensuring the safety of road users in the aftermath

The priority area of **General Maintenance** was discussed with five commercial road users and the following five groups of individual road users:

- Frequent SRN Users, Segment 5, Reading
- Regular SRN Users, Segment 1, Ipswich
- Frequent SRN Users, Segment 2, Epsom
- Infrequent SRN Users, Segment 2, Liverpool
- Infrequent SRN Users, Segment 3, Ipswich

The most important contributors to effective maintenance of the SRN identified by these groups were (in order of importance):

- strategic planning of maintenance across the network as a whole (ensuring that work was proactive, and coordinated to minimise disruption)
- minimising the extent of local disruption
- clearly visible signage
- clear road markings
- ability of road to handle adverse weather conditions (e.g. drains for rain)

ANNEX 2: The six initiatives

During discussions, respondents were presented with one or two of six initiatives proposed by DfT. Each initiative was only discussed by a sub-section of the sample. Respondents were shown stimulus materials (included below) and asked to note anything that interested them. They were also asked to discuss what the potential benefits and drawbacks of the initiative might be, and how it might impact on their experience of the SRN.

Focussed Safety Interventions

Focussed Safety Interventions

The safety of our roads is not just dependent on the way they have been designed and built – road users have a part to play too.

To develop effective safety interventions – whether driver education, enforcement or improvements in infrastructure – it's important to know who and what is responsible for causing accidents and risks to safety.

Investing in research and analysis can help identify those groups and locations most at risk and allow us to prioritise and target interventions accordingly.

This ensures efforts are focussed on the most appropriate and effective ways to improve overall safety on the SRN.

This initiative was discussed with four commercial road users and the following three groups of individual road users (in these groups, discussion of Expressways was paired with discussion of Focussed Safety Interventions):

- Frequent SRN Users, Segment 4, Salisbury
- Regular SRN Users, Segment 2, Reading
- Regular SRN Users, Segment 4, York

Respondents' views of focussed safety interventions were largely positive. They were quick to identify the initiative's potential benefits which related to both the affective and cognitive benefits that would be realised. Almost all respondents **focussed on the driver education element** of the proposal, and believed that the initiative had the potential to make road travel safer. Although driver education formed the focus of discussion, the element of the stimulus which discussed "improvements in infrastructure" was also welcomed. Primarily, the initiative was seen as having the potential to directly address concerns about bad driving behaviour by other road users, a key cause of stress and frustration on the roads.

Responses to the initiative were informed by assumptions about similarities with existing programmes. When the idea of focussed safety interventions was introduced, many respondents spontaneously made links to their previous knowledge or experience of **driver awareness/speed awareness courses** offered as alternatives to speeding fines and driving license penalty points. Associations were also made, but less often, between safety interventions and the safety and theory elements of the existing driving test. The existence of these familiar programmes helped respondents understand what was being proposed in the initiative (and may explain respondents' focus on the driver education aspect of focussed safety interventions). Several respondents suggested that the initiative might expand on these existing programmes – by introducing further driver awareness courses, or as an additional component of the driving test.

> *'I think the classic example of that is probably the speed awareness courses.'* (Commercial, Frequent, Midlands, Services, 50-249 employees, Local)

> *'I had to go and do [a driver awareness course] because I got caught doing 39 in a 30, and it is quite enlightening.'* (Individuals, Regular, Reading, Less Affluent Urban Young Families)

> *'I don't know why [motorway safety] is not in the test. You can do all you like on an A-road but motorway is totally different driving.'* (Individuals, Regular, Reading, Less Affluent Urban Young Families)

Respondents were divided as to whether focussed safety interventions should be used purely for education or whether they might also have a role in enforcing driving behaviour through deterrence/punishment. Respondents who had direct experience of

speed awareness courses tended to see focussed safety interventions as likely to be used as an enforcement measure.

> *'I was wondering actually, maybe re-education of a lot of drivers. We are all going to… there are drivers out there that do cause problems.'* (Individuals, Frequent, Salisbury, Affluent Empty Nesters)

While most respondents reacted positively to the idea that focussed safety interventions would educate drivers and act as a preventative measure, whether purely educative or through deterrence, for some the idea of increased enforcement presented a new source of potential stress whilst driving. These respondents worried about the initiative resulting in increased numbers of police vehicles or speed cameras.

> *'People still use their mobiles. We've now got the thing about driving in the middle lane. People still do drive in the middle lane, even though they get fined. … So it's all about enforcement.'* (Individuals, Regular, York, Affluent Empty Nesters)

> *'I'm not sure I would want to see a lot more police cars on the motorways, because I think all that does is all the traffic just tenses up'* (Individuals, Regular, York, Affluent Empty Nesters)

When discussing focussed safety interventions directly, some personally **welcomed the idea of themselves being targeted** for education, and almost all believed that there would be safety benefits for road users generally if bad driving habits could be tackled by the initiative. Most expected that an increased level of driver awareness and education would result in a decreased number of accidents and fatalities on the roads. Pedestrians and cyclists were also expected to benefit. It was anticipated that interventions would address problems such as speeding, tailgating, and driving while using a phone.

> *'So I think with safety interventions people need to be educated on the kind of risks of driving and, yes, admittedly speeding – maybe I need to be educated.'* (Commercial, Frequent, London, Retail, 250+ employees, National)

> *'If people are made aware of how their actions can impact, or what they've done, it should educate them to drive in a more- in a safer way.'* (Individuals, Regular, York, Affluent Empty Nesters)

The idea that focussed safety interventions would be **targeted at certain at-risk or dangerous groups** appealed to respondents. Many respondents, consciously or otherwise, identified groups of drivers 'different' to themselves as being the most in need of these interventions. HGV drivers and cyclists were often singled out as potential groups who might be targeted – particularly with educational initiatives about the importance of other drivers' personal space. Younger respondents in the group of Less Affluent Urban Young Families suggested that older drivers might be another group needing an intervention due to the amount of time since they will have

received formal driving education; conversely, older drivers from the group of Affluent Empty Nesters suggested that reckless younger drivers were the most in need of an intervention.

> *'But they can work out that's a problem spot, it's HGVs, that's a problem spot, what are we going to do to educate HGV drivers that are here and cyclists...' (Individuals, Frequent, Salisbury, Affluent Empty Nesters)*

> *'I think if you're going for education … it's almost got to be towards cyclists not to the car driver and this is coming from someone who cycles between five and six thousand miles a year on the roads.'* (Commercial, Frequent, Midlands, Services, 50-249 employees, Local)

Some respondents felt that very specific road safety problems in their local area might benefit from **structural interventions** too: for instance a certain roundabout which was seen as particularly dangerous for cyclists, or a certain road where caravan drivers regularly had accidents. The idea that the initiative would mean these problems were tackled with appropriate remedies was particularly welcomed by respondents who identified such 'problem spots' on the roads they knew. Existing accident statistics and data from insurance companies were suggested as possible sources for information that would assist the targeting of focussed safety interventions.

The possibility that focussed safety interventions could act as a preventative measure was seen as another benefit of the initiative. Taking preventative action was seen as both cost effective and potentially able to save lives and prevent accidents. Unlike other initiatives, respondents hoped focussed safety interventions would be able to **directly address the problematic behaviour of other drivers**. Most respondents who were convinced of the safety benefits of the initiative did not have any problems with the fact that this investment would be non-visible or 'behind-the-scenes': as long as information was given to the public to make clear what initiatives had been implemented and what their effects had been. The majority of respondents, when probed on behind-the-scenes investment, were clear that they **expected to know how 'tax money' was being spent**. However, respondents did not want to be overburdened with information that might not be directly relevant to them – especially if interventions were likely to be targeted at specific geographic areas that were not local to them.

> *'I know the relative cost must be- it must weigh heavily in favour of doing preventative work rather than sorting out the carnage afterwards.'* (Individuals, Regular, York, Affluent Empty Nesters)

> *'Tell people they're investing the money and what they're investing it in.'* (Individuals, Regular, Reading, Less Affluent Urban Young Families)

However, responses to the initiative were not unanimously positive. Among the more affluent respondents, from segment 4 (Affluent Empty Nesters), some had a more

cynical view when probed on the value of investment behind-the-scenes, even when the group had already suggested possible unseen, preventative benefits of focussed safety interventions. Cynics saw two primary drawbacks to the initiative. Firstly, they were not convinced that any programme of driver education could have a **lasting or meaningful impact** on the behaviour of road users. Secondly, they were concerned that it would be difficult to **quantify the impact** of behind-the-scenes investment: even if an intervention successfully influenced behaviour, they felt that it would be impossible to justify the expense of taxpayers' money without seeing measurable results.

> *'I did a course, a driver's course with work and, all people who drive at work had to do it, and for about 3 to 4 weeks afterwards I was driving differently and then after that … I slipped back into habit.'* (Individuals, Frequent, Salisbury, Affluent Empty Nesters)

> *'I don't think you could ever pin it down, to say that was definitely what caused that.'* (Individuals, Frequent, Salisbury, Affluent Empty Nesters)

Commercial users, even if they had recognised potential safety benefits from the initiative, tended to say that they would prefer to see investment made in physical upgrades to the road network rather than 'behind-the-scenes'. These practical investments were seen to yield greater 'value for money' and a more tangible improvement to the driving experience: increased road capacity and building new roads were seen as preferable to the driver education programmes or specific local fixes which had appealed to individual road users. A minority of more affluent individual users, from the group of Affluent Empty Nesters, also brought up this point.

> *'I think it would be well advised to spend [this] money on kind of- On kind of actually improving the road infrastructure, building new roads.'* (Commercial, Frequent, London, Retail, 250+ employees, National)

> *'I know there's this mantra that if you save one person's life, but if the money is spent there it is not spent somewhere else.'* (Individuals, Frequent, Salisbury, Affluent Empty Nesters)

Expressways

Expressways

Some trunk roads are so important they should be constructed and maintained to the same standard as motorways.

However, the current quality of trunk roads on the SRN varies considerably. Experience of travelling on strategically important roads across the Network is inconsistent.

Introducing a new road class – expressway – will ensure the most important trunk roads on the SRN are upgraded and maintained to the highest standard, providing a better experience for road users and making sure the Network operates as best it can.

Road users should be able to easily identify when they are travelling on an expressway because of its superior quality. In future these roads will be prioritised for improvement and maintenance.

This initiative was discussed with six commercial road users and the following three groups of individual road users (in these groups, discussion of Expressways was paired with discussion of Focussed Safety Interventions):

- Frequent SRN Users, Segment 4, Salisbury
- Regular SRN Users, Segment 2, Reading
- Regular SRN Users, Segment 4, York

Across segments, there was a notable divide in responses to the expressways proposal between individual and commercial road users. Commercial users responded more positively to the initiative. They were more able to see the benefits of **bringing up standards across the strategic road network nationally** – facilitating connections between motorways and making national travel easier. Individual road users, however, found it harder to understand the benefits of the initiative for themselves and felt that clarification was needed on several points: would expressways be prioritised at the expense of their local roads? Would the initiative simply mean that existing roads were re-categorised as expressways without also seeing tangible improvements?

When respondents were introduced to the idea of expressways, they sometimes drew connections between the initiative and existing roads and programmes. One association that was spontaneously made was between expressways and toll roads. Individual road users, rather than commercial road users, tended to make this connection. The higher standard at which expressways were to be maintained led some respondents to speculate that this new tier of roads would be funded by toll charges.

> *'I would see the M6 toll road as an expressway, because it's privately owned so it would be kept to a standard, because people wouldn't pay it otherwise and I would imagine that that growth will be the growth of other toll roads.'* (Individuals, Regular, York, Affluent Empty Nesters)

> *'To me, an expressway, it's quite fast and quick and you shouldn't have any problems on it. And so normally you have to pay for things like that.'* (Individuals, Regular, Reading, Less Affluent Urban Young Families)

A few respondents also spontaneously brought up roads such as the Aston Expressway near Birmingham and the Knowsley Expressway near Liverpool, believing these to be examples of the initiative in action. Respondents who made these associations found it easier to grasp what the initiative was proposing (despite these roads having no direct connection to the initiative). These existing roads were seen to successfully fill a niche *'in between a dual carriageway and a motorway'* (Commercial, Frequent, Midlands, Services, 50-249 employees, Local), and to have a higher standard of upkeep.

Among individual road users, especially those who were not frequent users of the strategic road network, one of the primary questions about the initiative regarded the concept of 'prioritising' expressway roads for investment. A **frequently expressed concern was that prioritisation of expressways would result in poorer road quality elsewhere** on the road network, especially in respondents' local areas.

> *'So, unless you're a regular driver on the A-roads like, I mean, I don't drive on them all the time, to me that looks as though all the other roads that we would use on a regular basis would not get improvements. You know? They're done.'* (Individuals, Regular, Reading, Less Affluent Urban Young Families)

> *'The expressways would be well maintained at the expense of something else, which would probably be our road.'* (Individuals, Regular, York, Affluent Empty Nesters)

Respondents suggested that the roads most likely to be prioritised were those nearest to London, with high volumes of traffic, or connecting to other major cities. 'Major trunk roads' and those which connected to strategic locations such as ports were also seen as likely to be categorised as expressways. Some recognised that improvements to these roads might have potential economic benefits by making trade and movement of goods easier, but others felt that this would lead to neglect of local roads when funding and resources were redirected towards the expressways.

'We don't generally get any improvements to our roads down south. Aren't they all going to go up north, are they not going to go around London?' (Individuals, Frequent, Salisbury, Affluent Empty Nesters)

Commercial users had fewer concerns about the question of prioritisation. They assumed that the roads to be prioritised would be those with the heaviest volume of traffic or other strategically important roads, and saw no problem with this – this was expected to make transport easier and facilitate business.

'Benefits would be that if it's an important or particularly busy road, then it has a better quality construction.' (Commercial, Frequent, South West, Services, 5-9 employees, Local)

Another key question about the initiative, shared by both individual and commercial road users, was about the extent of the upgrades and improvements that would be made to roads selected as expressways. There was a perception among some respondents that the initiative might lead to existing roads simply being recategorised as expressways without also seeing investment in tangible upgrades – such as the addition of extra lanes. **The perceived value of the initiative varied depending on the extent to which respondents believed that the recategorisation would go alongside these real physical improvements**. Those who felt that the upgrades to expressways might be purely cosmetic or minor changes responded more negatively to the initiative, seeing it as a 'marketing' ploy that would simply attempt to save money by claiming an 'upgrade' without actually making meaningful improvements.

'It's no good just renaming A-road as an expressway if it's still going to be clogged up.' (Commercial, Frequent, North West, Services, 0-4 employees, Regional)

'If they were actually going to invest in doing it- but don't just market it as something when what it says here is that they might already be nearly up to that standard… Because that is not really making any improvement.' (Individuals, Frequent, Salisbury, Affluent Empty Nesters)

When respondents felt that an expressway would see noticeable improvements after having been upgraded, they responded positively to the initiative. Respondents hoped that well-constructed and fully upgraded expressways would improve road capacity and traffic flow, therefore improving their experience of driving. The hoped-for improvements included the **construction of extra lanes, better road surface, better signage and better lighting**. Individual road users tended to conceive of the upgrades brought about by the creation of expressways in terms of local improvements which might benefit specific roads which they know or use.

'So, they're going to become bigger roads, basically, so we're talking about these roads that, like the A30, some of it feels very countrified…' (Individuals, Regular, Reading, Less Affluent Urban Young Families)

The idea of bringing major trunk roads nearer to 'motorway standard' was received positively when that was understood to mean these kinds of practical upgrades: but it was the improvements which most appealed to individual road users, and the idea that all expressways would meet a certain uniform standard was rarely perceived to be the main benefit of the scheme by these users.

> *'If you are doing it and it does improve the quality of road, the lighting, safety, everything like that, signage and it does genuinely look a lot better and feel a lot better to drive along then yes you will get a good response from it probably.'* (Individuals, Frequent, Salisbury, Affluent Empty Nesters)

Commercial users saw benefits for the strategic road network more generally – they felt that expressways would be able to **act as links between the existing motorways**, and help ensure a more uniform driving experience. It was hoped that the creation of expressways would remove 'bottlenecks' in journeys when vehicles had to move between motorways and less well-maintained trunk roads.

> *'I like this. … It links up quite a lot of the motorways, you know, you can get across from the M3 to the M5.' (Commercial, Frequent, London, Services, 250+ employees, National)*

> *'I think that they've got it right with this one, actually, because prior to it [an expressway] being there and like in other places, a motorway, which is brilliant, you get three lanes of traffic travelling at 70 miles an hour, then you go down into a non-expressway A-road and you may have one lane of traffic travelling at 40 miles an hour.'* (Commercial, Frequent, North West, Services, 0-4 employees, Regional)

Smart Motorways

Smart Motorway Scheme

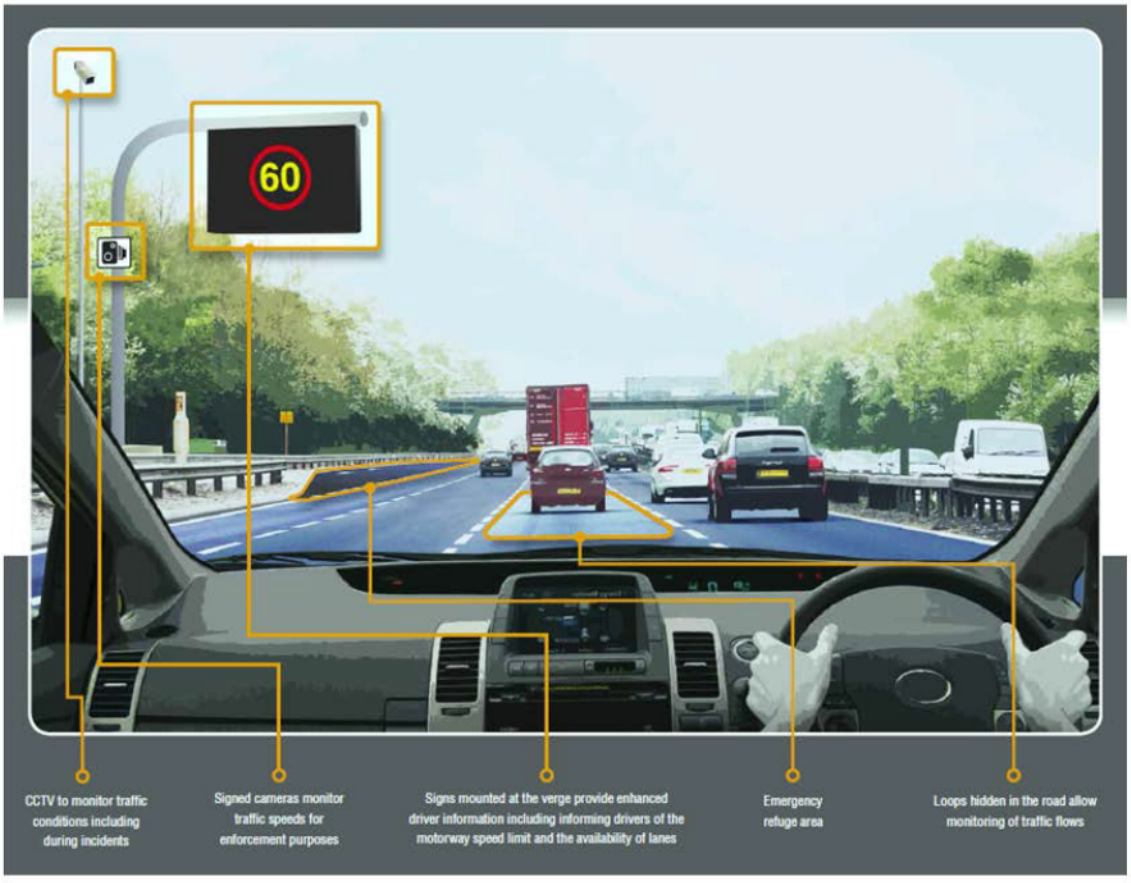
Heavy traffic can lead to stop-start driving and slow speeds, causing delays and frustration.

Smart Motorways use new technologies to improve the flow and speed of traffic improving the driving experience and making journey times more reliable.

Smart Motorways respond to conditions on the road by varying the speed limit and/or opening up the hard shoulder as an extra lane to keep traffic flowing at busy times.

Upgrading busy sections of existing motorways to Smart Motorways can be a cost effective way of increasing road capacity.

Smart Motorway Features



Smart Motorway Features

Delivering a Smart Motorway

It usually takes 18 months to adapt a busy stretch of an existing motorway into a Smart Motorway.

During this time there will be road works in place and the speed on the motorway will be reduced to 50mph at all times.

Construction work will mostly take place overnight, from 9pm to 6am.

Before construction begins, preparatory work to clear the site and install CCTV will take place. This work will be carried out at off-peak times during the day (after 10am) and may involve closures to the hard shoulder or outside lane of the motorway.

This initiative was discussed with five commercial road users and the following three groups of individual road users:

- Frequent SRN Users, Segment 5, Epsom
- Regular SRN Users, Segment 1, Ipswich
- Regular SRN Users, Segment 3, Birmingham

Respondents' conclusions about Smart Motorways were mixed. While many were able to understand the potential benefits of the initiative in terms of improved traffic flow and increased road capacity, there were concerns, particularly for individual road users, about the safety and credibility of the initiative in practise. **All of the potential benefits were felt to be paired with potential drawbacks**. Commercial users, on the whole, tended to be more positive towards the initiative – they were more interested in the potential for increase in traffic flow than in the possible implications for safety resulting from the loss of the hard shoulder, which was the primary concern of individual road users.

Responses to the Smart Motorways initiative were sometimes informed by respondents' previous experiences of similar programmes already in place on existing roads on the SRN. Individual road users in the groups which discussed this initiative (in Epsom, Ipswich and Birmingham) were most familiar with the M25, with its use of hard-shoulder running and variable speed limits. Commercial road users who discussed the initiative (with businesses based in the North West, South West, London and the Midlands) had a broader range of experience on the whole: they were consistently able to name or cite experience of using roads with these features, including the M25, M1, M42, M6 and the M5. **Commercial users were more confident when it came to drawing on this experience to reach conclusions about the initiative**, and for most this meant that they were **more positive** about the Smart Motorways generally (although a few had had bad experiences relating to the loss of the hard shoulder, or felt that congestion had not been significantly reduced during their journey).

> *"I do like the all-lane running. I find that very effective when, say, I'm driving on the M1 between Milton Keynes in London and I can drive on the hard shoulder if I want to."* (Commercial, Frequent, London, Retail, 250+ employees, National)

Both individual road users and commercial road users were able to see potential benefits from Smart Motorways. The key benefits of the scheme were seen to be the increase in traffic flow and road capacity. There was an understanding that enabling the use of the hard shoulder would increase the ability of a road to handle a **larger**

volume of traffic. Variable speed limits that could be adjusted to prevent stop-start traffic were also hoped to **improve flow**. In addition, it was often assumed that Smart Motorways would be combined with the provision of **extra information** for drivers about conditions on the road and the causes of accidents and length of delays.

> *"They're just using that facility of a lane that's not used except for breakdowns, but it, if it needs it then they can use it for that flow of traffic at that time, which will move it as opposed to causing bottlenecks."* (Individual, Regular, Birmingham, Less Affluent Older Sceptics)

> *"I think if it works you are getting free-flowing traffic, aren't you? It's still moving and it's not stopped."* (Individual, Regular, Ipswich, Older Less Mobile Car Owners)

> *"So you would be able to get that information to the drivers to say we've got congestion, we've got this, because you're able to monitor the traffic to update the driver with relevant and up-to-date information."* (Individual, Regular, Ipswich, Older Less Mobile Car Owners)

However, none of these benefits was seen to be entirely free from potential drawbacks. The primary concern about the initiative for individual road users, and a minority of commercial road users, was to do with the opening of the hard shoulder. **Individual road users consistently reacted with caution and concern to this part of the initiative when it was first introduced**. It was seen to introduce a potential element of danger whilst driving on a motorway, as it would prevent a vehicle from having a safe location to retreat to in the event of an emergency or breakdown, whilst also delaying the arrival of emergency services on the scene. Reactions against this element of the proposal were strongest in the group of Educated Suburban Families from Epsom, with young families that they were concerned about protecting on the roads. Individual road users were somewhat reassured by the element of the stimulus which explained that if hard-shoulder running were to be introduced more widely, road users would also be provided with extra safety measures such as emergency refuge areas. But many said that it was important that these should be placed consistently and regularly along a road, due to the unpredictable locations of breakdowns. The group of Older Less Mobile Car Owners suggested that there should be a dedicated phone number to call in the event of an accident when the hard shoulder was open, to ensure speedy contact with the emergency services. Commercial road users tended to be less concerned about this element of the scheme; however, a minority of commercial respondents had had bad experiences of accidents on smart motorways when the hard shoulder had been in use, and shared the concerns of individual road users.

> *"If one of those incidents were me I'd want that hard shoulder to protect myself and my family - whoever's around me. Because if they're going to have these refuge areas which will only be half a mile, a mile apart I may not be able to get to it, so therefore you might as well, you know, break down or stop in the fast lane."* (Individual, Frequent, Epsom, Educated Suburban Families)

> *"Well if you are using the hard shoulder which is invariably the area which vehicles take refuge when they have a mechanical fault, as a lane, if someone breaks down they block it up and normally what happens then is you've got vehicles which are travelling in that lane trying to get from that lane into the other lane which then takes more of a delay, when people try and change lanes."* (Commercial, Frequent, North West, Retail, 10-49 employees, National)

Whilst some welcomed the idea that the initiative would provide drivers with more information about road conditions, for others (primarily amongst individual road users) there was a perception that this could go 'too far', and result in **information overload, particularly in relation to variable speed limits**. For drivers who were concerned about this, the increased quantity of illuminated signs and written information were seen as potential distractions from the road. There was also a perception that variable speed limits and the opening of the hard shoulder might be *too* variable, **requiring drivers to be continually alert to the behaviour of other drivers and the signs around them**. As well as adding to the cognitive burden of driving, this was also seen to present safety concerns: if speed limits reduced unexpectedly, drivers might break suddenly to stay within the limit, potentially causing accidents or the kind of stop-start traffic that the initiative was designed to prevent.

> *"You don't want to go over the top, though, with these digital boards, because then they can become a distraction."* (Individual, Regular, Ipswich, Older Less Mobile Car Owners)

> *"When people see a big sign that says sixty when they're doing seventy five and they know there's a camera on it they nail the breaks and they don't always look at what's behind them."* (Individual, Frequent, Epsom, Educated Suburban Families)

A sceptical minority of commercial and individual road users (across all three groups) also shared concerns about the reliability of the 'smart' technology that the initiative proposed to use. Whilst there was a general understanding of the advantages of variable speed limits in theory, these **sceptical respondents questioned whether a computerised system would in practise be able to judge conditions on the road** accurately enough to know when to make adjustments. These respondents were also sceptical about the ability of the system to deal with sudden, unpredictable events such as accidents or rainstorms. Sceptical individuals suggested that if the speed limit appeared to be unreliable they might be **tempted to ignore it and use their own judgement instead**, based on how busy the motorway appeared to be.

> *"Personally I wouldn't trust a computer to get it right above a driver who's actually sat on the road. Because there's all sorts of variables that come into it: the car, the driver and god knows what else. So while a computer can come up with generic scenarios like if the rain is this bad or the traffic flow is this bad then it should be this speed, but it's still a machine, it still can't judge."* (Individual, Frequent, Epsom, Educated Suburban Families)

The fact that variable speed limits were in some cases a proactive measure, reducing speed in order to keep traffic flow consistent rather than alleviating an existing traffic jam, meant that some respondents felt the benefits were hard to perceive – **the reduced speed limit could sometimes induce frustration or confusion if traffic was already flowing freely**. Commercial users with experience of the scheme also reported moments of frustration: both when the variable speed limit appeared to be unreasonably low, and when the hard shoulder was not opened despite slow moving, congested traffic on the road.

> *"You need to make sure that they react quickly, because the number of times where you see on the M25, 'slow down to 50 miles an hour', and you do 50 miles an hour for, like, three miles, and then … there's actually nothing in between, you kind of wonder why you did it"* (Individual, Regular, Birmingham, Less Affluent Older Sceptics)

> *"Sometimes these kind of smart motorways aren't that smart and impose a speed limit which is too slow for the conditions on the road at that time. That's what frustrates me about it."* (Commercial, Frequent, London, Retail, 250+ employees, National)

Introducing a Bypass

Bypass

High traffic volumes on roads running through towns and villages can have a detrimental effect on local life including heavy congestion, air pollution, noise and pollution. It can make it difficult for people to access and cross the road, posing a safety risk to motorists and other road users. In some cases it can even split the community in half limiting accessibility and interaction between the two sides of the village / town.

Rerouting through-traffic away from busy local roads can allow traffic to flow more freely in towns and villages and lower the level of emissions produced by vehicles.

Bypass schemes have been proven to reduce the number of serious and fatal accidents by 25% reduction in areas where they have been introduced.*

*Published data from the 2013 post-opening project evaluation (POPE) of major schemes meta-analysis indicate that bypass schemes reduced annual average fatal and serious accidents by around 25%. This is based on evaluation of 80 major bypass schemes that opened between 2002 and 2010.

Introducing a Bypass (1/3)

A bypass is required to alleviate traffic on a trunk road that cuts through the heart of a small village. The village is home to approximately 2,500 residents and 800 homes. The village traces its roots back to around 500 AD when it started out as a Saxon settlement. It later became an important ecclesiastical centre. There are numerous listed buildings in the village which are designated as a Conservation Area.

The village is located en route to the coast and during the summer months there are high levels of recreational and freight traffic bound for tourist destinations. Around 16,000 vehicles travel through the village each day, 15% of which are Heavy Goods Vehicles.

The high volume of traffic on the trunk road cause a number of problems, including:

- Severance: separation of the north and south parts of the village
- Visual intrusion / a blight on the landscape
- Higher than average accident rates
- Deterrence of cyclists and pedestrians
- Unacceptable noise levels
- Delays and unreliable journey times
- Air pollution from congestion
- Queuing traffic on side roads

Introducing a Bypass (2/3)

To address these problems, a new dual carriageway will be built to the north of the village. Three new roundabouts will be constructed along the bypass to allow access to and from the local village. A new bridge will also be introduced to allow pedestrians and cyclists to safely cross the road.

The existing trunk road will be declassified and downgraded to a B road. Additional measures will be taken to improve safety on the old road.

Not only will the new bypass benefit village residents, it will also enhance the driving experience of road users travelling through the area. It is anticipated congestion and journey times will be reduced and journey reliability will improve as a result of increased road capacity. A reduction of accidents in the locality is also expected due to these changes.

The scheme will take 15 months to complete. Most of the work will take place on the outskirts of the village as the new bypass will be built on unused, rural land.

Introducing a Bypass (3/3)

This initiative was discussed with four commercial road users and the following two groups of individual road users:

- Frequent SRN Users, Segment 2, Epsom
- Frequent SRN Users, Segment 5, Reading

Reactions to the introduction of new bypasses were largely positive, both among individual and commercial road users, and across segments and business sizes. Bypasses were seen as **an effective way of improving journey times and reducing congestion** when trunk roads on the SRN passed through particular bottlenecks or obstructions – primarily these were perceived to be villages or towns.

Almost all respondents were able to draw on their own experience of bypasses which they knew in their local area. Benefits from the construction of a bypass were expected to be felt both by residents of the area being bypassed (if being constructed to bypass a major trunk road either passing near or through a town or village) and by users of the SRN wanting to travel on the affected route. Individual and commercial road users, regardless of segment, location or business size, perceived the key benefit of bypasses to be in the reduction of congestion at choke points on the SRN. Congestion was expected to reduce as a result of the new bypass increasing the capacity of the road network, and because the new route would avoid the tightly packed traffic present in the town or other bottleneck being bypassed. This reduction in congestion was expected to also increase safety for residents of a town being bypassed, by lowering the amount of traffic on the streets and making road crossing easier for local pedestrians.

> *"Bypasses create less hold-ups as well because you're not stuck with separate crossing. I'm being totally selfish here and thinking in terms of business but anything that keeps the traffic moving freely is fine."* (Commercial, Frequent, Midlands, Retail, 0-4 employees, Regional)

> *"Well, it's going to benefit both the ones using the bypass and the ones who want to go through the town. … You know? They're both going to find it easier."* (Individual, Frequent, Reading, Educated Suburban Families)

In addition to its direct impact on congestion, a bypass was also seen to bring benefits in terms of **making journeys more direct**: even if the route the bypass took was 'longer' than the original route, it was expected that journey times for users of the SRN would still be shortened by avoiding whatever obstruction or impedance to journey time was being bypassed. Both commercial and individual road users saw this as a potential benefit of the initiative. Respondents from urban locations who had direct experience of bypasses also spoke of the reduction in journey times that had resulted for local residents trying to get to destinations outside of their town or local area.

> *"Quite often a bypass is actually a longer route than going through where it's bypassing … [but] it's just quicker to go the longer route by car."* (Commercial, Frequent, Midlands, Services, 50-249 employees, Local)

> *"I am 5 minutes away from one. It takes me a 5 minute journey to get onto the bypass and I- if we didn't have the bypass that would be like 20 minutes to get where I want to go. It is so convenient."* (Individual, Frequent, Epsom, Less Affluent Urban Young Families)

Some respondents also expressed approval specifically for the construction of **new roads**, rather than the adjustment or expansion of existing ones. It was expected that **bypasses would be built to modern standards**, with lanes sufficiently wide to accommodate the expected type and quantity of traffic. This was seen to represent a more thorough and potentially long-lasting way of guaranteeing the benefits of the initiative, in a way that simple 'adjustments' to existing roads would not be able to.

> *"I think in this scenario here, definitely build a new bypass. … Because I think improving the old road will give a fraction of improvement, but it won't resolve the problem."* (Commercial, Frequent, North West, Services, 0-4 employees, Regional)

The primary drawbacks of bypasses identified by respondents were environmental ones surrounding their construction. Several respondents were able to recall current or past controversies surrounding the construction of bypasses, such as historical protests surrounding the A34 and at the Twyford Down cutting near Winchester. **All respondents were aware that the construction of new roads could mean the loss of 'green space' and natural habitats**. Some respondents from younger segments took a more pragmatic approach to this problem, and perceived the construction of roads and bypasses as an inevitable consequence of industrial development and a growing population more generally.

> *"There was an area of outstanding natural beauty that they built over to do the A34. … So there were a lot of eco warriors around there."* (Individual, Frequent, Reading, Educated Suburban Families)

> *"It basically just means we have less and less green area and less and less nice environment, because we have to build more roads. It's just a decision we have to make, isn't it?"* (Individual, Frequent, Reading, Educated Suburban Families)

Respondents were more consistently concerned about the direct impacts of the construction of a bypass on those in its immediate vicinity. While the majority of local residents were expected to benefit from lower congestion and more direct travel routes, respondents also identified **potential problems of noise pollution** and a reduction in house prices, as well as disruption during the construction period, for those who lived nearest to the bypass. Another concern, most frequently cited by commercial road users with smaller businesses, was about the **economic impact of a bypass**: whilst a lower volume of traffic passing through a town meant less congestion, they were concerned that it could also mean less footfall for local

businesses. Some respondents also associated the construction of bypasses with developments such as the arrival of large supermarket chains outside of town, with similar, potentially negative, effects on desire for local produce.

> *"The downside [is], by taking traffic out of urban areas… it's going to have an effect on local businesses."* (Commercial, Frequent, Midlands, Retail, 0-4 employees, Regional)

> *"Tesco are going to build a big Tesco on the bypass, which means that people are going to use it- everybody goes shopping there, so the little shop in the village never gets used and that gets shut down so the amenities for the local residents disappear."* (Individual, Frequent, Reading, Educated Suburban Families)

Better-designed Junctions

Better Designed Junctions

Poorly designed junctions can lead to long queues at road exits and cause traffic to back up on the road causing delays and safety hazards.

Redesigning junctions to improve traffic flow will not only reduce congestion and journey times but also improve the safety of motorists and other road users.

The Highways Agency works with local residents, businesses and road users to develop junction solutions that best meet their needs, whether that's introducing new roundabouts, constructing flyovers, creating dedicated turning lanes, or improving cycle paths.

Introducing a New Roundabout

To turn right onto a busy dual carriageway road users currently have to pull into a gap in the central reservation, making it difficult to gauge when it is safe to turn.

Transforming the junction into a roundabout will improve access on and off the dual carriageway for all drivers and reduce the number of accidents at the junction.

Before

After

Introducing a New Roundabout

Work will take seven months to complete and there will be two stages of work:

1) Construction of road embankments / filling in disused road sections
2) Main construction including drainage, road realignment, constructing safety barriers and installing signage.

Road works will be in place throughout this time. Road users should be aware of the following implications of the work and should allow extra time for their journeys:

- One lane of the dual carriageway will need to be closed in each direction and temporary traffic lights will be in operation at the junction.
- There will be some weekend road closures. Diversion routes will be clearly signposted.
- Wide loads (vehicles over 3.2 metres wide) will not be able to pass through the road works. If an alternative route can not be found drivers will have to wait in the lay-by until the road is clear of traffic and they can be safely escorted onto the road by Traffic Safety Officers.

This initiative was discussed with five commercial road users and the following three groups of individual road users:

- Frequent SRN Users, Segment 6, York
- Infrequent SRN Users, Segment 3, Ipswich
- Infrequent SRN Users, Segment 2, Liverpool

For the majority of respondents, their reaction to the Better-designed Junctions initiative **depended upon their previous experience and knowledge of existing junctions and junction redesigns**. Those who had already had positive experiences from well-designed junctions were hopeful that the initiative would result in safer journeys and better flow of traffic. Those who had negative experiences of previous junction redesign (where it was seen to be superfluous or had failed to address the key problem of a road) were wary that any new junction redesigns would be equally disappointing. This initiative did not strike respondents as particularly new or innovative.

The frame of reference of individual road users tended to be limited to junctions familiar to them from their local area. The group of Less Affluent Older Sceptics from Ipswich explicitly said that they would be uninterested in this initiative if it was to take place away from their local area. Commercial road users had a broader range of experience: this meant they found it easier to think about the implications of junction design more generally, rather than instinctively relating this to specific junctions which they knew. Among all types of road user, the initiative prompted respondents to

discuss experiences both of junctions which they perceived to be functioning badly and in need of an initiative for improvement (this sometimes included junctions which were perceived to have been made *worse* by a recent modification); and junctions which had seen recent improvements that were now functioning well.

> *"It's difficult, because if you've lived there and they said oh they are going to put a roundabout in, you might think 'oh that's the best thing they could ever have done is put a roundabout, it's helpful'. But because you are not living there you don't know how much impact."* (Individual, Infrequent, Ipswich, Less Affluent Older Sceptics)

> *"I think if the transport networks are improved hopefully we should get more business."* (Commercial, Frequent, North East, Services, 5-9 employees, Local)

> *"10 months the work took and it was horrendous and we thought it'd be good at the end but it has just made things..."* (Individual, Infrequent, Liverpool, Less Affluent Urban Young Families)

The primary concern for respondents with regards to junction design related to safety. A junction was perceived to be in need of a redesign if it was seen to be unsafe, and **those respondents who had experienced junctions that had become safer as a result of a redesign responded more positively to the initiative**. Poor junction design was seen to be a cause of accidents: concerns included unexpected traffic lights requiring drivers to slow down suddenly with little notice; drivers needing to cross a lane of traffic in order to turn right on to a busy A-road; other vehicles refusing to slow down or allow drivers to join from a sliproad encouraging reckless behaviour; and the complexity of a junction confusing road users and leading to inattentive or dangerous driving. It was hoped that any or all of these dangers might be mitigated by a better designed junction. Respondents described 'good' junctions that they knew in terms of the absence of these dangers. **These safety benefits were seen to extend to pedestrians and cyclists as well as drivers**.

> *"I used to take a big risk turning right there, I used to. Because there was so much traffic, and the speed of the traffic- you'd have to sort of venture out into the middle reservation…" (Individual, Frequent, York, Town and Rural Heavy Users)*

> *"Design junctions [better and] … for all road users casualties will drop and people will be more courteous to each other on the roads maybe because you can easily navigate yourself around these junctions." (Commercial, Frequent, London, Services, 250+ employees, National)*

The other key priority for road users relating to junction design was its impact on traffic flow and journey time: poorly designed junctions were perceived to slow down journeys and lead to local congestion and problems with traffic flow. Respondents had **divergent reactions towards roundabouts** in relation to this. For some, they represented a way to maintain traffic flow when joining a road, and were therefore seen as a helpful improvement. But for others, they were associated with traffic jams

and delays. Again this largely depended on each respondent's personal experience, and so opinion varied widely within groups. Whether a junction caused delays or hold-ups during a journey was also seen to be linked with safety, as frustrated road users could become dangerous drivers.

> *"Well everyone has to come to a standstill to go through the roundabout instead of waiting to just pull out. … People don't indicate so they are holding things up."* (Individual, Infrequent, Liverpool, Less Affluent Urban Young Families)

> *"But yes I think it would flow quicker. I do think traffic roundabouts work, I think roundabouts do work and everything goes."* (Commercial, Frequent, North West, Retail, 10-49 employees, National)

> *"Yes, if traffic is flowing better people will be less frustrated, and if people aren't as frustrated they might not be trying to drive that bit quicker and cause accidents."* (Individual, Frequent, York, Town and Rural Heavy Users)

Beyond discussion of what made a junction good or bad, respondents' primary area of interest with relation to this initiative was ensuring that any junction redesigns were targeted. Individual road users responded with a mixture of positivity and scepticism to the element of the stimulus which stated that "the Highways Agency works with local residents, businesses and road users to develop junction solutions that best meet their needs". Those who had experience of badly designed junctions in their area were keen to have the chance to get these modified, and the idea that local priorities would be taken into account when planning improvements was appealing. However for some this degree of local consultation seemed **unrealistic** – it was assumed that decisions around road improvements were taken centrally, and that the priorities of local residents were ultimately unimportant to those making the decisions.

> *"On the 1237 round York, people have said for the last 20 years that that needs to be dual carriageway, and all they do is put roundabouts in there."* (Individual, Frequent, York, Town and Rural Heavy Users)

Some respondents also related experience of badly targeted 'improvements' being made on their local junctions which had appeared superfluous or to bring only minimal improvement: for example the addition of extra traffic lights which did not directly address safety concerns, or the addition of a cycle lane when other issues such as road capacity were seen to be more important. It was hoped that this could be avoided in future, due to the cost and the disruptive nature of the road works involved.

> *"As long as it is prioritised, if there is something more important that needs it on a road that needs to be done- … I think they should be discussed properly"* (Individual, Infrequent, Ipswich, Less Affluent Older Sceptics)

"They've just spent god knows how much on cycle paths. No one will ever cycle- if you pass a cycle down there I'll give you 100 quid." (Individual, Frequent, York, Town and Rural Heavy Users)

"Normally they do something and you don't see a difference or you don't feel … the congestion has gone or anything. It just is as it was before yet they've spent loads of money on it." (Individual, Infrequent, Liverpool, Less Affluent Urban Young Families)

Resurfacing 80% of the Strategic Road Network

Resurfacing 80% of the SRN

Over time road surfaces naturally deteriorate – they lose their grip and are prone to cracks and potholes which can undermine journey quality and road safety and cause vehicle damage.

Resurfacing can extend the life of a road and provide a smoother driving experience, increasing safety and improving the journey quality.

Removing and replacing the road surface can return the road to a new condition. The road's texture and grip are restored and most unevenness is removed.

In June 2013 the Government committed to £6bm for ongoing maintenance of the Strategic Road Network. Part of this will be allocated to resurfacing 80% (3,000 miles) of the SRN by 2021.

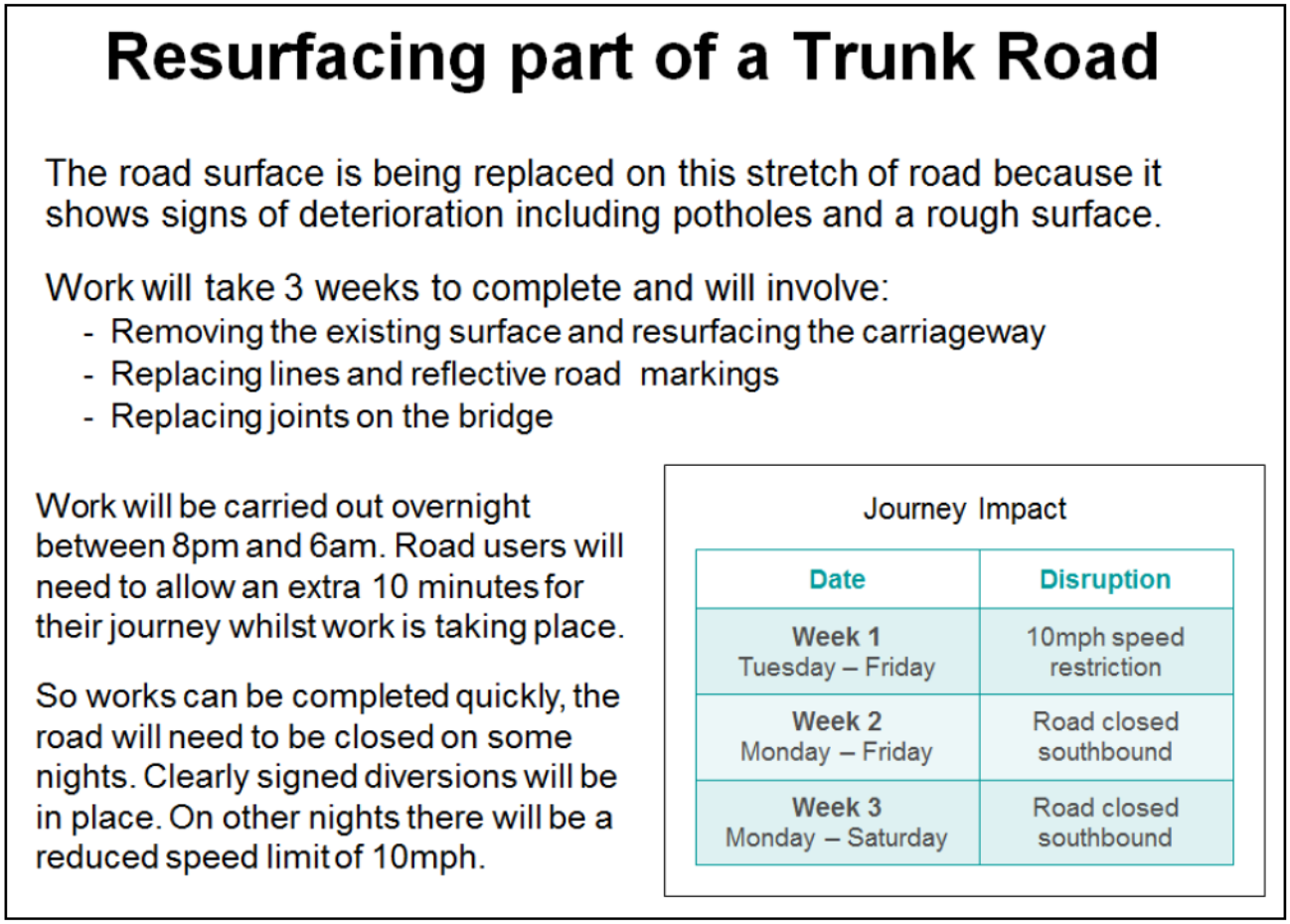
Resurfacing a Motorway

As part of the routine maintenance programme, lanes 1 and 2 of the eastbound motorway between junctions 22 and 23 need to be resurfaced.

It will take approximately 2 weeks to resurface and renew the road markings on this 1.5 mile stretch of road. All work on the road will be carried out overnight from 8pm to 6am.

Road works will be operation where work is taking place and the speed limit will be reduced to 50mph at all times. There will be lane closures and the hard shoulder will be used as an additional traffic lane.

The road will be closed for the first five nights of work and drivers will not be able to join the motorway at junction 22. Diversions will be clearly signposted. Road users should allow an extra five minutes for all journeys.



This initiative was discussed with five commercial road users and the following three groups of individual road users:

- Regular SRN Users, Segment 5, Liverpool
- Regular SRN Users, Segment 6, Salisbury
- Infrequent SRN Users, Segment 1, Birmingham

Reactions to the resurfacing initiative were mixed. Many individual road users who discussed the initiative (with the exception of the Town and Rural Heavy Users segment) focussed primarily on negative perceptions relating to the apparently reactive nature of the proposal, and on concerns about the potential for low-quality work. Commercial road users, as well as Town and Rural Heavy Users, found it easier to move past these concerns and identify the initiative's possible benefits. Most respondents did not perceive the proposal as a new or innovative suggestion, and rather associated it with ongoing general maintenance of the SRN.

Respondents quickly identified the information that "80%" of the SRN would be resurfaced as a particular point of interest. This figure provoked a variety of spontaneous responses. Some respondents (especially individual road users) were

concerned, and felt that this **implied that a large proportion of the nation's roads were in a poor condition**, and was perhaps indicative of previous underinvestment. A few individuals approached the figure in a very different manner, and raised concerns that 20% of the SRN was apparently to go unattended in future. Most respondents initially felt that this figure suggested a disruptively large amount of work would be needed, and were concerned about the cost and logistics of resurfacing on this scale. However, many of those who expressed these concerns were reassured when they considered the 8 year timescale over which this work was likely to take place. A small minority of sceptical individual road users from groups in Liverpool and Birmingham expressed worries that the majority of this work was likely to be undertaken in areas nearer to London, rather than on roads local to them.

> *"That means 80% of the country's roads need resurfacing … How did we get into that state?"* (Individual, Regular, Salisbury, Town and Rural Heavy Users)

> *"They'll start in London and work out – by the time they get to us they'll have nothing left in the pot."* (Individual, Regular, Liverpool, Educated Suburban Families)

Many road users, both individuals and commercial, were also concerned that resurfacing was **by nature a reactive activity rather than a proactive one**. This was paired with worries about the longevity and quality of a fresh road surface. Respondents' views of the initiative were more negative when they saw it as an attempt to 'patch up' damaged road surfaces which would proceed to deteriorate again very quickly. For the initiative to be considered a success, respondents expressed a **desire for high quality materials**, which would ideally allow for a lengthy period of use before requiring resurfacing again. Many respondents described bad experiences of previous resurfacing work in which a new top layer had been added to the road surface without addressing the underlying damage or distortion of the road surface which had necessitated the work.

> *"What you found is that … stretches of road which have been relayed or resurfaced, it seems after the snow then the cracks and potholes have occurred again. So I would have to say that this is- it can withstand you know at least 2 winters' worth or otherwise it is pointless."* (Commercial, Regular, London, Services, Local, 10-49 employees)

> *"Well if they lay a new road or new surface then that surface should last for maybe twenty, thirty years rather than lasting maybe one year until they manage to come along and dig it up again."* (Individual, Regular, Liverpool, Educated Suburban Families)

Another potential downside that some respondents perceived in the initiative was that resurfacing could be **purely 'cosmetic', and was not able to directly tackle broader problems** such as the capacity of a road. Again this led to perceptions that this initiative would be a reactive use of funds rather than a direct way of addressing the problems of the SRN. This was seen to present something of a vicious cycle: as

the volume of traffic on the road network increased, and structural problems of capacity went unaddressed, this would speed up the deterioration of the road surface, requiring more short term repairs and continued diversion of funds.

> *"I'd rather have another lane than … you know, just because it's got a couple of potholes, resurface you know for thousands of miles… It's not going to stop congestion, if you know what I mean, just resurfacing it."* (Individual, Regular, Liverpool, Educated Suburban Families)

> *"But if the amount of traffic is going to get bigger and bigger and bigger then surely we'd need to have bigger and bigger roads so maintaining them now and just fixing them is short term – because … there's some they're going to have to build again aren't they."* (Individual, Regular, Liverpool, Educated Suburban Families)

Commercial road users, as well as individuals from the Town and Rural Heavy Users segment, found it easiest to overcome this initial scepticism and see that the initiative might be a **proactive and positive** measure as well. Whether through spontaneous consideration of the different applications of resurfacing, or as a result of prompting, **these groups more readily understood that resurfacing could be designed to prevent future damage to road surface as well as repair existing problems**. When the initiative was seen in this light, it was received more positively – although factors such as the longevity of the work done and the degree of perceived benefits received from a high-quality road surface were still important. Those who felt that there was a possibility that 'proactive' resurfacing might nevertheless be short-term or poor-quality still reacted negatively to the initiative.

> *"I might retract what I said a minute ago. I mean, 80% over eight years is not the same as 80% being in a bad state now."* (Regular, Salisbury, Town and Rural Heavy Users)

> *"It feels proactive. … It feels as though the situation is being managed rather than left."* (Commercial, Regular, South West, Manufacturing, National, 10-49 employees)

When concerns about the quality and the potentially reactive nature of resurfacing projects were overcome, respondents were able to perceive potential benefits resulting from the initiative. A good quality resurfacing across 80% of the SRN was expected to result in a smoother driving experience across the majority of motorways and A-roads. This was expected to allow for optimal journey times, and to increase safety on the roads and reduce frustration by minimising delays caused by accidents. Drivers would also have less need to pay attention to potholes and rough surfaces. Individual road users who discussed the initiative, with the exception of the Town and Rural Heavy Users segment, were on the whole less interested in these potential benefits than commercial road users were – commercial road users were quicker to associate the initiative with the upkeep of the SRN as a

whole, and therefore with the impact of road surface quality on journey planning and journey times on a larger scale.

> *"It's better for everything, everybody. Journeys are smoother; less strain; goods and vehicles travel round quicker; deliveries aren't late."* (Commercial, Regular, South West, Manufacturing, Regional, 0-4 employees)

> *"I'm not expecting it to make the journeys any shorter, I'm just expecting them to be as consistent as they should be. Again, it's just about being able to plan knowing that you're going to arrive at a specific time."* (Commercial, Regular, South West, Manufacturing, National, 10-49 employees)

ANNEX 3: Segment summaries

Segment 1: Older, Less Mobile Car Owners

Road users from this segment felt more strongly than others that the management of disruption on a road determined their level of overall satisfaction. This included management of accidents and road works as well as preventative measures in order to minimise the frequency of accidents and mitigate potential risks on the roads. Users in this segment tended to be some of the least frequent users of the SRN. Most had therefore had less recent experience of disruption and accidents, and this may contribute to their overall lower tolerance when these were encountered on a journey.

Older, Less Mobile Car Owners tended to emphasise that a high quality road should deliver in terms of ancillary safety features: including regular, good quality lighting; clear road markings; clear signage and information. Although they took journeys less frequently than other segments, these individuals were particularly affected when a journey was perceived to have involved risk, or to have lacked necessary safety features. Individuals from this segment were also particularly conscious of dangerous driving and bad behaviour by other road users. Users in this segment also had a tendency to identify younger road users as being 'reckless' and a potential source of risk and distraction when driving.

When discussing the implementation of initiatives, individuals from this segment often prioritised the 'Quality' of the work done. Some expressed a desire for further information that could provide assurances of quality both during road works, and once they had been completed.

Segment 2: Less Affluent Urban Young Families

Road users from this segment emphasised traffic flow and road surface when describing the qualities of an ideal road. Traffic jams and potholes were frequent causes for complaint, especially in relation to journeys with young children who caused further disruption inside the vehicle when a journey was slow or involved driving over a rough surface. Parents in this segment strongly felt that an ideal SRN road would have frequent service stations and other locations to take a break.

Some individuals in this segment also placed an emphasis on driving speed, and the opportunity to overtake slower vehicles. Cautious driving by older/less confident road users was sometimes highlighted as a source of irritation.

When discussing the implementation of initiatives, individuals from this segment (as with other less affluent, less frequent road users) tended to be more willing to accept the suggested length of disruption needed for initiatives that might take longer to implement, and expressed less concern regarding the possible level of disruption. This segment often expressed greater willingness to assume that an initiative would result in potential benefits.

As with other younger segments, some individuals in this segment expressed interest in mobile apps which might be able to pull together a range of real-time information about road works and other disruption on the SRN.

Segment 3: Less Affluent Older Sceptics

As with Older, Less Mobile Car Owners, road users from this segment had a tendency to focus on the safety features of an ideal road. Ancillary features such as good lighting, clear signage and accessible recovery areas were all seen as important for a road to be considered satisfactory. They also identified the behaviour of younger and more reckless drivers as a source of concern when driving. This segment's lower frequency of use of the SRN may have contributed to their low tolerance for risk and disruption during journeys.

This segment also prioritised the 'experience' of the route taken, with some individuals emphasising the importance of scenic views. This may be because the journeys taken by this segment are more often for purposes of leisure than for work or other more 'functional' purposes.

Individuals in this segment were some of the least tolerant of everyday congestion: they used the SRN frequently enough that most had experience of traffic jams and congestion, but not sufficiently frequently that they had become acclimatised to it.

With regards to the implementation of initiatives, this segment (as with Older, Less Mobile Car Owners) emphasised the importance of 'Quality' in the work done. If they were convinced of the value of an initiative, road users from this segment tended to say that they would be willing to accept the resulting disruption.

Segment 4: Affluent Empty Nesters

These road users tended to emphasise the importance of traffic flow and road capacity when describing the features of an ideal SRN road. An unsatisfactory journey would often be described as one which had a large number of junctions or required detours through villages or other 'bottlenecks'.

Road users from this segment had more of a tendency than others to make comparisons between the SRN and roads that they had driven on abroad, particularly in continental Europe. Many individuals from this segment expressed the view that roads in the UK were especially congested due to dense population, and compared unfavourably to the driving experience in other countries.

Individuals from this segment were less willing than others to take the potential benefits of proposed initiatives at face value. Some individuals expressed particularly cynical views on investments (such as those discussed as part of the Focussed Safety Interventions initiative) that took place 'behind-the-scenes', or which were not seen to tangibly impact on traffic flow and road capacity. Many individuals from this segment raised specific questions about the cost of implementation where initiatives seemed 'major' (e.g. Smart Motorways, bypasses).

Even when they were convinced of the potential benefit of an initiative, individuals from this segment tended to be less accepting of disruption caused by implementation. Implementation that might take more than a month tended to provoke strong negative reactions and calls for reduction.

Segment 5: Educated Suburban Families

These individuals had a tendency to identify road capacity and road safety as their priorities for an ideal SRN road. Safe journeys for families as well as efficient, speedy journeys for work purposes were both important for road users in this segment. Those who undertook regular commuting journeys by road emphasised the importance of good lighting during early morning drives, while other individuals called for specific features that they felt would enhance safety, including chevrons and a well maintained road surface. Those with children (similarly to parents amongst the Less Affluent Urban Young Families segment) also felt that regular access to service stations and other locations to take a break from a journey was important to road quality.

Some individuals from this segment, although to a lesser extent than Affluent Empty Nesters, made comparisons with roads in Europe. Many of these individuals believed that the UK's high traffic density meant that the SRN would always compare unfavourably to European roads.

Individuals in this segment were consistently among the most likely to question potential benefits of proposed initiatives and promises of minimal disruption. Some emphasised the importance of 'Cost', and ensuring that any initiative implemented provided value for money. As a segment, they are likely to require greater reassurance about what the ultimate benefit of disruptive road works will be.

Some in this segment (younger individuals who already made heavy use of social media in their day-to-day lives) were more receptive to the idea of using social media as a channel for real time information about road works and disruption. Some also expressed interest in a possible mobile app which could pull together a range of real-time information.

Segment 6: Town and Rural Heavy Users

Road users from this segment made the most frequent use of the SRN, and tended to travel the furthest distances. They had a tendency to prioritise consistency of driving experience over the course of a longer journey (this might take in a number of roads on the SRN). This consistency involved a wide range of factors: some were concerned about road capacity and 'bottlenecks' on journeys where drivers moved from dual carriageways to single-lane roads, or from motorways to A-roads; others prioritised consistency in ancillary features (consistent lighting; consistent signage) or in road surface quality. The length of journeys undertaken by this segment also meant that they emphasised the importance of service stations and rest stops at regular intervals on a satisfactory road.

Like other segments with higher usage of the SRN, these road users had a tendency to react against disruption from the implementation of initiatives which was expected to last for a long period. At the same time, users from this segment were quicker than others to understand the potential benefits of initiatives such as resurfacing 80% of the SRN, which they found easier to understand as a potentially proactive measure (increasing consistency across the SRN) rather than a purely reactive one. Ultimately, the successful implementation of an initiative for this segment depended on the maintenance of traffic flow whilst work was proceeding.

These individuals expressed a desire for frequent updates on disruption and road works, and some responded positively to the idea of a mobile app that could collate this information in real-time.

ANNEX 4: Discussion guides

INDIVIDUAL USERS DISCUSSION GUIDE – WAVE 2

Aims are to explore and understand:

The tangible attributes of priority areas for additional investment

Preferences and priorities for Network/ service improvements

- Acceptable trade-offs to achieve desired outcomes

Perceptions / appeal of proposed (infrastructure) initiatives

- Benefits and drawbacks of implementation
- Willingness to trade off potential drawbacks/disruptions in order to achieve outcome

Role of technology and information provision

Pre Task

- Overview of SRN
- Recent good and bad experience when using the SRN, both motorways and trunk roads

Protocol (participant-facing introduction to the research):

- About the research: Independent research agency working on behalf of an organisation working in the travel and transport sector
- Length of discussion: 2 hours
- Audio recording
- Confidentiality and anonymity: their participation in and contributions to the research are kept strictly confidential, and they will not be identified to DfT

Introductions 5 mins

Researcher introduction

- Introduce self
- About TNS BMRB – independent research agency working on behalf of an organisation working in the travel and transport sector
- Confidentiality / anonymity
- Following MRS guidelines – right to refuse any question or end participation at any time
- Agreement to record the discussion
- Any questions?
- Thank them for completing the pre-task and assure them that we will be looking at them in detail after the group. They should draw on the experiences they wrote about during the discussion.

Participant introduction

- Name, age (if willing) and family set up
- Ask them to talk about one of the images they chose for the pre-task – why does it sum up their journey experience?

Expectations of an ideal SRN 15 mins

Ask respondents to imagine that major roads in Britain are classified into two 'leagues' –Division 1 and Premier League, as in football, or just two leagues– according to how well they perform on various levels.

- What features of roads and driving on them should be used to decide whether a road should be in Division 1 or the Premier League – *think about the road itself, then things around it, then the experience of driving on the road*
- How do motorways and trunk road differ in this

Keep the following discussion as spontaneous as possible, but introduce the idea of 'traffic flow' or 'safety' as a prompt if necessary – and encourage respondents to think of other features from there. note on flipchart and add to the list as the exercise goes on.

- What features would they expect for roads in Division 1 – on the assumption that these roads are 'professional but not top flight' – and why?
- Are there any features that would apply to the Premier League but not Division 1, or is it a question of the 'quality' of each feature?
- What changes would lead to promotion to the bottom of the Premier League– which new features or improved quality levels, and why?
- What would differentiate roads which are consistently at the top of the Premier League from those lower down or recently promoted?
- What would need to happen for a road to qualify for the Champion's League – competing with the best roads in Europe?
- What does this exercise tell them about what they want and expect from the SRN – what are the key priorities for it, which aspects are less important, what should be provided as standard, etc

Priority areas 25/10mins per area (35 in total)

Explain that we now want to explore one set of features (priority areas) of the SRN in detail –*coverage as in schedule, rotated across the sample*. Show card with the name of the priority area on it. (5 mins)

- What do they understand by this word/term, in the context of the SRN
- What does it bring to mind
- Do they have positive, negative, neutral associations with it – and why
- Would they describe what they understand this feature of the SRN to be any differently – how so, and why
- How well do they feel the SRN 'delivers' this feature currently – why
- How varied is the delivery of this feature across the SRN – which types of road 'perform' better and worse
- How do motorways and trunk roads compare
- How does performance vary by time of day, season etc?

Specific probes to identify the underlying attributes for each priority area – cover the one in question. Note each attribute on the flipchart.(10 mins)

Everyday congestion

- How is everyday congestion different to other types of congestion experienced on the SRN?
- When and where do you expect to face everyday congestion?
    - *Listen out for mentions of time of day / day of week, types of roads, pinch points, junctions, trip occasion, traffic volume, speed*
    - What would you say causes everyday congestion?
    - What types of roads on the SRN are most likely to suffer from everyday congestion? Why? *Probe on:*
        - Infrastructure (number of lanes, width of lanes, speed limit, number and type of roundabouts / junctions)
        - Connectivity (where roads go to / from; trip occasion)
        - Who uses the roads (local vs. strategic importance)
- How do you feel when you realise there is everyday congestion ahead?
    - What goes through your minds?
    - What questions do you have?
    - How do you find the answers?
- Some people say that everyday congestion is an inevitable fact of life in Britain because of the size of the country and number of vehicles on the road. We also know that people experience different levels of everyday congestion on the SRN.
    - If we had a spectrum where at the one end there was ideal traffic flow on the and at the other end there was unacceptable congestion, where on the line would your current experience of everyday congestion on the SRN be?
        - How would you describe this point on the line?
            - How acceptable is this level of congestion? Why?
        - What needs to happen to move current everyday congestion to further towards ideal traffic flow?

- What changes need to occur?
- Which aspects of your journey would have to improve?
- Which aspects are most / least important?

Safety

- How safe do they normally feel when driving on the SRN
    - Motorway vs. trunk road
- What influences this – spontaneous, then explore:
    - Personal factors
        - Confidence driving
        - Familiarity with the road / journey
        - Past experience
        - Who is in the car with them
    - Vehicle factors
        - Type of car
        - Experience of the car
    - Road infrastructure / operation
        - Layout
        - Surface quality
        - Signage
        - Lighting
        - Debris
        - Road markings
        - Junctions
        - Roundabouts
    - Safety mechanisms
        - Cameras (CCTV / speed cameras)
        - Presence of Traffic Officers

        - Chevrons
        - Speed bumps
    - Traffic
        - Density
        - Type of vehicles
        - Presence of other road users (e.g. cyclists, pedestrians)
        - Speed limit
        - Speed being travelled
        - Other drivers' poor behaviour
    - Road works / repairs
        - Presence of roadworkers
        - Cones, barriers
        - Narrow lanes, closed lanes, hard shoulder running etc.
    - Experiential factors
        - Weather
        - Seasonality
        - Time of day
        - the type of car they have
- Can they give any specific examples of times when they have felt unsafe
    - describe the road they were on (make sure to include motorway and trunk road examples across the group)
        - type of road, layout, number of lanes
    - what caused them to feel unsafe
        - if multiple factors, which had the biggest impact on safety
    - how did it affect their driving
    - how did they feel during and at the end of the journey
    - has this experience affected the way they travel since then – e.g. allow more time for journeys, travel at a slower speed, have they taken different routes, travelled at different times etc.

- In those unsafe situations, what would have made them feel safer – *probe on how realistic suggested solutions are, and what could realistically be done*

Speed of repairs/road works

- What types of road works / repairs do they come across on the SRN
- How do you feel when you realise there are road works / repairs taking place ahead?
    - What goes through your minds?
    - What questions do you have?
    - How do you find the answers?
- What would you expect if you were told the people managing the road works were doing everything they could to 'minimise disruption'?
- Thinking back to when you have experienced road works / repairs on a trunk road
    - What worked well?
    - What worked less well?
    - What really frustrated you?
    - How clear is it what is being done and why
    - What questions would you have liked to ask the people managing the roadworks? How did you answer these questions?
- Now thinking back to when you experience road works / repairs on a motorway, how was your experience different?
- If they were responsible for managing a road works project for SRN roads around them, and wanted to assess the performance of the contractor, what criteria would they use – spontaneous, then probe on…
    - Speed of repairs / road works
    - Minimising disruption
    - Safety
    - Cost
    - Environmental impact
    - Quality/longevity of the repairs
    - Information provision

- For each of these criteria, what would constitute a good and a poor performance
- Which of these criteria would they consider to be most significant, and why

Road surface quality

- How would they explain to a new / learner driver what good road surface quality is?
    - What does it look like?
    - What is it like to drive on?
    - What is it like for non-motorists to travel on?
    - How is it different for motorways and trunk roads?
- How would you explain to a new / learner driver what a bad quality road surface is?
    - What should they be aware of if driving on a bad road?
    - How could it affect their journey?
    - What should they do?
- If you were responsible for evaluating the quality of a road, what criteria would you use?
    - Which criteria are most important? Why?
    - What would a Premier League road be like?
    - What would a Division 1 road be like?
    - At what point would you decide to take action to improve the quality of the road? Why?

Handling of accidents/delays

- What types of accidents or delays do they come across on the SRN
- How do you feel when you realise there is an accident ahead?
    - What goes through your minds?
    - What questions do you have?
    - How do you find the answers?
- What would you expect if you were told the people handling the accident were doing everything they could to 'minimise disruption'?
- Thinking back to when you have experienced an accident being handled on a trunk road

    - What worked well?
    - What worked less well?
    - What really frustrated you?
    - How clear is it what is being done and why
    - What questions would you have liked to ask the people managing the roadworks? How did you answer these questions?
- Now thinking back to when you come across an accident on a motorway, how was your experience different?
- If they were responsible for managing an accident response contract for SRN roads around them, and wanted to assess the performance of the contractor, what criteria would they use – spontaneous, then probe on…
    - Speed of initial response
    - Minimising disruption
    - Speed of removing blockages
    - Information provision
    - Safety measures
- For each of these criteria, what would constitute a good and a poor performance
- Which of these criteria would they consider to be most significant, and why

General maintenance

- How would they explain to a new / learner driver what a well maintained road is?
    - What does it look like?
    - What is it like to drive on?
    - What is it like for non-motorists to travel on?
    - How is it different for motorways and trunk roads?
    - *Listen for features such as lighting, signage, foliage, debris, litter*
- How would you explain to a new / learner driver what a poorly maintained road is?
    - What should they be aware of if driving on a bad road?
    - How could it affect their journey?

    - What should they do?
- If you were responsible for evaluating the maintenance of a road, what criteria would you use?
    - Which criteria are most important? Why?
    - What would a Premier League road be like?
    - What would a Division 1 road be like?
    - At what point would you decide to take action to improve the maintenance of the road? Why?

Transfer the attributes onto cards. Tell respondents to imagine that they have the responsibility for achieving excellence in the priority area in question, and have the authority to decide how funds are spent. Give them 30 counters (10 at a time), and ask them (as a group) to allocate these counters to each of the attribute cards as they see fit, to show how much they feel should be spent on each one in order to fulfil their responsibility.
(5mins)

- Why have they allocated the counters like this – what does it say about their views of the attributes
- Does this represent their views on how the attributes should be prioritised, and the relative importance that they attach to each one
- If not – would they change the allocation now that they know that this is the purpose of the exercise – and why would they change

REPEAT SECTION FOR THE SECOND PRIORITY AREA.COVER IN LESS DETAIL, AND ASK RESPONDENTS TO PRIORITISE ATTRIBUTES RATHER THAN DOING THE COUNTER EXERCISE.

Initiatives 20mins (1-4); 55 mins (5 AND 6)

IF 1-4, ALLOW 55 MINUTES TO DISCUSS THE INITIATIVE AND IMPLEMENTATION.

IF 5 AND 6, COVER INITIATIVE IN 55 MINS (NO IMPLEMENTATION).

Explain to respondents: ***The Government has committed to investing in the SRN, and is considering a number of different initiatives. We are going to look at two of those initiatives, to explore your views of them and the effects that you feel they are likely to have. These initiatives could affect all aspects of the SRN 'experience', not just the specific priority areas we've been discussing, so please think about them broadly.***

Give each respondent a copy of the material describing the initiative. Ask them to read it and mark up any parts that are interesting, surprising, unclear, etc. Refer to stimulus notes to guide discussion. (15 mins)

- Have they experienced this initiative anywhere before
- What have they picked out from the stimulus as interesting, surprising, etc
- Thinking back to the features of the SRN discussed in the Division1/Premier League exercise (refer to flipchart as necessary), which of these would they expect this initiative to relate to, and why
- If implemented what do you expect the benefits to be…(spontaneous first, then probe)
    - To you?
    - To other road users? (other motorists, pedestrians, cyclists)
    - Any other benefits?
- And what are the drawbacks?…(spontaneous first, then probe)
    - To you?
    - To other road users? (other motorists, pedestrians, cyclists)
    - Any other benefits?
- If not mentioned spontaneously, probe on perceived impacts (positive and negative to)
    - local communities?
    - Wider society / the nation *(listen here for mentions of impact on the economy, and*

probe their understanding and views of the significance of this if it comes up)?

- The environment – air and noise pollution, visual and physical impact, etc?

For Initiative 5 only:(5 mins)

- How do they feel about investment being made in initiatives that happen 'behind the scenes'
- How do they think decisions about who and what to focus efforts on should be made – what should be considered when identifying who is at risk
- To what extent do they feel that initiatives like these will improve the 'performance' of the SRN and/or their driving experience.

For Initiative 6 only:(5 mins)

- What standards would they expect expressways expected to meet
- Are there roads that currently meet these standards – give specific examples if possible – and what do these roads offer that 'lesser' roads do not
- Why do roads need to be upgraded to this standard
- Do all roads need to be upgraded to this standard – or just some of them, and if so, which ones/types

Ask respondents to think about what it would be like to use an SRN road which has had this initiative implemented.(5 mins)

- What it would it be like to drive on the road
- What would it look and feel like
- How would this compare with current experiences
- How could the impacts of this initiative be measured – what indicators would show…
  - the extent to which different benefits have been realised
  - the extent to which negative impacts have manifested themselves

Implementation (for initiatives 1-4) 35mins

Show participants implementation stimulus for the first initiative. Refer to stimulus notes to guide discussion throughout.(5 mins)

- What are their immediate views of this
- Have they experienced anything like this before – if so, what worked well and less well; what would they have done differently if they had been in charge

If this was an initiative that took place in your area…(5 mins)

- How and when should work be undertaken
- What level of disruption is acceptable and in what form and over what period
    - practical: lane closures, diversions, slower speeds, safety
    - experiential: more traffic, longer journeys, stress
    - environmental: natural habitats, noise pollution
- How long would it be before motorists would start to see improvements in the priority areas and/or attributes discussed earlier

Introduce trade-off cards showing considerations in relation to implementing the initiative (e.g. time, cost, worker safety, road user safety, journey time, noise pollution, air pollution, delays, speed of traffic, traffic flow, damage to natural habitat, damage to landscape, quality of work). Add any others that have come up in discussion already – *refer to flipchart notes from end of section 4 if necessary*.

Explain to respondents: as a group you have 20 counters which you can use to represent how much of a priority you think each of the considerations should be. How will you allocate counters to each consideration in order to indicate its relative importance? [Introduce two additional batches of 15 counters to explore influence on priorities] (use 50 counters in total) (10 mins)

After the exercise, draw out conclusions to discuss implications for implementation and the trade-offs people are willing to make. (5 mins)

Discuss information needs – first initiative only (10 mins)

- What would they want to know about the type of work that would be involved in implementing the two initiatives discussed, and how would they like to find out…
    - Before it starts
    - While it goes on
    - After it has finished
- How do they currently hear about similar work – who tells them, what medium/channel is used, are they told or do they have to find out themselves
- What would they want to know about the initiatives once they are 'up and running'
- What role is there for real-time information – in what sense would this be useful, and how should it be made available?
- What role is there for social media (Facebook, Twitter etc), apps, online information and other digital media; what type of information would this be most useful for – real-time, advance, detailed, user-sourced etc

Closing 5 mins

- To each respondent – what is the most striking thing they have heard or discussed this evening?
- How do they feel overall about what has been discussed – are they supportive of the types of initiative etc?
- Do they have any final comments?

THANK AND CLOSE.

COMMERCIAL DISCUSSION GUIDE

WAVE 2 - FRESH

Aims are to explore and understand:

The tangible attributes of priority areas for additional investment

Preferences and priorities for Network/ service improvements

Perceptions / appeal of proposed (infrastructure) initiatives - benefits and drawbacks of implementation

Role of technology and information provision

Protocol (participant-facing introduction to the research):

- About the research: Independent research agency working on behalf of an organisation working in the travel and transport sector
- Length of discussion: 45 minutes
- Audio recording
- Confidentiality and anonymity: their participation in and contributions to the research are kept strictly confidential, and they will not be identified to DfT

Note:

- It is very important that the participants talks from a business perspective rather than drawing on individual experience

Introductions 10mins

Researcher introduction

- Introduce self
- About TNS BMRB – independent research agency working on behalf of an organisation working in the travel and transport sector
- Confidentiality / anonymity
- Following MRS guidelines – right to refuse any question or end participation at any time
- Agreement to record the discussion

Participant introduction

- Name, role in business, nature of business – sector/industry, size (employees/turnover), number of sites, when established etc
- Role in relation to business's transport/travel/distribution activities etc
- Explore where they operate - locally, regionally, nationally and internationally.
- Explore where/how customer interactions take place (e.g. online, post, customer's premises and businesses premises)

Understanding and use of the SRN 5 mins

- What do they understand by the term 'Strategic Road Network':
    - Which types of road would it include, and why
    - Why would a road *not* be in the SRN
- How self-explanatory do they feel the term 'Strategic Road Network' is; how confident are they in their assumptions about it

Read out a description of the SRN, and show map to show its extent across England

- How closely does this match what they had imagined. Anything surprising?

Expectations of an ideal SRN 8mins

- How does the SRN fit into their business? What role does it play?
- Do they personally travel on the SRN for their business, or are they more involved in managing or administrating for others who do?

If former, ask them to think of their own experiences when travelling for business; if latter, ask them to think about other drivers' reports. In both instances, think about the impact of the SRN on their business as a whole, not just on individual drivers.

- How does their business use the SRN - what purposes, who uses it, how frequently, etc
- How (else) does the SRN fit within their organisation? And how does it fit within their role? *Spontaneous then probe on:*
    - How is the SRN considered when conducting day-to-day business? Why?

    - How is the SRN factored into making future business plans?
- How well does the SRN currently support their business/business needs?
- Which aspects of the SRN are most important in this sense – from a business point of view, what does the SRN need to 'do well' – *think about the road itself, then things around it, then the experience of driving on the road*
- How do these aspects of the SRN's 'performance' impact on their business?

Ask respondents to imagine that major roads in Britain are classified into two levels – or 'leagues' as in Division 1 and Premier League– according to how well they support the needs of businesses.

- What features of roads and driving on them should be used to decide whether a road should be in Division 1 or the Premier League – *think about the road itself, then things around it, then the experience of using the road, also think about accessibility and connectivity*
- How do motorways and trunk road differ in this

  ***If needed clarify*: By trunk roads I mean the roads that tend to link motorways to one another or to major cities and ports.**

Keep the following discussion as spontaneous as possible, but introduce the idea of 'traffic flow' or 'safety' as a prompt if necessary – and encourage respondents to think of other features from there.

- What features would they expect for roads in Division 1 – on the assumption that these roads are 'professional but not top flight' – and why?
- Are there any features that would apply to the Premier League but not Division 1, or is it a question of the 'quality' of each feature?
- What changes would lead to promotion to the bottom of the Premier League– which new features or improved quality levels, and why?
- What would need to happen for a road to qualify for the Champion's League – competing with the best roads in Europe?

Priority areas 10mins per area

Explain that we now want to explore some features (priority areas) of the SRN in detail – *coverage as in schedule, rotated across the sample*. Tell the participant the name of the priority area as per schedule.

- What do they generally understand by this word/term, in the context of the SRN
- What does this term mean specifically in relation to your business / organisation – in what ways does this aspect of the SRN's 'performance' impact on their business, and how much?

Specific probes to identify the underlying attributes for each priority area – cover the one in question.

Everyday congestion

- In the context of your business, when and where do you expect to face everyday congestion?
    - *Listen out for mentions of different types of journeys, different vehicles, time of day / day of week, types of roads, pinch points, junctions, trip occasion, traffic volume, speed*
    - What would you say causes everyday congestion?
    - What types of roads on the SRN are most likely to suffer from everyday congestion? Why? *Probe on:*
        - Infrastructure (number of lanes, width of lanes, speed limit, number and type of roundabouts / junctions)
        - Connectivity (where roads go to / from; trip occasion)
        - Who uses the roads (local vs. strategic importance)
- How is everyday congestion different to other types of congestion experienced on the SRN?
- Some people say that everyday congestion is an inevitable part of conducting business in Britain because of the size of the country and number of vehicles on the road. We also know that businesses experience different levels of everyday congestion on the SRN.

- If we had a spectrum where at the one end there was ideal traffic flow on the and at the other end there was unacceptable congestion, where on the line would your business' current experience of everyday congestion on the SRN be?
    - How would you describe this point on the line?
        - How acceptable is this level of congestion from the perspective of your business? Why?
        - What, if any, impact does everyday congestion have on…
            - Your day-to-day business?
                - How does the business respond to this?
            - The success of your business?
                - How does the business respond to this?
            - Your future business plans?
                - How does the business respond to this?
    - What needs to happen to move current everyday congestion further towards ideal traffic flow?
        - What changes need to occur?
        - Which are most / least important?
        - How would this benefit your business
            - In the short-term?
            - In the long-term?
- How do the impacts of everyday congestion on their business compare with the impacts of other types of congestion – what is affected, how seriously, etc?
- If you were responsible for assessing the contractor managing everyday congestion on the SRN for business users, what criteria would you use to assess their performance?
    - Which criteria are most important? Why?
    - What would a Premier League road be like?
    - What would a Division 1 road be like?

Safety

- When considering safety of the SRN in relation to your business, what different aspects does it encompass – who and what does it relate to?
    - *Spontaneous, then probe on driver /passenger safety, vehicle safety, safety of goods being transported etc.*
- What safety issues has the business experienced with relation to the SRN? *For each, probe:*
    - What happened?
    - When did it occur?
    - Where was this? (road type, trip / occasion)
    - What caused this?
    - How did it affect them in their role; who else was involved?
    - What impact did it have on the business
        - In the short-term?
        - In the long-term?
    - How did the business respond?
        - Immediately?
        - In the longer-term?
- How safe do they feel the SRN is for their business usage?
    - Motorway vs. trunk road
- What influences this – spontaneous, then explore:
    - Vehicle factors
        - Type/age of car/lgv/hgv
        - The type of goods they were transporting
    - Facilities
        - Lay bys
        - Service stations
        - Fuel stops

- Road infrastructure / operation
    - Width / weight / height restrictions
    - Layout
    - Surface quality
    - Signage
    - Lighting
    - Debris
    - Road markings
    - Junctions
    - Roundabouts
- Safety mechanisms
    - Cameras (CCTV / speed cameras)
    - Presence of Traffic Officers
    - Chevrons
    - Speed bumps
- Traffic
    - Density
    - Type of vehicles
    - Presence of other road users (e.g. cyclists, pedestrians)
    - Speed limit
    - Speed being travelled
    - Other drivers' poor behaviour
- Road works / repairs
    - Presence of roadworkers
    - Cones, barriers
    - Narrow lanes, closed lanes, hard shoulder running etc.
- Experiential factors
    - Weather

        - Seasonality
        - Time of day
        - the type of car/lgv/hgv they have
- If you were responsible for assessing the contractor managing safety of the SRN for business users, what criteria would you use to assess their performance?
    - Which criteria are most important? Why?
    - What would a Premier League road be like?
    - What would a Division 1 road be like?

Speed of repairs/road works

- Which aspects/areas/people of/in your business are directly affected by roadworks; what impact do roadworks have on these operations/people?
- Which areas/people are affected less directly; how do roadworks affect them?
    - *Spontaneous then probe differences by different areas/divisions within the business e.g. making deliveries, receiving deliveries, sales travel, staff commuting, logistics, HR*
- How do people who are affected directly plan/respond to road works; what about people who are affected less directly?
    - How does this work in practice?
    - How do direct and less direct people differ in this?
- How do road works / repairs fit in to the way the organisation…
    - Conducts / manages its day-to-day business
    - Plans for the future of the business
- When there are road works / repairs taking place on the roads your business uses regularly what questions do you have?
    - How, when and where do you find the answers?
    - How satisfied are you with the answers you find?
    - What more would you like to know?

- What would your business expect if you were told the people managing the road works were doing everything they could to 'minimise disruption'?
- What issues has the business experienced with relation to road works / repairs on the SRN? *For each, probe:*
    - When did it occur?
    - Where was this? (road type, trip / occasion)
    - What caused this?
    - What impact did it have on the business
        - In the short-term?
        - In the long-term?
    - How did the business respond?
        - Immediately?
        - In the longer-term?
    - Assuming the roadworks had to take place, what could have reduced the impact of them on your business in this instance? Why?
- If you were responsible for managing a road works project for the SRN roads around you, and wanted to assess the performance of the contractor, what criteria would they use – spontaneous, then probe on…
    - Speed of repairs / road works
    - Minimising disruption
    - Safety
    - Cost
    - Environmental impact
    - Quality/longevity of the repairs
    - Information provision
- For each of these criteria, what would constitute a good and a poor performance
- Which of these criteria would be most significant to their business, and why

Road surface quality

- How would they explain to a new driver what good road surface quality is?

- What does it look like?
- What is it like to drive on?
- How is it different for motorways and trunk roads?

- How would you explain bad quality road surface is?
  - What should they be aware of if driving on a bad road? What should they do?
  - How could it affect their journey? The business in general?
- Why is road surface quality important to your businesses? Which aspects of and people in their business are affected by road surface quality?
  - *Spontaneous then probe differences by different areas/divisions within the business e.g. sales travel, finance, logistics/ route planning, procurement of new cars, driver training, staff commuting*
- How do people affected plan/respond to variations in road surface quality?
  - How does this work in practice?
- Where does road surface quality fit in to the way the organisation…
  - Conducts / manages its day-to-day business
  - Plans for the future of the business
- If you were responsible for evaluating the quality of a road's surface, what criteria would you use?
  - Which criteria are most important? Why?
  - What would a Premier League road be like?
  - What would a Division 1 road be like?

Handling of accidents/delays

- What types of accidents or delays are they aware of people driving for their business coming across on the SRN?
- Which aspects of and people in their business are affected by accidents and delays, and how?
- How do people affected plan/respond to accidents and delays?
  - How does this work in practice?
- Where does consideration of accidents/delays fit in to the way the organisation…

- Conducts / manages its day-to-day business
- Plans for the future of the business

- If there is an accident on a road your business uses regularly what questions would you (or the person driving) have? How would you find the answers?
- What would you expect if you were told the people handling the accident were doing everything they could to 'minimise disruption'?
- What advice do you, or would you, give to people driving for your organisation about how to handle accidents they are not directly involved in and why?
- If you were responsible for managing an accident response contract for SRN roads around you, and wanted to assess the performance of the contractor, what criteria would you use
  - Probe on…
    - Speed of initial response
    - Minimising disruption
    - Speed of removing blockages
    - Information provision
    - Safety measures
  - Which criteria are most important? Why?
  - What would a Premier League road be like?
  - What would a Division 1 road be like?

General maintenance

- How would they explain to a new driver in their business what a well maintained road was like?
  - What does it look like?
  - What is it like to drive on?
  - How is it different for motorways and trunk roads?
  - *Listen for features such as lighting, signage, foliage, debris, litter*
- How would you explain what a poorly maintained road is?
  - What should they be aware of if driving on a bad road?
  - How could it affect their journey?

    - What should they do?
- Why is road maintenance important to your businesses? Which aspects of and people in their business are affected by it?
    - *Spontaneous then probe differences by different areas/divisions within the business.*
- How do people affected plan/respond to general maintenance on the SRN?
- Where does consideration of general maintenance on the SRN fit in to the way the organisation…
    - Conducts / manages its day-to-day business
    - Plans for the future of the business
- If there were general maintenance activities taking place on the roads your business uses regularly, what questions would you have?
    - How, when and where do you find the answers?
- If you were responsible for evaluating the maintenance of a road, what criteria would you use?
    - Which criteria are most important? Why?
    - What would a Premier League road be like?
    - What would a Division 1 road be like?
    - At what point would you decide to take action to improve the maintenance of the road? Why?

Repeat lines of questioning for the second priority area on the schedule.

Initiatives 10-15 mins

IF 1-4, ALLOW 15 MINUTES TO DISCUSS THE INITIATIVE AND IMPLEMENTATION.
IF 5OR 6, ALLOW 10 MINUTES.

Explain to respondents: ***The Government has committed to investing in the SRN, and is considering a number of different initiatives. We are going to look at some / one of these initiatives, to explore your views of them and the effects that you feel they are likely to have. These initiatives could affect all aspects of the SRN 'experience', not just the specific priority areas we've been discussing, so please think about them broadly.***

Give the participant a copy of the material describing the initiative. Refer to stimulus notes to guide discussion.

- Have they experienced this initiative anywhere before
- What have they picked out from the stimulus as interesting, surprising, etc
- If implemented what do you expect the benefits to be…(spontaneous first, then probe)
    - To your businesses?
    - To other businesses?
    - To other road users (e.g. motorists, pedestrians, cyclists)
    - To wider society?
    - Any other benefits?
- And what are the drawbacks?…(spontaneous first, then probe)
    - To your business?
    - To other road users (e.g. motorists, pedestrians, cyclists)
    - To wider society?
    - Any other drawbacks?
- If not mentioned spontaneously, probe on perceived impacts (positive and negative to)
    - local businesses?
    - Wider society / the nation *(listen here for mentions of impact on the economy, and probe their understanding and views of the significance of this if it comes up)?*
    - The environment – air and noise pollution, visual and physical impact, etc?

FOR INITIATIVE 5 ONLY:

- How do they feel about investment being made in initiatives that happen 'behind the scenes'
- How do they think decisions about who and what to focus efforts on should be made – what should be considered when identifying who is at risk
- To what extent do they feel that initiatives like these will improve the 'performance' of the SRN and/or their driving experience.

FOR INITIATIVE 6 ONLY:

- What standards would they expect expressways expected to meet
- Are there roads that currently meet these standards – give specific examples if possible – and what do these roads offer that 'lesser' roads do not
- Why do roads need to be upgraded to this standard
- Do all roads need to be upgraded to this standard – or just some of them, and if so, which ones/types

FOR ALL INITIATIVES: Ask respondents to think about what it would be like to use an SRN road which has had this initiative implemented.

- Which aspects/areas of or people in your business would it affect? What would it have changed for your businesses?
    - *Spontaneous then probe differences by different areas/divisions within the business (e.g. drivers), as well as customers*
- How could the impacts of this initiative be measured – what indicators would show…
    - the extent to which different benefits have been realised
    - the extent to which negative impacts have manifested themselves

FOR INITIATIVES 1-4: Show participants implementation stimulus. Refer to stimulus notes to guide discussion throughout.

- In the context of their business, what are their immediate views of this?
- In a business context, have they experienced anything like this before – if so, what worked well and less well; what would they have done differently if they had been in charge
- How and when should work be undertaken
- What level of disruption is acceptable and in what form and over what period
    - practical: lane closures, diversions, slower speeds, safety
    - experiential: more traffic, longer journeys, stress
    - environnemental: natural habitats, noise/air pollution

Introduce list showing considerations in relation to implementing the initiative they've discussed (e.g. time, cost, worker safety, road user safety, journey time, noise pollution, air pollution, delays, speed of traffic, traffic flow, damage to natural habitat, quality of work).

- Which are the top five most important considerations for your business – in order if possible? Why?

FOR ALL INITIATIVES: Discuss information needs (if covering 5 and 6, omit for the second initiative if short on time)

- What would your businesses want to know about the type of work that would be involved in implementing the initiative, and how would your business like to find out…
    - Before it starts
    - While it goes on
    - After it has finished
- Does the information needed differ by different areas/division/people within the organisation? How? Probe on time points as above.
- How does their business currently hear about similar work – who tells them, what medium/channel is used, are they told or do they have to find out themselves
- What role is there for real-time information – in what sense would this be useful, and how should it be made available?
- What role is there for social media (Facebook, Twitter etc), apps, online information and other digital media; what type of information would this be most useful for – real-time, advance, detailed, user-sourced etc

Closing 2 mins

- What is the most striking thing we've discussed?
- How do they feel overall about what has been discussed?
- Do they have any final comments?

THANK AND CLOSE.