Road information – user needs
Qualitative Research

March 2019

Agenda

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2	**Summary of findings**
3	**Contextual factors**
4	**Information sources used at various points of the journey**
5	**Satisfaction with current Highways England information-provision**
6	**The future of road information**
7	**Conclusions**

Define research & insight
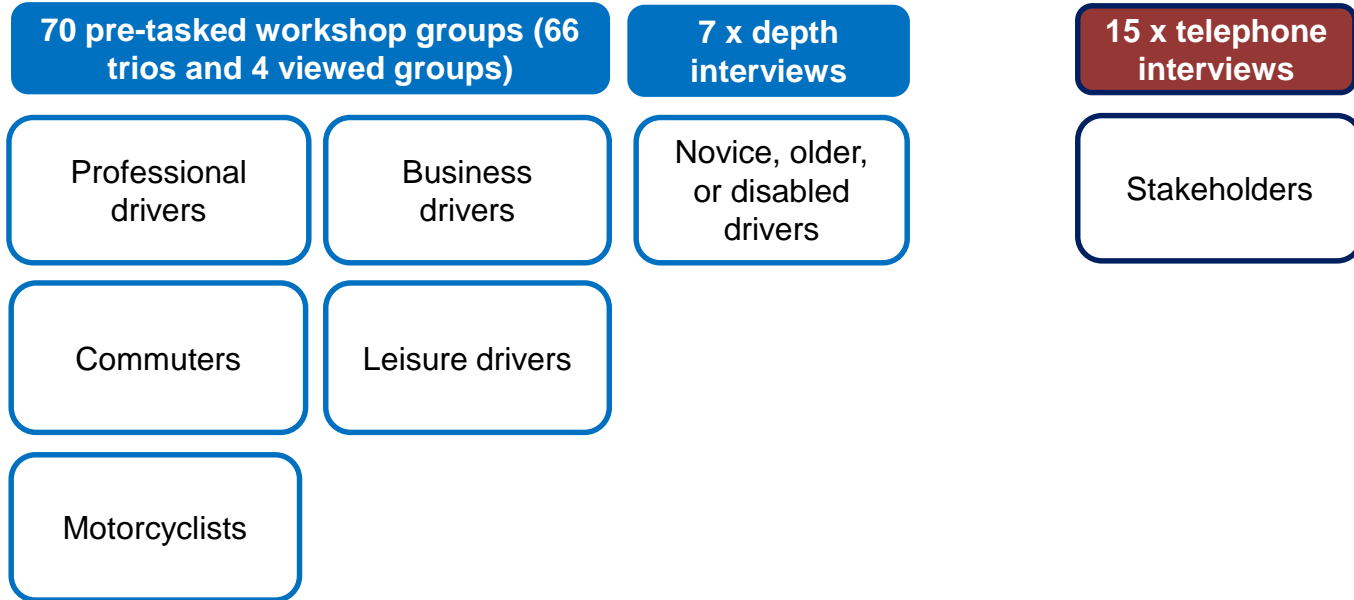
1. Introduction

Define research & insight

Project context

- Previous research has included some investigation into the information available to road users when planning and making journeys on the SRN

- Research is needed to explore the various ways in which SRN users access and use information at all stages of their journeys, and how this changes depending on various factors such as time of day, type of journey and type of driver

- This project investigates this issue in depth, and was led by Transport Focus working in partnership with Highways England and ORR

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Overall research objectives

- **Overall, the aims of this research project were to:**
  - **Establish the information needs of road users at all stages of their journeys, including what is currently used and where there are gaps in the information provided**

- **The specific objectives of the research were to understand:**
  - **A. The current situation**
  - **B. Road users' needs and expectations**
  - **C. Information sources**
  - **D. The future of information provision**

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Sample: Overview

70 pre-tasked workshop groups (66 trios and 4 viewed groups)

7 x depth interviews

15 x telephone interviews

Professional drivers

Business drivers

Novice, older, or disabled drivers

Stakeholders

Commuters

Leisure drivers

Motorcyclists

Fieldwork evenly split across 7 SRN areas for non-stakeholder interviews.

Examples of pre-task materials sent

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Many thanks for taking part in this research about the information needs of road users. We would like you to complete a short task **before we meet**. Specifically, we'd like you to complete a multimedia 'diary' about your information use when making journeys on motorways and major A roads (trunk roads).

We would like to know about the information that you look for and use **before, during and after** journeys on these roads. It would be helpful if you could create records for **two types of journey**:

1. One that went **as planned**
2. One which involved **unexpected disruption** (e.g. accidents, roadworks, unexplained delays, unexpected congestion etc.) (If you don't end up having a disrupted journey, no problem – we'll ask you in the research session to think back to a time when you did!)

These two journeys would ideally be the same route, but taken on two different days.

To create your multimedia diary, you will need to do the following:

1. **Keep written notes** on any road information you use **before** your journey (if any). This might include looking up directions online, using a traffic website to check the roads before you leave, programming a sat-nav, setting a radio station to give you traffic updates etc.
2. Make notes where possible of information you use **during** your journey (if you travel with a passenger, they can help with this!). This might include traffic reports on the radio, info from a sat-nav, road signs on the road, electronic information displayed on motorway bridges – or anything else!
3. **Take photographs** of your information-seeking before journeys and, if you are travelling with a passenger, get them to take a few photos of information you encounter **during** your journey!
4. If possible, make some **short videos** of your encounters with information on these journeys, but **only if you are accompanied by a passenger** who is able to take the footage. Safety on the roads is paramount, and videos should only be taken by passengers to avoid distractions.

If you complete this diary, you will be given a 'thank-you' of £20, on top of the £40 that you will receive as a thank you for taking part in the interview.

Please send your photos and videos in advance of the interview session to camille@defineinsight.co.uk. Please also **bring your written notes** along to the interview, as these will form part of the discussion.

If you have any questions about the research, do please get in touch with us using the contact details at the bottom of this page, or email Camille Mulcaire at camille@defineinsight.co.uk

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Journey 1 Diary Notes

Pre-journey	Where I was going?	
	Where I looked for information?	
	How useful was this information out of 10?	/10
During the journey	What information I saw?	
	How useful was this information out of 10?	/10
	Anything that was less useful?	
After the journey	Any actions taken after the journey? (E.g. providing feedback on the information you saw)	

Journey 2 Diary Notes

Pre-journey	Where I was going?	
	Where I looked for information?	
	How useful was this information out of 10?	/10
During the journey	What information I saw?	
	How useful was this information out of 10?	/10
	Anything that was less useful?	
After the journey	Any actions taken after the journey? (E.g. providing feedback on the information you saw)	

Stimulus

- Pre-task multimedia diary notes

- List of types and sources of road information

- Highways England and Scottish branded sign ideas

- Example pictures of French local boundary signage

- Highways England and Scottish branded sign ideas

- Highways England role explanation text

2. Summary of findings

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Summary of key findings

- Journey type is a key differentiator in terms of how information is used before, during and after a journey – particularly **familiarity with the journey** and **knowledge of the route**
  - This affects whether or not journeys are typically **planned**, and whether live traffic information is sought **during** a journey

- **Google Maps** is the most commonly used service across journeys – it is used to plan routes, give directions while driving and provide live traffic updates, making it one of the few platforms/services that is fit-for-purpose across the whole process of a journey

- Road users and stakeholders are generally happy with the **amount and quality** of information provided on motorways, when traffic is flowing well. Issues are identified with:
  - Amount of signage on **A roads**, particularly in non-south-east SRN locations
  - Amount of information provided during **disruption** – information (esp. on gantries) can be seen as inaccurate or out of date, which means it is **not always trusted**

- The **future** of road information is envisaged to be more **bespoke, tailored** information provided at an **individual** level, based on **user preferences** and **specific journey requirements**

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3. Contextual factors

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Most road users in this research sample represented more than one 'driver type'

- When discussing how they use information at various points of journeys, most respondents could comment from more than one perspective, e.g:
  - Pro drivers, business drivers and motorcyclists in the sample also **drove cars**
  - All non-leisure drivers also undertook **leisure** journeys
  - Some niche drivers (disabled, younger) were also **commuters**
  - Only exception in this sample was some leisure drivers, who **only drove for leisure** (esp. retired)

- Respondents were easily able to articulate and differentiate **how their information-use could vary** depending on the type of journey undertaken

If I'm going to be going a route in my car which is really busy I choose to go on my bike [Motorcyclists, 21-40, Slough]

It depends if you're in a rush, doesn't it. If you're just going somewhere social, then you're not too fussed [Leisure Drivers, 21-40, Newcastle]

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Other factors (aside from road user type) could also affect how and when information was used across a journey

- Respondents were also able to articulate how their use of information could vary according to the **type** of journey they were making, e.g.:
  - **Regular** (a well-known journey) versus **not regular** (meaning lack of familiarity with the route overall)
    - For regular journeys, whether or not **alternative routes** were known
  - **Long** journeys versus **short** journeys
  - Journeys with **no time pressures** versus journeys that were more **time-critical**

- Additional factors included:
  - Respondent age: Older (approx. 50+) v younger
  - Adverse weather (esp. for motorcyclists)

I use Google Maps the night before particularly if it's a long journey. If it's one I do all the time, I don't [Business Drivers, Bournemouth, 31-40]

I think about the weather conditions. That's just being a motorcyclist, I think [Motorcyclists, Leeds, 40-70]

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For most road users in the sample, Highways England sat below the radar as a source of road information

- For most respondents, the main focus was on **whether a journey ran smoothly**, not on who provided information about journeys

- Highways England was more at the forefront of these drivers' minds as **the body responsible for the condition of the roads** rather than as a **source of road user information**

- After discussion, it made sense to respondents that HE was responsible for gantries and other road signage
  - However, this was not something most had ever previously even thought about, so was not often **spontaneously** raised when discussing information sources and use

- Respondents showed similarly low awareness of HE's **online offerings** (website, app)
  - Competitor offerings (esp. Google Maps) were more widely known and used
  - Although some professional drivers within this sample were an exception and reported using HE offerings as their primary source of road information

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However, stakeholders involved in provision of information used Highways England data extensively 1

- Information distributed by stakeholders (and others in their industry) to road users covered **both push and pul**l information, and included the following:

  - Real-time navigation and traffic information (e.g. TomTom and Teletrac Navman TrafficMaster) – typically used during journeys

  - Route plans and overviews (e.g. AA Route Planner and AA App) – generally used pre-journey

In terms of general traffic updates, we direct them [coach drivers] to the Highways England site. Beyond that, I know some of them use other sites – the AA one, I think, seems fairly popular. [Stakeholder, Coach]

They're [HE] massively important. There could be catastrophic effects otherwise. Companies could lose millions (mainly due to fuel costs being stuck in traffic for hours). We do 7 or 8 miles to the gallon. And that's bad for the environment [Stakeholder, freight and logistics]

One of the biggest drivers of volume to our website is actually the AA Route Planner. So, people are going online to pre-plan a journey [Stakeholder, Information Distributor]

Define research & insight

However, stakeholders involved in provision of information used Highways England data extensively 2

- In providing services, several distributors notably used Highways England data:
  - TrafficMaster (Teletrac Navman) reported a two-way relationship with Highways England: it draws on their network of in-road sensors, but also sends historical data gathered by vehicles back to Highways England
  - TomTom reported receiving information directly through Highways England's National Traffic Information Service – stakeholder described them as a 'conduit' that filters and disseminates HE data to drivers in a user-friendly format

- On this basis, these stakeholders identified a clear role for HE as an indirect information provider: HE provide data to the distributors, who then pass that information on to road users

Highways England have a network of in-road sensors…and we have some access to that kind of data. We also have a relationship where we're providing Highways England…with historical traffic data [Stakeholder, Information Distributor]
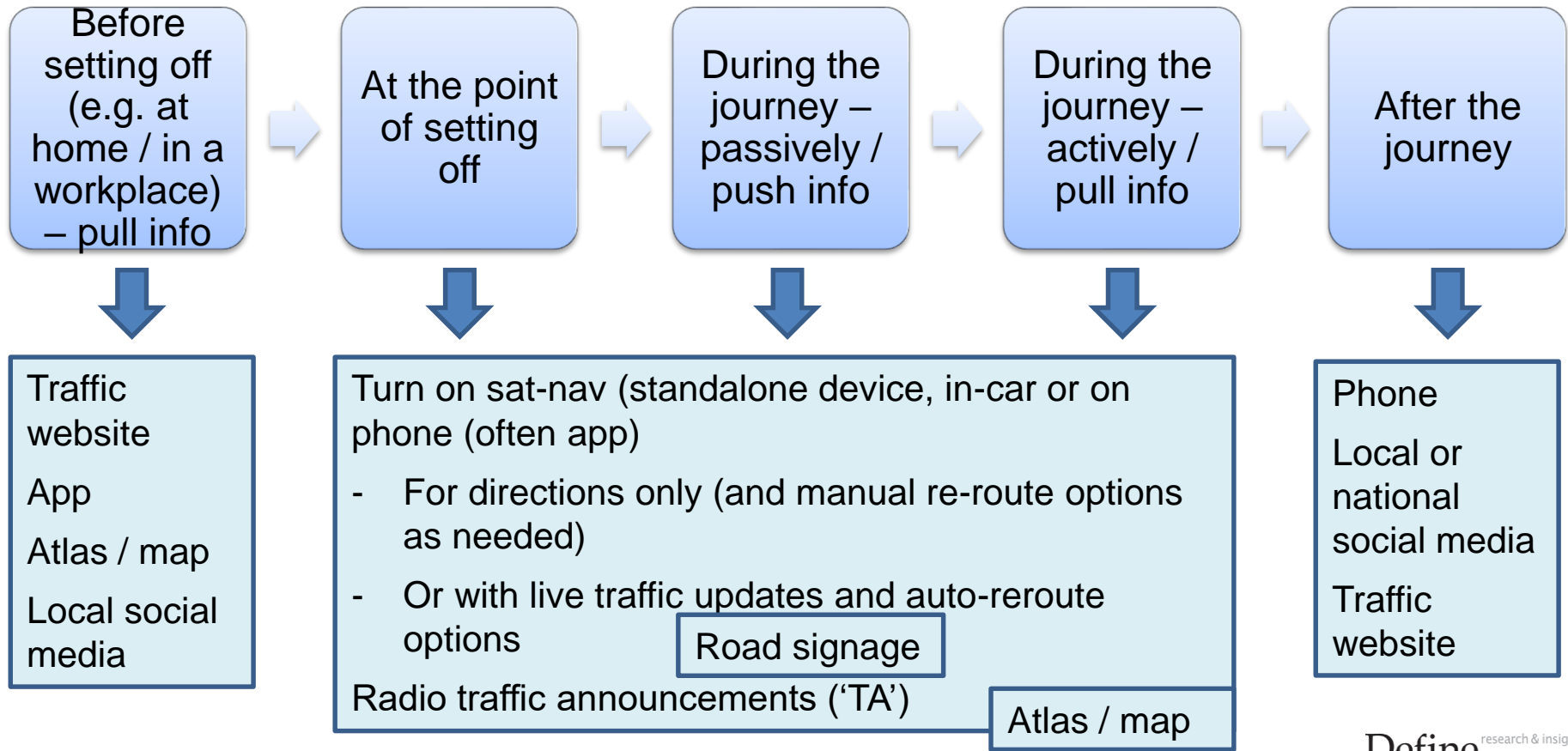
We are a conduit, basically. We disseminate Highways England information in a more useful, understandable and personalised form [Stakeholder, Information Distributor]

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4. Information sources used at various points of the journey (road user and stakeholder data)

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Overview

- Before the research sessions, road user respondents were asked to map out one or two typical journeys (one with disruption and one without) in terms of what they did before, during and after each journey (the pre-task)
  - They were asked to list all information sources they used at each stage of the process
- During the research sessions, respondents were asked to expand on these
  - To explain their reasons for each part of the process (e.g. why they had chosen to use a particular information source over other alternatives)
  - To explain how they had used each source (e.g. if using Google Maps, whether this had been used to find a route, to check traffic information in advance, as a sat nav during a journey etc..)
- This section sets out findings from the above, in terms of
  - Planning a journey – process and information sources
  - Travelling on a journey – information sources used under different circumstances; what drives these
  - After a journey – any further sources used

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Journey stages at which information might be used and types of information typically used

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│ home / in a │     │    off      │     │  push info  │     │  pull info  │     │             │
│ workplace)  │     │             │     │             │     │             │     │             │
│ – pull info │     │             │     │             │     │             │     │             │
└─────────────┘     └─────────────┘     └─────────────┘     └─────────────┘     └─────────────┘
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Before setting off (e.g. at home / in a workplace) – pull info

Traffic website

App

Atlas / map

Local social media

At the point of setting off / During the journey

Turn on sat-nav (standalone device, in-car or on phone (often app)

- For directions only (and manual re-route options as needed)

- Or with live traffic updates and auto-reroute options

Road signage

Radio traffic announcements ('TA')

Atlas / map

After the journey

Phone

Local or national social media

Traffic website

4a. Information sources used <u>planning</u> a journey

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Planning a journey in advance: Overview

- 'Planning a journey in advance' refers to using information sources before a journey
  - At some point before leaving the house / workplace
  - Some individual variation in how long before setting off a journey is planned – typical range is from night before, to immediately before setting off

- Two typical reasons for planning a journey emerged across research respondents:
  - To find out the best route to take / get directions (may be done any time before setting off)
  - To find out about disruption on the route (typically done just before setting off)

- Most respondents reported journey planning for some types of journey and not others, and were able to articulate **why** this was the case, and **how** it varied

I plan my route before I leave, and I'll have a look at alternate routes sometimes. So, I think pre-planning is the most important thing for me [Professional Drivers, Nottingham, Large]

I want to understand what the roads are like, and that's at least half an hour before I leave [Commuter Drivers, 41+, London]

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Planning a journey in advance: When and why journeys were planned

Planned journeys included:

- All types of **unfamiliar leisure journeys** – for checking the route, estimated travel time etc.
    - Both **short and long** journeys were usually reported to be planned if the route was unfamiliar
    - Rush hour was typically avoided where possible
- **Unfamiliar work journeys** where only **one journey** was being undertaken in a day – for checking travel times and traffic conditions
    - Within this sample, these included professional drivers, motorcyclists, business drivers, commuters attending an off-site meeting or event etc.
- Occasional comment from disabled drivers about **additional planning needs** related to their disability
    - E.g. knowing where services were located along the route, availability of parking at destination

I always plan because for the A roads and motorways I need to know what the services are. With MS, if I need to go to the toilet I've got about a minute to find a toilet [Depth, Disabled, Slough]

If I'm going a long way, I'll go on Google Maps and put my destination in. It shows the best route and it shows the traffic as well [Leisure Drivers, Nottingham, 65+]

I'll go on the computer and have a look on Google Maps … Especially if it's somewhere I've not been before [Professional Drivers – Large Vehicles, Manchester]

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Planning a journey in advance was particularly important for motorcyclists

Motor-cyclists

- Particularly important for motorcyclists in this sample to get general directions in advance of unfamiliar journeys

I use Google Maps before. I can't use anything during; I can only prepare for what's happening currently [Motorcyclists, 21-40, Norwich]

I might print off a map, like, a Google Map, so that I've got something [Motorcyclists, 21-40, Newcastle]

- They cannot use a sat-nav while travelling (unless they own a helmet with specialist in-visor technology, which was reported by only one respondent from this sample)
  - Consequently, many aimed to memorise their route as far as possible
  - Some also printed out a map as backup

I'm a meticulous planner, I usually plan the night before [Motorcyclists, 41-70, Brighton]

- However, motorcyclists reported being less likely to need to check in advance for disruption on the route
  - Ability to filter through traffic meant this was less of an issue than for drivers of other vehicles

If I'm planning, I'll go most direct, because if I'm on my motorbike I can filter through the traffic anyway [Motorcyclists, 41-70, Bournemouth]

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Other types of road user also planned slightly differently

Business and leisure drivers

- Business drivers and leisure drivers on unfamiliar routes sometimes reported checking a route a day or more in advance to see roughly how much time it would take and what the route was
  - They would also check traffic conditions before setting off

Pro drivers

- Professional drivers of small vehicles (e.g. couriers, paramedics) and business drivers with multiple appointments did not often plan their entire day's driving in advance
  - Multiple journeys in a day (some unknown at start of day) meant that it was impossible to plan everything
  - Where possible, some planned for certain times or places, such as avoiding school areas at school drop off/pick up times
- Instead of advance planning, reported 'just in time' planning – checking next journey at point of finishing previous one
- Some HGV drivers checked with clients before setting off – e.g. about any access issues for their vehicle at destination

I use my phone or the TomTom to plan each journey as I'm setting off [Professional drivers – large vehicles, 41+, Bristol]

We get the customer's contact details and check with them before we set off [Professional drivers – large vehicles, 41+, Bristol]

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Planning a journey in advance: When and why journeys were <u>not</u> planned

Other unplanned journeys

- **Regular / familiar** journeys, e.g. a **daily commute** (by car or motorbike), some leisure trips, any journey where surrounding local roads were known

- Any work journey where routes were **dictated by company** (some HGV drivers; coach drivers)

- Some **motorcycle leisure journeys** (often on country roads rather than the SRN) were deliberately not planned in advance (except for very basic directions)

    - Getting lost can be part of the fun

I know the routes fairly well so I don't need my sat-nav or anything [Depth, Parkinson's, London]

If I know the way, I won't check anything [Commuters, 41+, Bristol]

I'm terribly disorganised so I don't know if a road is closed or not. It's just something I find out when I get there [Motorcyclist, Bournemouth]

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Overview of information sources that may be used to plan a journey

To get directions and to get traffic information (checking for disruption)

Fewer mentions ← → More mentions

Occasional mention – social media, local TV news

Apple Maps

Waze

Google Maps

AA / RAC websites

HE website or app

Radio TA

Paper maps and atlases

Blue box – used to check directions only
Purple box – used for traffic information only
Black box – used for either or both

Define research & insight

Example images from respondents' pre-tasks - Planning
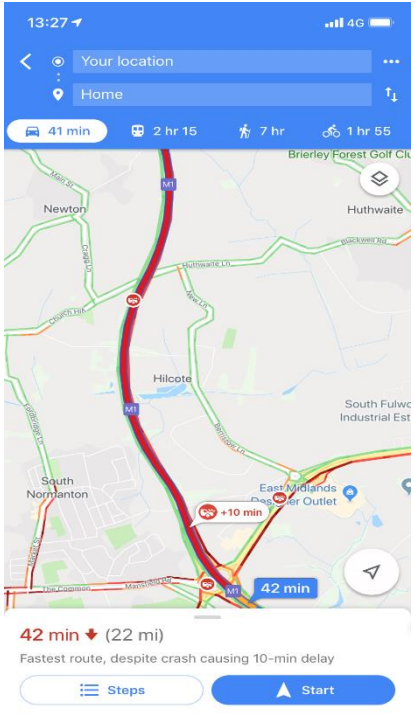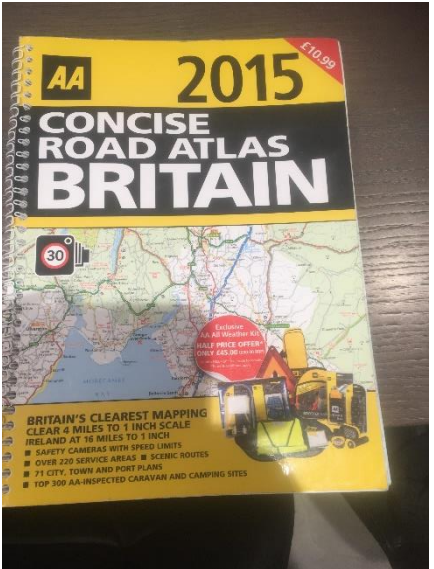
Google Maps was mentioned by many respondents as their key information source

In the morning I can get up and just put up in Google Maps where I've got to be and it calculates all the times and distances so I know when I've got to leave [Business driver, 31-40, Bournemouth]

- **Easy to use** and **familiar**

- Seen as **reliable** and **trustworthy** with **up-to-date** traffic information (local and en-route)
  - Shows different route options with distances travelled and estimated times of journey, all on one screen
  - Also has weather information (particularly important for motorcyclists)
  - Can be used as an app or website

- Overall, most appreciated by those who valued an **easy, basic interface**

Google maps has got to have ten out of ten. Because it's an actual oracle in your pocket [Motorcyclist, Notts]

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Google Maps was often reported to be used for the entire journey, not just for planning

I check Google maps. The traffic might have changed. It gives you audio as you go along [Commuters, 41+, Bristol]

- Google Maps can be used both as a **planning aid** and a **sat-nav with live traffic information**

- Multiple options for using in-car
    - Can be connected to in-car screen via **Bluetooth** or **USB cable**
    - Or used on phone in a dedicated **holder** placed on dashboard

- **Street View option** was sometimes reported to be useful as a trouble-shooting aid for those on an unfamiliar journey
    - Can look at panoramic imagery of their destination, or points along the route
    - Particularly useful for some HGV drivers in the sample, e.g. advance warning of narrow roads, parking restrictions, tight corners

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Apple Maps had a role for some respondents

I've noticed that when I program Apple Maps to go somewhere and I know the first part of the journey it does make me quite often go the long way round [Depth, Parkinson's, London]

- A similar offering from Apple was reported to be less widely used within this sample (all audiences)

- Some younger respondents were more positive towards Apple Maps:
    - They specifically liked the ability to sync with other Apple devices (seen as a USP and appreciated by some Apple fans)
    - However, this functionality was less appreciated by those who do not use other Apple devices in this way

- Some iPhone owners had consequently chosen to download Google Maps despite having Apple Maps app built in
    - In these cases, familiarity with Google and its consequent perceived ease of use were the key drivers to use

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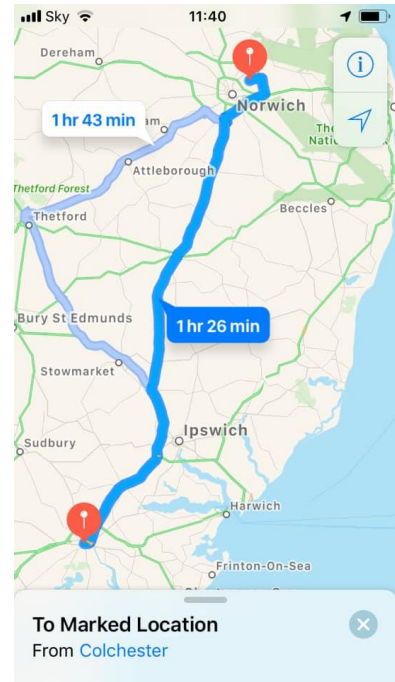
Waze was less well-known so less widely used by respondents in this research

OUTSMARTING TRAFFIC, TOGETHER

- Some respondents who had tried **Waze** considered it to be the best travel app
  - Similar **functions** to Google Maps – offers an end-to-end app that can be used to plan, then undertake, a journey
  - Similar **in-car connectivity** when used as a phone app

- Also known that it is **community-based**, with drivers generating the real-time information – this was sometimes assumed to mean it was more accurate than other offerings
  - Some drivers enjoyed contributing to Waze with their own updates – feeling of helping others have a better journey, just as they had been helped
  - Others used Waze passively and did not contribute
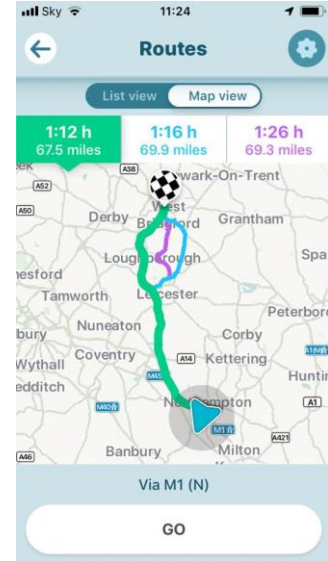
It's people helping people – you're doing everyone else a favour, so it has a positive impact [Motorcyclists, 21-40, Slough]

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Those who used Waze tended to value the additional functionality

- Waze was seen as having **more detail / functionality** than most other offerings, which appealed to some (more men, more younger)
  - Offers info on real-time road **closures**, road **hazards**, **traffic alerts** and real-time traffic **conditions**
  - Could be particularly useful for some **HGV drivers** in the sample
  - More **customisable**, particularly when being used as a sat nav (e.g. different voices)

- Perceived to therefore offer a tailored journey

Alert Types

- Hazard
- Chit chat
- Traffic
- Police
- Accident
- Alerts from other providers
- Red light cam
- dummy speed cam
- Speed cam

*On Waze if you're in an accident spot you can tap a thing to say there's an accident* [Motorcyclists, 21-40, Slough]

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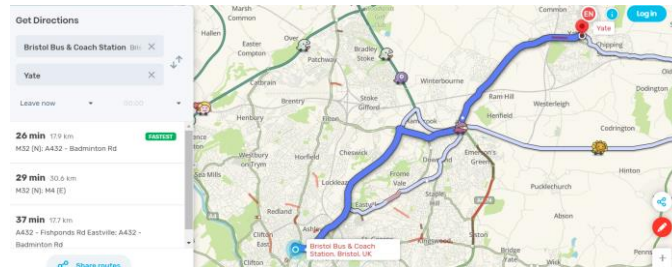
Some older respondents still reported using paper-based information and the radio when planning travel
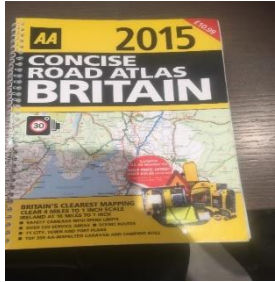
- Some of the oldest respondents (70+, leisure drivers) preferred to still use **atlases and maps** for longer or unfamiliar journeys
    - Grew up using these and saw no need to change
    - Took pride in knowing **how** to read maps (seen as a vanishing ability)

- Other older respondents (typically 50-70, typically leisure drivers travelling with a passenger) used an **updated** form of atlases / maps
    - Used **AA / RAC route planner websites** to plan journeys, then printed directions (NB – a few other respondents across audience types within the sample also did this)
    - Used these sites due to **legacy**, and **credibility** of the organisations behind them

- Older people (leisure drivers) were also more likely to report using the **radio** when planning a journey
    - Radio often on at home, so may listen out for traffic announcements

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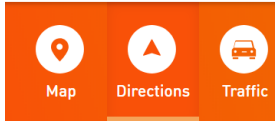
Occasional mentions of other planning tools across respondents

I saw a post on Facebook that there'd been a crash on the A47, and that was quite useful because I wouldn't have picked it up on my sat-nav until I got there [Depth, New Driver, Norwich]

- **Social media** – e.g. Twitter feeds and (for professionals) driver forums on other platforms
    - Social media used increasingly by **coach drivers** as a road information tool

- Highways England **displays at services**:
    - Information on road closures, road speeds etc..

- **Emails** used by some **professional drivers**, e.g.:
    - The **Confederation of Passenger Transport** emails its members to update them about major projects on the network that are likely to cause disruption
    - The **Freight Transport Association** sends regular email updates to its members, across the day

- Other anecdotal mentions, esp. by professional drivers, of work-based planning systems

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Logistics and freight stakeholders referenced additional dedicated planning tools

- **Routing and scheduling** system, used in planning

- **Telematics** system used for routing and scheduling

- The **Freight Transport Association** utilises INRIX data, then passes on to members
  - Includes information on **real-time traffic conditions and incidents** on the roads
  - INRIX also delivers road information back to freight operators

- The **Road Haulage Association** has a group to provide information on disruptions across Europe

We've got Microlise. Work provide it [Professional drivers – large vehicles, 41+, Bristol]

If you take our current service to our members, our INRIX service…INRIX take the data and turn it into a journalistic form, as they do for the BBC – it's a similar sort of approach. We currently get that out in email form and as a web page as well [Stakeholder, Freight]

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Define

Low awareness of HE's online/app offerings from most road users in the sample

- Although there was some awareness of the HE website and app, **low usage** of these was reported across research respondents
  - Of those who had seen either the website or app, a general perception of these being **less user-friendly** than other offerings was reported
  - Information for the whole country is in one place, so users were required to to search for their route or area

- Slightly higher awareness and use of Highways England's **Twitter account** was reported across respondents
  - A few mentioned using HE's Twitter account to discover the cause of disruption

[spont] Sometimes I go on the Highways Agency to see if the road's closed. It's not that user friendly. It's everywhere and you've got to zero in on where you're going [Leisure drivers, 35-60, Manchester]

We're finding that the Highways Agency aren't updating it enough to know what's going on [Professional drivers – large vehicles, 41+, Bristol]

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Some professional drivers were more active users of HE offerings

- Highways England website was checked by some coach drivers for traffic conditions, both prior to setting off and during the journey (e.g. when stopping at services)

- Some also used Twitter during disruption
  - Both to report disruption and get information back from HE about causes and likely delays

- The Confederation of Passenger Transport actively encourages its members – both drivers and operators – to use the HE website for traffic updates (information seen as accurate and authoritative)

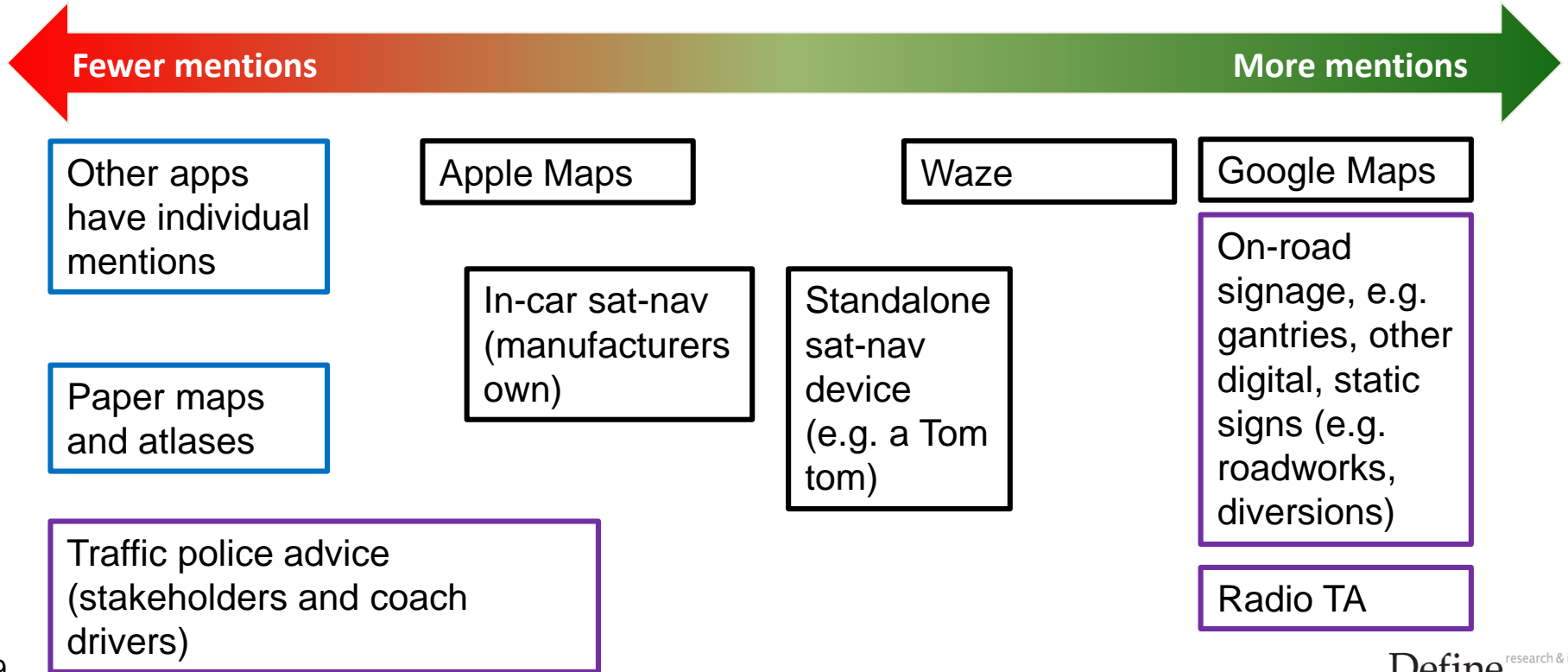*The Highways England maps are provided to us by work* [Professional drivers – large vehicles, 41+, Yate]

I've used the Highways England Twitter coming back from London on the A11. They were quite good actually and quite quick. We were queued up for an hour and a half, and the Twitter account was really good, letting them know and then getting information back [Professional Drivers - Large Vehicles, Norwich]

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4b. Information sources used <u>during</u> a journey

Define research & insight

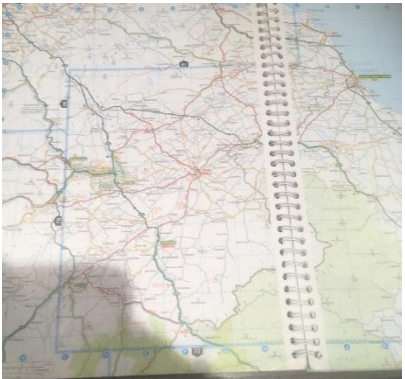# Overview of information sources that may be used during a journey

Similar sources to those used when planning a journey, with the addition of sat-nav devices and on-road information

Fewer mentions ← → More mentions

Other apps have individual mentions

Apple Maps

Waze

Google Maps

In-car sat-nav (manufacturers own)

Standalone sat-nav device (e.g. a Tom tom)

On-road signage, e.g. gantries, other digital, static signs (e.g. roadworks, diversions)

Paper maps and atlases

Traffic police advice (stakeholders and coach drivers)

Radio TA

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Define research & insight

Two types of information source could be used during a journey

Push information

- Information that is **delivered** to road users without their input
    - E.g. **all road signage**

I'd just keep an eye on the road signs [Commuters, 41+, Bristol]

Pull information

- Information that users **actively seek**, e.g. traffic announcements (TA button on radio, traffic information function on sat navs)
    - Used selectively, with some individual variation (e.g. some people who always turn sat nav on, some who only turn on for certain types of journey)

I always put the TomTom on automatically. It takes a while to find the signal, so if I hit unexpected traffic or have a brain fart and forget where I'm going, it's ready to use [Commuter, 21-40, Notts]

I'll use Waze if I'm not sure of the route but if I know the roads, I won't bother obviously [Business driver, 21-40, Notts]

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All respondents used push information in the form of road signage

Road signage

- **Road signage push information** includes gantries, other digital displays, static road signs, diversion signs and road markings
- Known to deliver various types of information, e.g.:
  - **General road information**, e.g. time / distance to next junction or services
  - **Nearby disruption** – e.g. roadworks, lane closures, diversions, accidents, incidents, congestion etc.. and whether there is an associated delay
  - More **serious disruption further afield**, e.g. motorway or major A road closures, severe delays
  - **Forthcoming disruption**, e.g. planned roadworks, road closures or major events
  - Relevant **current warnings**, e.g. risk of ice, salt-spreading, debris on road
  - **Temporary speed limits** associated with any of the above

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Push information about <u>disruption</u> was generally seen as useful, but (by definition) limited

- Respondents found this type of information useful for **informing** them that an incident / event had occurred
    - This helped to give them a **sense of control** over their journey
    - The main limitation was seen to be the lack of suggestion about the **best course of action** to take (beyond the basics, e.g. 'seek alternative route')

- They reported that such information often acted as a **trigger** to **seek further information,** tailored to their own journey
    - E.g. **considering alternative routes** and **making informed decisions** based on own preferences (e.g. sitting in traffic for a shorter distance versus 'staying on the move' via a longer diversion; stopping at services etc.)

- Respondents also noted that push information worked best for them when it was **accurate** (up to date) and was delivered in a **timely** manner (i.e. before road users encounter the disruption, at a point when they have choices about which action to take)

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Traffic announcements on the radio could complement on-road signage about disruption

Slightly higher levels of detail about reasons for traffic disruption + focus on **different areas**, both within and outside the SRN

I'd listen to the local radio, for hold ups. It's very useful. They tell you where the hold-ups are so you can adjust your journey [Depth, physical disability]

- Local radio details all major road disruptions in the surrounding area
  - If a road user is exiting the SRN nearby, gives information that may not be reported on motorway or major A road signage
  - Especially useful for areas of the SRN with less digital signage (e.g. some Northern locations, some East of England)
- National radio reports major motorway and A road disruption all over the country
  - Can be relevant for those on long journeys (esp. if passing through SRN areas with less digital signage)
- However, timing is key – relatively low frequency of traffic updates mean that they may not be sufficiently timely to be useful

I put Heart Radio on when I was stuck in traffic, to listen for updates [Professional drivers – large vehicles, 41+, Bristol]

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Coach drivers and stakeholders additionally identified Traffic Police updates as important

Traffic police updates

- In addition to radio traffic announcements, traffic police advice and instructions were reported by some **professional drivers** as important, particularly in the event of a **road incident**

  - Identified as particularly important for drivers who are prohibited from using sat navs in their vehicles for safety reasons (e.g. National Express coaches)

- Seen as a **credible and trustworthy** source of road information

  - One coach sector stakeholder was aware that traffic police have, on occasion, given **tailored information** to coach drivers (e.g. to take an alternative route to the standard diversion for other cars)

> [Who do coach drivers trust] *I would say, obviously, from National Express themselves or their own operator...Or their colleagues, or people like Highways Agency Staff and traffic police because they know what they're saying – it's a trusted and reliable source of information* [Stakeholder, Coach]

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Some professional drivers reported being sent additional information during journeys via a workplace control centre

Sharing information

- **Central Control teams** (e.g. National Express coaches central control team) – were reported to pass relevant messages directly to drivers during journeys
    - Similar system mentioned by one paramedic
- These teams were reported to **edit and filter** relevant information to drivers, allowing the latter to focus on information presented on the actual roads (e.g. road signs and diversions)
- Control teams were perceived to be **reliable and highly trustworthy sources** of information by coach and HGV drivers – the interactive, 'human' element was key here

I know that, over at our control towers…they feed back information to drivers all of the time. They use mobile phones and in-truck audio systems. And they also use on-board cameras, as well as position-finders and that kind of thing [Stakeholder, Logistics]

We have a separate Control Team that are passing messages to drivers on the real-time conditions that they're going to face now. They'll, say, call a driver as he's going into Bristol and say 'oh, there's an accident on the motorway between this junction and this junction, and you'd be better off diverting via…' [Stakeholder, Coach]

Define research & insight

Use of pull information mainly varied according to type of journey and individual preference

Pull information

I put the satnav on if the route changes, but usually I don't need to 'cause I know the roads [Professional drivers – large vehicles, 41+, Bristol]

- Very varied approach that depended on user preferences (e.g. whether or not to sat-nav or app switched on)
- Key triggers for accessing pull information **at the point of setting off,** included:
  - A non-regular journey (all journey types where route and likely traffic are not known)
  - A time-critical journey
  - Adverse weather at the point of setting off
  - Awareness during prior planning of disruption - need to monitor how traffic conditions are changing in real time
- The key trigger for accessing pull information **during a journey** was reported to be awareness of unexpected disruption (e.g. encountering stationary traffic, seeing advance notices on gantries, TA on radio)

I think you feel more in control about things if you're actively seeking the information rather than dependent on road signs and things [Business Drivers, 41+, Norwich]

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Apps and sat-nav systems fulfil the same function when on a journey, so are seen as largely interchangeable

App

✔

No cost (all free)

Portability

In-car connectivity

✘

Reliance on an internet connection – occasional issue in remote areas

Sat nav system

✔

Reliable satellite connection

✘

Cost – subscription for in-car sat nav

Cost to update maps on dedicated device

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4c. Information sources used <u>after</u> a journey

Define research & insight

Overview of information sources that may be used after a journey

Only a minority respondents report using information after a journey – the majority do not

Fewer mentions ← → More mentions

Posting on HE's Twitter (complaint or update)

Updating Waze

Reporting disruption to others by phone (control centre / friend / family / colleagues)

Using Google to find out about cause of disruption - personal interest

Going online (Google or professional body e.g. FTA) to find out about cause of disruption – need to justify / explain delay (some pro and business drivers)

Posting on other social media (e.g. local community FB page)

Orange box – informing others about disruption
Pink box – finding out more information

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Example images from respondents' pre-tasks – Post-journey

Define research & insight
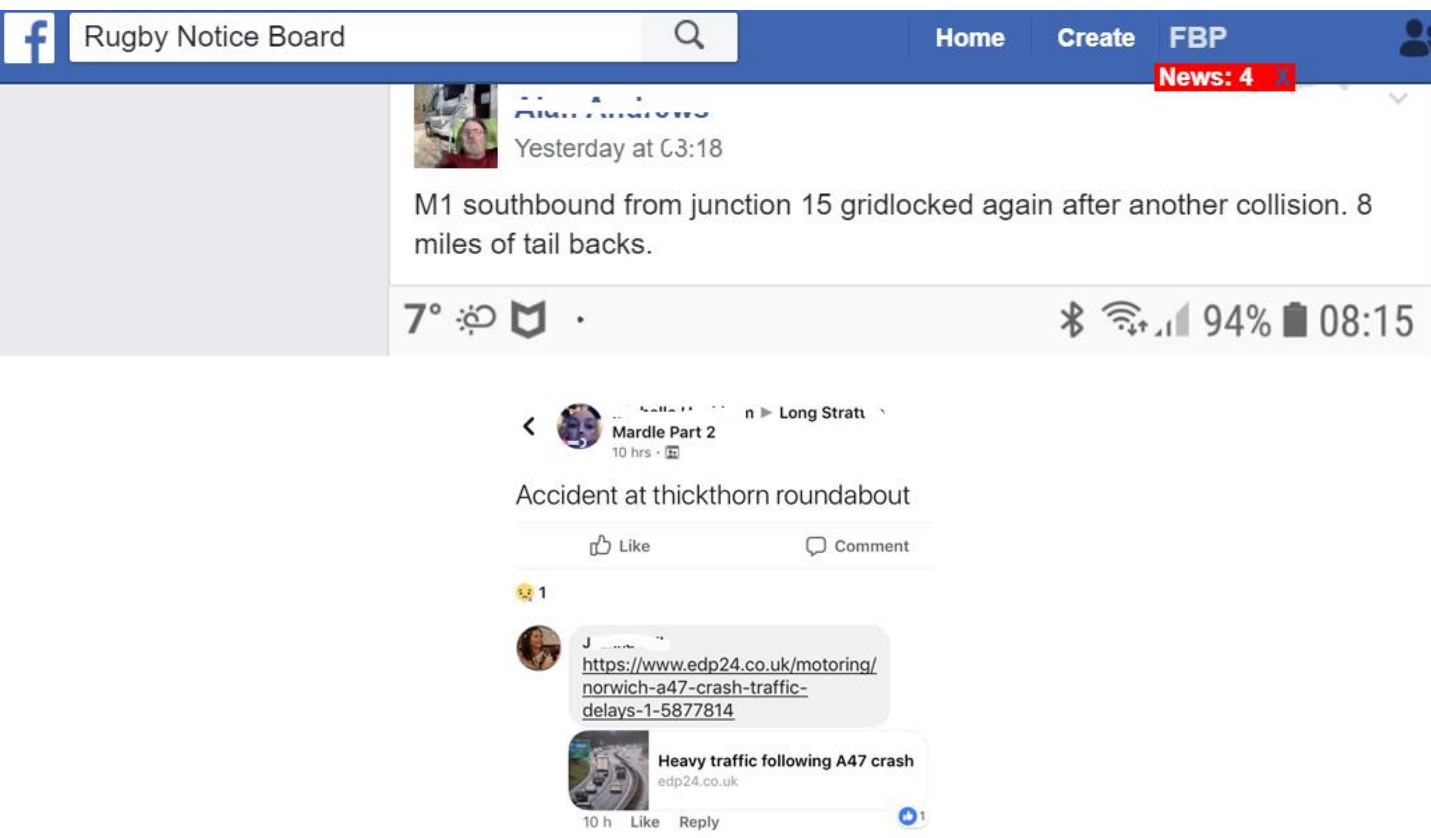
The majority of respondents rarely reported seeking or use any information after a journey…

- A few reported **contacting** friends / family / colleagues / control centre / local social media page to **warn about unexpected disruption**

- Occasional mention of looking up details of the accident / incident due to personal interest

- However, most had little interest in providing more general feedback – sense that once they had arrived, they preferred to **forget a disrupted journey** as quickly as possible

I might comment on Facebook to say avoid that road, it's a nightmare [Business drivers, 21-40, Bristol]

If there's been anything unusual on the journey then I'll sometimes Google 'What happened on the M1 tonight?' because I can be a bit nosy. It's normally for something unexplained, if there's been a delay for no apparent reason [Depth, Parkinson's, London]

I never hit the button on Google Maps [to give feedback], but maybe I should [Commuters, 41+, Bristol]

I might put it on my snapchat if there's been an accident or whatever. You do get people on there that live local that put things on [Business, driver, 31-60, Notts]

Define research & insight

- Detailed post-journey information on the **nature of delays** could be more important for freight drivers and operators and some business drivers.

  - **Business interests** were a key factor, due to the need to explain the nature and length of a delay to clients

  - E.g., the **Freight Transport Association** provide members with post-journey information regarding when and where incidents have taken place

If I'm half an hour late for a meeting, I need to be able to ideally let my customer know in advance, and to be able to explain it when I get there [Business driver, 21-40, Notts]

[FTA's provision of post-journey information regarding when/where incidents took place] That's becoming a little bit more of an issue, simply because, if you've got a freight operation and, for some reason, you're unable to deliver, you're quite likely to be either subject to some financial penalty or your competitiveness comes into question and you could lose contracts [Stakeholder, Freight]

Define research & insight

5. Road user and stakeholder satisfaction with current Highways England information-provision

Overview

- As part of the research sessions, respondents were asked about the amount and quality of information provided by Highways England, i.e. push-information that included:
    - Gantries and other mobile digital signage
    - Static signage
    - Provision of leisure information e.g. additional signage about nearby tourist attractions / places of interest; boundaries information
    - Advance information about events / disruption (e.g. planned works, road closures)

- The addition of branding to static signs, denoting ownership and responsibility for maintenance of the road (i.e. whether the road was managed by Highways England or a local council / similar body)

- This section discusses road user and stakeholder thoughts on the amount of information provided. It then discusses specific perceived issues with the quality of information provided, particularly during disruption

5a. Amount of information provided by Highways England

Define research & insight

When traffic is flowing freely, research respondents were generally satisfied with the amount of signage on motorways

Sufficient information

If you talk to them [coach and bus drivers], most of them don't have any problem with the information that's being delivered or indeed the manner in which it's being delivered [Stakeholder, Coach]

- Almost no-one in the sample felt that there was too **much** information
  - **Gantries and other digital signs** were appreciated for giving **useful, relevant** information in most contexts
  - Information was seen as easy to read and (mostly) did not risk distracting drivers from paying attention to the road
  - Occasional additional information (e.g. weather warnings, speeding warnings) were also seen as relevant and appropriate

- Motorcyclists in the sample particularly appreciated on-road information as they are limited in what other sources they can use on a journey

- The stakeholders interviewed generally agreed that:
  - Information is generally clear, consistent and accessible
  - The amount of road information available is generally appropriate – neither too much nor too little, and is heavily relied on by professional drivers

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Road user respondents and stakeholders identified a relative <u>lack of signage</u> on some A roads

Insufficient information

The signs don't tell you where you are [on major A roads in the local area]. I'd like to see more signs about which road you're on [Leisure drivers, 61+, Bristol]

- Some respondents unfavourably compared the amount of digital signage on A roads with motorways
  - Such respondents called for more gantries and digital signage across **all** major A roads
  - Information about **current location** and warnings about **changing speed limits** were most often perceived to be lacking
- Heard most often from respondents who used more less central areas of the SRN (e.g. around **Norwich,** or **Newcastle**)
  - Respondents reported a lack of signage, particularly modern digital signage, in such areas
  - Particularly when compared with heavy-traffic roads (e.g. M1, M6, M25, other smart motorways)
- Some additionally called for more information about stopping places

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Places of interest

- A few leisure drivers expressed interest in being signposted to local areas of interest along a route (e.g. **rivers, picnic spots** etc..)

    - Other drivers saw **no harm** in including such signs but did not see them as likely to be personally **useful**

    - Others thought they could be **distracting**, or detract from more important road and traffic information

- There was however almost no interest in providing any information about **boundaries**

    - Respondents questioned why this information would be of interest or useful

It might make you think, 'that looks like a nice spot, I might come back here another day' [Leisure Drivers, 61+, Manchester]

I suppose that could be good for tourists. Not for me though [Business drivers, 21-40, Notts]

I think there's quite a lot of that...It could be a bit distracting, I think, if you're busy reading that there's a museum down the road and a library on the left [Leisure Drivers, 61+, Manchester]

Define research & insight

Generally low interest in provision of additional signage on local places of interest 2

Places of interest

- Respondents identified a key issue with provision of additional leisure signage - this was **not** how / when they **naturally seek** this type of information

- Key opportunity for discovering leisure - information (if of interest) was reported to be **while planning a journey**

  - Providing information at (or near) the point of interest was therefore seen **as too late**

  - This might be noted for a future trip, but was thought to be likely to be **discounted** or **forgotten**

That's not how it works. You don't get the kids in the car, set off, then look for signs on the road about things to do with your day. When you've got a toddler, you plan everything!
[Commuters, 21-40, Notts]

I like churches. But if I was going looking for a church, I'd source it out first
[Leisure drivers, 61+, Bristol]

I might spot it I suppose if I was out and about, and I might think of going back later with the family, But really it's not the right time or place [Commuters, 21-40, Notts]

60

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Adding branding to signs to indicate road ownership was not seen as a priority, but generated interest among some respondents

Adding branding to signage

All you need to do is put the Facebook or Twitter symbol on that Highways England logo and then we go, oh. I didn't even know they had a Twitter. Then we'll know we can look it up [Motorcyclist, Bournemouth, 41-70]

- Those in favour thought that additional branding could:
  - More strongly signal HE presence and inform people about who to go to in the case of a question or issue (esp. potholes and litter / fly-tipping)
  - Signal ownership ➔ could make HE or local council quicker to respond to issues
  - Remind people that someone is taking care of the road (e.g. branding on M6 toll)
  - Raise HE's profile and make road users feel more like HE customers (HE currently below the radar as previously mentioned)
  - Denote public ownership, i.e. that the road has not been privatised

Define research & insight

Others could see no advantages in the idea of adding branding, and some highlighted potential negatives

Adding branding to signage

- Some were **neutral** to the idea – for such respondents, the idea did not generate much interest or discussion

- Others were more negative, and noted:

  - The **ease** of finding out who is responsible for a road, if such information is desired – this information was perceived to be freely available online so did not need to be provided on signs

  - The cost of changing signage ➔ replacing signs **unnecessarily** (not seen as the **best use of taxpayer money**)

  - The potential that additional (extraneous) details on road signs could be a **distraction** for road users, particularly motorcyclists

I can't really see the point, it makes the sign busier than it needs to be [Professional drivers – large vehicles, 41+, Bristol]

The only reason that would be helpful is if I was fuming I'd know who to go to. I don't know what could be that bad. You could Google that [Motorcyclist, 21-40, Manchester]

Define research & insight

5b. Quality of information provided by Highways England; unmet needs

Define research & insight

When traffic is flowing freely, most respondents were satisfied with the quality of information on motorways and A roads

- Gantries and other digital signs were appreciated by respondents for giving **useful, general** information, e.g.:

  - Time / distance to next junction or services

  - Warnings of disruption further afield, e.g. motorway or major A road closures, severe delays

  - Forthcoming disruption, e.g. planned roadworks, road closures or major events

  - Relevant current warnings, e.g. risk of ice, salt-spreading, debris on road

Generally it's a good amount. Sensible information, not overloading you [Business drivers, 21-40, Notts]

When there are big events, like Ed Sheeran, it causes loads of traffic. So they warn you about that [Business drivers, 21-40, Bristol]

Define research & insight

A key area of dissatisfaction across users lay in the quality of information provided on road signage <u>during disruptions</u>

- The majority of complaints about information-provision in research sessions were concerned with provision during unexpected delays, due to:

    - Accidents or incidents (over and above general expected congestion e.g. rush hour traffic)

    - Roadworks

- Issues related to:

    - Timeliness / accuracy of information

    - Lack of detail and explanation

    - Poorly signed diversions

    - Lack of advance warning

    - Insufficient provision of sector-specific information

I think, generally, there's a good amount of information about. One slight issue is, sometimes, they timeliness of it. It might be that you've just gone past a key motorway junction, just as the sign comes up to say that a section of the motorway's closed, and you'd have been better off coming off at the junction before that you've just passed [Stakeholder, Coach]

Define research & insight

<u>Inaccurate</u> information during disruption was a common complaint across respondents

Insufficient information

- Lack of any information on gantry signs **before** (and sometimes **during**) unexpected disruption
  - Respondents felt that lack of such warnings gave them no opportunity to **modify plans**
  - This could lead to **frustration** and **perceived lack of control over their own journey**, due to having fewer choices / options

What was so annoying was there was no information about why the road was closed [Professional drivers, Bristol]

In a tailback – but no information

Inaccurate delay times

- Reported delay times that were **longer** than suggested on gantries
  - Particularly important for **commuters, coach drivers, freight drivers** and some **disabled**
  - Respondents felt that accurate information about length of delay could (again) give them **more choice** over how to proceed with their journey

At other times the information isn't there in time [on overhead signage], so for example coming back from Cambridge today I didn't notice any signage saying that the M11 was shut further on [Depth, Parkinson's, London]

Perceptions of <u>outdated </u>information on gantries and digital signs also caused frustration

Outdated events

- Gantry signs reporting an incident that respondents **did not encounter**

  - E.g. 'queue ahead', 'animals / pedestrians in road'

  - Perception was that these happened in the past and that signage had not been updated

It might say 'beware accident' and it's happened three or four days ago [Business driver, 50-70, Brighton]

Unnecessary speed limits

- Annoyance was exacerbated when 'outdated' signage was combined with **lower speed limits** - traffic slows down, causing delays that are perceived to have been unnecessary

  - Particularly irritating for respondents who drove **HGVs –** such respondents reported that braking and accelerating negatively affected fuel consumption

I went a different way because the signs said there were roadworks and when I came back that way there weren't any [Depth, Disabled, Slough]

Define research & insight

Lack of explanation was a key issue → could drive perceptions about information being inaccurate / outdated

'Pointless' restrictions?

When there's a 50mph speed limit and there's no-one there. You'd understand if there were people working there [Professional drivers – large vehicles, 41+, Bristol]

- Many respondents expressed frustration at the **lack of explanation** behind seemingly 'pointless' restrictions.

- Oft-cited examples included:
  - **Speed restrictions** (e.g. on smart motorways) for no apparent reason (e.g. citing 'congestion' when traffic appears to be flowing freely)
    - ➢ Can generate unnecessary negativity, e.g. questions into the 'real' reason for restrictions (i.e. **generating revenue** at the expense of drivers, via speeding tickets)
  - **Roadworks** (lane closures, speed restrictions) with **no apparent work** being undertaken

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Explanations and additional detail could <u>mitigate the frustration</u> caused by disruption

More information

Those motorway boards are fairly basic. If those could have a bit more information, if they could maybe give you some other diversions or ideas of timings [Depth, Parkinson's, London]

- Many anecdotes during research sessions of the worst part of delays being **lack of concrete information** → respondents felt helpless, unable to make informed decisions, frustrated

- The most useful information was therefore seen to include some degree of **explanation or additional detail** about disruption

- Respondents identified several ways that this could help them, e.g.:
  – Giving them some concrete (or ballpark) details about the likely impact on their journey could facilitate their ability to make informed choices
  – Providing a general feeling of reassurance → **perceived greater control over journey**

They could say, 'Heavy congestion between these hours' [on a road sign] [Business drivers, 21-40, Bristol]

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Additional explanation could also <u>generate more good-will</u> towards restrictions and delay

More information

It said there was heavy traffic but didn't say why. There were signs saying queues are likely. It turned out there was a three way traffic light coming off the A road. If I'd known that, Id have gone another route [Depth, Disabled, Slough]

- Respondents would **welcome further information** about a variety of situations

  – Understanding **why** a restriction is in place can **increase tolerance** for delay

- Examples where further explanation would be welcomed included:

  – **Roadworks that appeared to be unmanned** (e.g. allowing concrete to dry, work going on below eye line)

  – The **nature** of 'an incident' - this phrase was frustrating as it was not felt to convey useful information

  – Whether an accident was **serious** (e.g. air ambulance) – could generate sympathy and realisation that delay will be more severe

That's the worst when you see the signs and you get to the roadworks and nothing is being done [Business driver, 31-40, Bournemouth]

Define research & insight

Perceived lack of accuracy and timely updates, with no explanations, meant that information on digital signage can be <u>mistrusted</u>

Unsafe behaviour

The gantry said a 10-minute delay. I didn't trust that so I checked Google Maps. It said it was going to be a 21 minutes delay, so I called my appointment and said I was going to be 21 minutes late, and it was accurate [Business driver, 21-40, Notts]

- Questioning whether information about disruption is accurate can provoke **unsafe driving behaviour** in a few respondents (self-reported) e.g.:

  - **Not slowing down** at 'advisory' temporary speed restrictions until **evidence** of disruption is seen

  - **Double-checking information** on an app / sat nav (while driving, sometimes on phone)

- All of the above were felt to be exacerbated when apps / sat navs had more accurate information about disruption

  - Could make HE signage seem **inferior and more old-fashioned**

If the sign tells me the road's closed and Google Maps says it's not, I'm going down that road [Business driver, 31-40, Bournemout]

Define research & insight

Perceptions of outdated information on static signage also caused frustration for some respondents

- Delays in changing signage when a situation changes. E.g.:

  - Signs for roadworks that had already **finished**

  - Reporting that a road is closed when it had since **reopened**

  - Warning signs seen as being **abandoned** – e.g. 'flood ahead'

- Did not typically provoke unsafe driving behaviour (self-reported) but could cause **frustration** and drive **negative perceptions**

  - Particularly if journeys had been altered based on the outdated information

Just as bad as not telling you a road is closed is when they leave the signs up even though it's re-opened [Commuter, 31-40, Notts]

I would like more accurate information about roadworks, like ones that are actually happening and not lying [Business driver, 31-40, Bournemouth]

Define research & insight

Static <u>diversion</u> signs often caused confusion
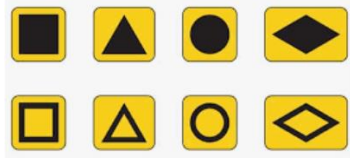
- A variety of issues were reported with **yellow diversion signs**

  - **Insufficient signage**; signs 'vanishing' part-way through a diversion route

  - **Old signs** being left in place on a new route – can lead to going the wrong way

  - **Confusing symbols** on signs – could be hard to spot which route to follow

  - Apparently **contradictory** signs

I sometimes think that, when they put diversion signs up, they're not always absolutely clear [Depth, 75+, Manchester]

With large goods vehicles…very often, the diversion routes that are available for most motorists might not be suitable for an HGV.] [Stakeholder, Freight]

Define research & insight

Professional drivers and stakeholders highlighted provision of tailored information as a key unmet need

Large vehicles

If we specifically tell a driver 'you're to use this diversion,' before we tell them, we need to have made absolutely certain that it's safe and appropriate [Stakeholder, Coach]

- The apparent lack of sector-specific, segmented road information was an issue for **coach and logistics sectors stakeholders**
  - Particularly important for drivers who are not allowed to use a sat-nav or similar device in their vehicle

- Information on **whether diversions are accessible and compliant** for large vehicles were felt to be lacking
  - E.g. weight restrictions on **bridges**, height restrictions **under bridges**, **adequate space for turns** etc..

- Not limited to Highways England information-provision - e.g. **Google Maps** fails to highlight road obstacles that may impact HGV/coach drivers

They should take into account that they need a diversion that's OK for lorries [i.e. low bridges], but they don't always [Professional drivers – large vehicles, 41+, Bristol]

Define research & insight

Professional drivers and stakeholders would also appreciate more advance warning of planned disruption

Professional drivers

I think where we might have a criticism is with some of the longer out, planned closures. If there was some more detail around that, it might help...That's probably one of our biggest issues [Stakeholder, Coach]

Stakeholders

- Drivers and operators wanted more advance information on delays and planned closures

  - Notice of traffic, delays, road closures etc.. is often received too late

- Highways England singled out for distributing road information too late

  - Consequently means that information is unlikely to be accurate/up-to-date when it is eventually distributed to the road user

- Stakeholders did acknowledge that the responsibility for this does not lie solely with HE – other distributors have a part to play

Advance information is useful, because it means you can avoid and plan around problems. Our members do know what they're doing in terms of where they're going. It's highly planned but there's also an element of local knowledge [Stakeholder, Logistics]

Define research & insight

Other issues, unmet needs and areas for improvement identified by stakeholders were occasionally identified

Stakeholders

- A lack of safety messaging (e.g. take care when overtaking; always indicate when changing lanes etc..)

- More information on weather conditions, including pockets of fog on the roads

- Better communication from road authorities

  - One logistics stakeholder highlighted an example whereby Highways England had failed to notify the Road Haulage Association of a planned motorway closure

  - (Although the same stakeholder had equally noted a recent improvement in HE's attempts to engage interested parties/organisations through a more customer-orientated approach)

What I never see is things like 'take care when overtaking', 'always make sure there's nobody in your blind spot', 'always indicate.' Things like good driving notifications and reminders, I think, would be a really good thing. Hints and tips on safe driving, to me, would be really good [Stakeholder, Logistics]

Define research & insight

6. The future of road information

Most road users in the sample had not previously considered the future of information

Layperson perspective

- Most respondents were laypersons who lacked technical expertise
  - Could therefore struggle to discuss the issue in **realistic terms**, e.g. what is possible / impossible

Lots of cars will have in-built everything, like a traffic management button [Commuters, 41+, Bristol]

- Ideas were typically based around what they know of **current technology**
  - A small number of **older respondents** were uninterested in technology advances and assumed they would continue to use paper maps

- **Self-driving cars** were seen as the natural future of driving
  - Perceived to somewhat negate the need for information-provision to drivers – cars will automatically slow down, maintain safe distances from other vehicles, take the best route for the journey, etc.

They're going to react to traffic build up, different speeds without you having to do anything [Business driver, 50-70, Brighton]

Define research & insight

Bespoke information, tailored to individual journeys, would be welcomed

Tailored information

- Discussions often centred on geo-locational technology and vehicle tracking leading to more accurate and relevant road information for drivers

It'll be like sitting in a space shuttle. You'll press a button and it'll tell you your best route [Depth, physical disability]

- Growth of telematics and connected cars was generally known
  - E.g. SOS button, tracking facilities, automatically keeping set distances from the vehicle in front, Bluetooth-enabled, USB connections etc.

Something universal with all the different information [Depth, Disabled, Slough]

- Easy for respondents to envisage that information might soon be tailored to individual journeys, based on an individual's current location and set preferences
  - E.g. early warnings of disruption anywhere on the journey at a point where drivers have choice over whether to re-route
  - Additional explanations about disruption, delivered either via an app or automatically

Define research & insight

Future digital signage was also expected to be more individually tailored

Digital signage

- Generally assumed that digital signs will continue to replace static ones, and that more roads will become 'smart'

- Digital signs were also expected to improve in terms of accuracy and timeliness of information

- Some discussion around the feasibility of synchronisation between signs and cars so personally relevant messages can be displayed
  - Unsure how this could be achieved – suggestions involve use of in-car screen or (in further future) projections onto windscreen, even 'holograms'

Something so the signs you see are relevant to you. They know where you are so why shouldn't the gantry information suggest something person to your journey, like 'avoid the M3, Doug' [Leisure drivers, 55+ Slough]

More smart motorways, they've helped reduce speeding idiots [Leisure drivers, 55+, Notts]

I think they need to extend all the electronic signs out to the A roads so you get as much information as you do on the motorways [Business drivers, 21-40, Slough]

Define research & insight

Provision of future road information was expected to be more joined up, ideally from a single source

The future

Tailored information

They could have an app linked by BlueTooth to your car, that cuts in to your radio station or pops up on the on-screen display [Depth, physical disability]

- Multiple respondents across audiences expressed dissatisfaction at how disconnected many sources of road information appear to be
  - Different information on gantries, or between different apps and websites
- Understood / perceived that different information delivery systems have different sources
  - E.g. Waze was understood to generate information via user data (no awareness in this sample that Google owns Waze)
  - HE gantries and digital signage assumed to come from camera data
  - Other apps / websites assumed to use GPS data from phone
  - Sat navs assumed to use satellite data
- Respondents therefore called for a single, centralised system that is reliable and up to date
  - Respondents assumed that this would reduce confusion
  - They also assumed that this would improve the ease of road travel, and transparency around road information

Define research & insight

Delivery format / channel was expected to be customisable

Tailored information

I think the simplest way would be if there was an inbuilt display in every car [Business driver, 31-40, Bournemouth]

Voice recognition, that's on its way [Leisure drivers, 61+, Bristol]

- Ability to choose most suitable channel of information-delivery was seen by respondents as important for future information provision
  - Some respondents assumed that future information would be delivered directly to their in-dash screen
  - Others were concerned that excessive visual information has the potential to distract drivers, compromising safety, so would prefer more audio and voice-controlled information

- Motorcyclists in the sample also preferred to choose the format of delivery, which varied according to individual preference
  - In-visor visual displays were preferred by those who struggle to hear audio when riding
  - Bespoke in-helmet audio were preferred by those who were more concerned about visual distractions while riding

Define research & insight

Stakeholder perspective

- A decline in the use of on-dash sat nav devices and a parallel increase in the use of pre-journey planning software/systems

- Improved in-dash interfaces for navigation systems

- In the longer-term future, greater integration of road information directly into driverless vehicles themselves (essentially cutting out the driver from the road information process)

The on-dash channel is declining rapidly. That's not the future of our business – the future of our business is in software use for planning and operations
[Stakeholder, Information Distributor]

Things like black boxes that you have on cars that make the insurance cheaper. I visualise a time when these are going to be built into cars and they'll send speed information, positional information and traffic volume information live back from thousands of different vehicles doing different things constantly. It's one of those situations where the technology is available, but can that amount of data actually be handled in a way that's worthwhile?
[Stakeholder, Car Manufacturing]

Define *research & insight*

Stakeholder perspective

- Greater reliance on social media for road information

- A significant increase in the production and use of connected cars
  - Key data sources for road information collectors - an expansion in the number of potential sources of data available
  - Seen as likely to help build a more detailed picture of conditions on the road network (particularly around traffic conditions)

- Increased use of in-car, voice-controlled navigation systems

My view is relayed, audible information would be really good...If I could have, while I was driving along, 'in 40 miles, on your route you will experience hold up X or hold up Y.' That kind of thing would be spot on [Stakeholder, Logistics]

I think connected devices are going to play a huge role in the way people drive in future [Stakeholder, Car Manufacturing]

Define research & insight

Stakeholders additionally envisaged future challenges

Stakeholder envisaged challenges

[Challenges around providing real-time, up to date and sector/vehicle-specific road information] The technology is there to create it, but the big data systems big enough to handle it and churn it over at speed, and then distribute it out in a timely manner, I think is where we have the problem right now [Stakeholder, Logistics]

- For coach drivers and some freight drivers, transferring increasingly detailed road information to them as they drive, without taking their concentration off the road, was seen as a key challenge

- Meeting the sometimes-competing needs of individuals versus traffic flow was also felt to prove challenging:
  - E.g. pointless to divert all road users off a motorway as this has knock-on effects on local traffic. (It may speed up an individual's journey time, but overall causes more delays)

- A lack of investment in the necessary road information technology (e.g. 'big data' systems) was seen as a wider issue
  - Some identified Highways England as an organisation that is likely to take the lead in investing in, and developing, future big data systems

Define research & insight

7. Conclusions

Conclusions: Journey process and information sources used

- Journeys may or may not be planned, with knowledge of the route and familiarity of the journey being key differentiating factors
    - When planning a journey, routes tended to be checked in advance, and traffic conditions were sometimes checked just before setting off
    - The most common platform for planning a route across audiences was Google Maps, which was seen as easy to use, with fit-for-purpose basic functionality. For those who preferred more functionality, Waze was also popular, although less well-known
- During a journey, all respondents used HE road signage by default and many additionally had radio traffic announcements enabled
    - Some also used a sat-nav (phone app, standalone device or in-car) for directions and traffic updates / re-route options
    - Some professional drivers were not allowed to use sat nav devices, so were more reliant on other information sources
- Few respondents reported using any information after a journey, although a few used social media
    - Some professional and business drivers sought (or were informed by their organisation) the source of disruptions, as they may need to justify it as part of their work

Define research & insight

Conclusions: Amount and quality of information

- Road users and stakeholders were generally happy with the amount of information provided on motorways
    - However, some major A roads were felt to have comparatively little signage, particularly gantries
    - Little interest was expressed in additional signage for local features of interest
    - There was some interest in adding branding to road signage

- Quality of information was also seen as adequate when traffic is flowing well
    - However, both road user respondents and stakeholders called for additional information during disruption, to enable road users make more informed choices about whether or not to change their journey
    - Current information provision during disruption on gantries risks being seen as inaccurate or out of date, with insufficient explanations given as to the cause of the disruption – these could combine to make respondents mistrust gantry information and seek confirmation from other sources

Define research & insight

Conclusions: The future of road information

- Most road users and some stakeholders had not previously considered the topic

- Thoughts tended to centre around either self-driving cars (where provision of information to road users was seen as less important) or recent advances in car connectivity

  - A common assumption was that future information will be more individual, i.e. tailored to individual journeys and sent directly to road users (either sent directly to their car or to an app)

  - Also assumed that choices will exist about information-delivery, e.g. audio versus visual

  - In terms of road signage, more digital information was expected, with (ideally) sources of information being joined up to produce a single, trusted, accurate source of traffic information

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