



# Road surface quality:

what road users want from Highways England  
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# Foreword

**T**ransport Focus research in 2015 showed that surface quality was road users' top priority for improvement to England's motorways and major 'A' roads<sup>1</sup>, by some margin. But what wasn't clear was exactly which aspects of the surface users wanted to be improved and why.

Transport Focus and Highways England have therefore worked together to research just that. Our purpose being to ensure that the views of those using the roads shape decision-making in this area.

The research shows that what road users want is not complicated. They want a surface without dips, bumps, potholes, undulations or deep ruts – in other words continuously smooth. They also want clearer white lines and 'cats eyes', which users regard as part of the surface and

not something separate. They prefer asphalt roads to concrete ones, partly because they are quieter to drive on.

Highways England believes a connected country is better for everyone. The company works hard to deliver the safest, smoothest, most reliable connections possible. In 2015/2016 1471 lane miles of resurfacing was carried out – 23 per cent higher than the original target.

But Highways England is not complacent. That's why Transport Focus and Highways England are both using this research to help inform the Government's second Road Investment Strategy (RIS 2), covering 2020-25. Separately, Highways England is considering the recommendations Transport Focus has made in light of this research.



# Key findings

## Why does surface quality matter?

**In this research road users were *not* saying Highways England's roads are in a poor state. However they were saying that surface quality on England's strategic roads matters to them. There were three main reasons.**

- Precisely *because* Highways England's roads are important strategic roads, users want them maintained to a high standard. Those taking part were unsurprised to learn that the earlier study had found the area to be users' highest priority for improvement.
- Road users think surface defects on 70mph roads with huge volumes of traffic – a characteristic of much of the strategic road network (SRN) – must in some way compromise safety.

Those taking part mentioned having to swerve around faults in the road, feeling unsafe when white lines and 'cats eyes' are not clear, and experiencing water not draining properly from the carriageway.

Motorcyclists cite safety in relation to surface defects to an even greater extent than drivers of other vehicles, while caravan drivers mention the dangers of being 'caught' in ruts caused by heavy vehicles using the inside lane.

- A continuously smooth surface gives a more comfortable journey experience. Road users have a clear preference for an SRN where the surface is smooth and free from defects – it is simply a more pleasant experience. Road users with particular disabilities can experience physical discomfort as a result of poor road surface.

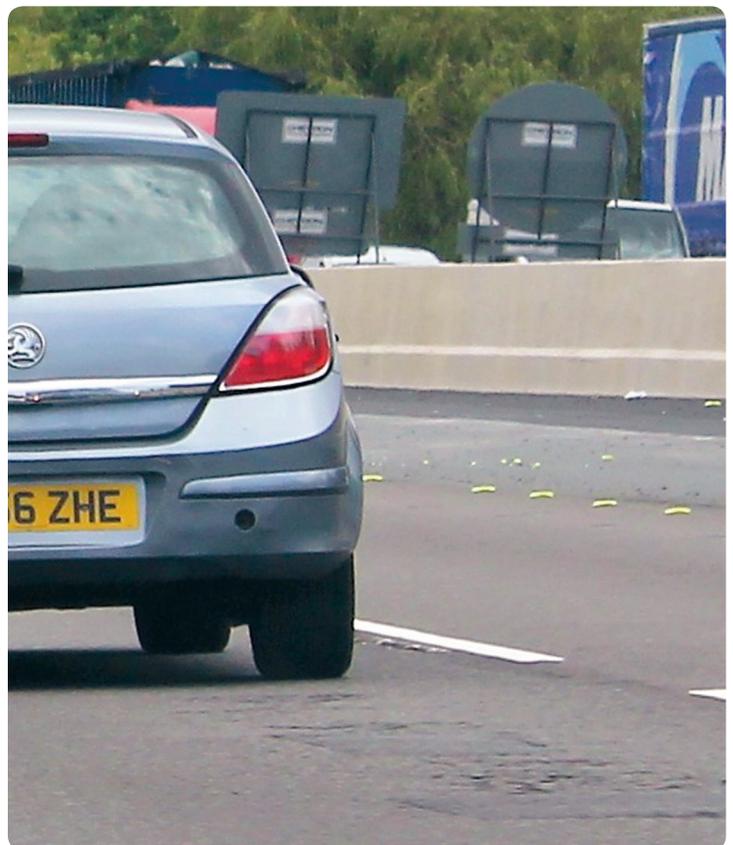
A surface which is not continuously smooth impacts on journey comfort and is viewed as less safe. Road users cite surface defects as being the cause of poor driving, such as vehicles not returning to the inside lane to avoid deep ruts. Some perceive that smooth surfaces lead to smoother traffic flow and therefore fewer delays. Where a defect has been there for a long time, frequent users lose faith that maintenance standards are right or that contractors are adhering to them.

It is important to highlight that the condition of Highways England's assets has a more direct bearing on customer experience than is the case with most regulated utilities. Road users see and feel the bumps in the road in a way that consumers do not, generally, see and feel leaks from a worn-out water main.

## What is a good surface?

To a road user a good quality road surface:

- is continuously smooth, without dips, bumps, potholes, undulations and deep ruts
- has white lines and 'cats eyes' in excellent condition – road users think of these as part of the surface and not something separate to do with signage
- is preferably made of asphalt rather than concrete because it is considered quieter to drive on and viewed as less bumpy.





## Where would road users like to see improvements?

Road users are not saying that surface quality on the SRN is poor in general, but they are saying that they want it to be better than it currently is. In particular, they want Highways England to make improvements to the way it:

- continuously monitors the SRN to identify problems with the surface, road markings and 'cats eyes'
- carries out permanent repairs quickly, particularly where there is a safety impact, and ensures a smooth, seamless transition to the surrounding section of road
- carries out full resurfacing where there is an appreciable length in poor condition, whether because of wear and tear, undulations, tramlines or other degradation
- makes full use of engineering advances and international best practice to identify materials which will deliver a smooth and seamless experience, for example harder-wearing material to prevent deep ruts forming in the inside lane
- tells users if a problem is already known about and give a date by which repairs will be carried out
- ensures a consistent standard of road surface is provided across the network, without apparent variation from road to road or area to area.

## Variation by vehicle type and driver

Unsurprisingly, aspects of road surface quality affect different road users in different ways.

- **Motorcyclists** fear that defects cause risks. Potholes, dips or deep ruts can cause problems, either directly or where a rider attempts to avoid them. They feel that deterioration of the surface between the lanes is dangerous when changing lanes. Surfaces with poor grip or where road markings are slippery are particularly challenging in wet weather.
- **Lorry drivers** say that, although it is often heavy vehicles that cause ruts, they are also most likely to struggle to maintain good control when driving on a rutted road. It is less easy for larger vehicles to avoid defects when travelling at speed.
- **Disabled drivers/passengers** can suffer physical discomfort on roads that have uneven surfaces.
- **Caravanners** report control and stability issues if driving in a lane with ruts.
- **Cyclists** indicated in previous Transport Focus research<sup>2</sup> that surface quality of carriageways, or parallel dedicated paths, is also important. They mentioned their vulnerability when encountering a defect, ironwork that sticks up from the surface and temporary repairs that don't last.

# The issues

## Material used

Asphalt – smooth and quiet, less noise and vibration

Black surface – maximum contrast with white road markings

Concrete – rough, bumpy ride, increased noise (although acknowledged as harder wearing than asphalt)

Light-coloured surfaces – less contrast with white road markings

## Road markings

Bright, bold markings

Directional information painted on the road (motorcyclists less keen, slippery in the wet)

Old markings (from previous road layouts) to be completely removed

Rumble strips (particularly marking the edge of the road) to alert drivers if they 'drift'

Bright reflective 'cats eyes' (motorcyclists less keen on raised designs of 'cats eyes')

Anti-slip surfaces at junctions

Faded and worn away markings

Old markings showing through, causing confusion and anxiety

Conflicting information between markings on the road and signs

Missing and broken 'cats eyes'

Defects caused by removing 'cats eyes' (motorcyclists in particular)

## Deep ruts (tramlines/grooves)

Stronger surface in the inside lane – to cope with the weight of lorries

Restrictions on the number of lorries – to prevent further damage

Deep ruts – causes issues for car drivers, lorry drivers, those towing caravans, motorcyclists (to a lesser extent)

## Potholes

Consistent smoothness – enables relaxed driving

Speedy repair if potholes do arise

Long-lasting repair

Grit and loose material – adds to driver anxiety, is less relaxing to drive on, causes concerns about damage to vehicles

Potholes – large or small, felt to be dangerous

Patched repairs – experience suggests it doesn't last and creates grit as the repair breaks up

## Surface water

Carriageways that drain effectively

Drains that work properly

Drains that are flush with the carriageway (motorcyclists in particular)

Standing water – risk of aquaplaning

Blocked drains

Spray – particularly from lorries, because it reduces visibility

## Joins in the road

Smooth transition from one section of surface to another

The smooth type of asphalt – this material is felt to give more seamless transitions than 'noisy asphalt' and concrete

Drains that are flush with the carriageway (motorcyclists in particular)

Changes in level beyond a small bump

## Surface quality in roadworks

Some road users also commented about the need to maintain road surface quality during long-term roadworks, particularly where lanes have been narrowed or re-aligned and vehicle wheels are now pounding the joins between sections of asphalt.

# Transport Focus recommendations

This research shows that road users have high expectations of roads managed by Highways England, and they have explained why they want them kept in excellent condition. In light of this research Transport Focus makes the following recommendations for consideration by the Department for Transport, Highways England, and the Office of Rail and Road:

## Recommendation 1

**Transport Focus recommends that Highways England should develop construction and maintenance standards that will deliver the quality of surface road users expect from the SRN, including in relation to white lines and ‘cats eyes’.**

The following questions should be considered in setting the standards.

- Are maintenance triggers consistent with the company’s customer service imperative? Do current thresholds produce a ‘that will have to get worse before we do anything’ culture?
- Are the tolerance levels when it comes to the quality of maintenance and renewals work consistent with delivering to the high standards users want? Do current levels result in Highways England paying for work which road users feel is of poor quality?
- Are current standards allowing surfaces to pass as acceptable long after road users think ‘this needs resurfacing’?
- Are average condition metrics a barrier to achieving the ‘continuously-smooth’ road which users want? Does averaging lead to 100 yards of ‘billiard table’ hiding 10 yards in very poor condition?

## Recommendation 2

**Transport Focus recommends that Highways England, the Department for Transport and the Office of Rail and Road should ensure that the metric used in Road Period 2 measures surface quality from a user perspective.**

The current metric appears to treat road surface condition as part of managing assets effectively, rather than as something integral to customer experience. Questions that should be considered in developing a new metric include:

- is focusing condition monitoring primarily in lane one helpful?
- are other lanes monitored often enough?
- is the condition of slip roads monitored sufficiently?
- is deterioration between the lanes, a key concern to motorcyclists, monitored effectively?

- does condition monitoring of footways and segregated paths for cyclists, pedestrians and equestrians meet the needs of those road users?

## Recommendation 3

Transport Focus recommends that the Department for Transport should set a challenging but achievable target for improvement in surface quality throughout Road Period 2, based on a new user-focused metric.

## Recommendation 4

**Transport Focus recommends that the Department for Transport should consider establishing a dedicated ‘renewals backlog’ fund as part of the second Road Investment Strategy.**

Its purpose would be to bring road surface quality across the network up to standard by 2025, based on a user-focused definition of ‘good’, and make it possible to then fund maintenance and renewal as required in Road Period 3 (2025-30) and beyond.

## Recommendation 5

**Transport Focus recommends that Highways England should make it easier for road users to report defects on its roads and should explain, at the roadside and elsewhere, when specific defects are known about and how soon repairs will be carried out.**

Highways England’s web page on gov.uk offers an email address and phone number. It does not invite road users to report issues and is not user-friendly enough to help pin-point a problem in a way that many local authority highways departments do.

Explaining which defects are known about and how soon they will be rectified will demonstrate competence and customer focus, and build trust between road users and Highways England.



# Background

Transport Focus research into road users' priorities for improvement to the SRN was published in two parts – car/van drivers and motorcyclists<sup>3</sup> (in July 2015) and HGV drivers<sup>4</sup> (in December 2015). It showed that the single highest priority for improvement among all types of SRN user was 'quality of road surfaces'. What wasn't clear was exactly which aspects of the surface road users wanted to see improved, in what way and why.

**Transport Focus and Highways England have therefore worked together to explore road users' views on this subject more deeply. Our joint objective has been to understand what road users experience today that should be improved tomorrow. That knowledge will then be used to inform how the SRN is built, maintained and renewed in future, not least as the Department for Transport draws up its second Road Investment Strategy (RIS 2), which will cover 2020-25.**

This qualitative research has been jointly developed and funded by Transport Focus and Highways England. Transport Focus led the project, and commissioned independent research agency Future Thinking to carry out the study. The recommendations set out in this document have been made by Transport Focus. As with all research



by Transport Focus among users of the SRN, steps were taken to ensure that participants were providing views about their experiences of the Highways England network only. For example, those taking part were given maps of the SRN to refer to and ensure that discussions focused only on the relevant roads.

## How we carried out the research

### Focus groups

Nine focus groups involving 94 road users, including car drivers, leisure users (including caravan and motorhome users), professional drivers and motorcyclists in London, Birmingham, Manchester and Bristol.

### Interviews at motorway service areas

71 interviews with road users were carried out over four days at the following motorway service areas:

- Tiverton services (M5/A38)
- Thurrock services (M25/A13)
- Wetherby services (A1M)
- Cherwell Valley services (M40/A43).

### Recorded journeys

12 in-depth interviews were carried out with a variety of driver types. This involved road users making journeys

with a camera recording the road ahead and capturing observations made about the road surface.

Motorcycle journeys were recorded using helmet-mounted cameras, with an interview at the end of the trip. We selected four routes to understand the experience on a variety of SRN roads, including motorways and major 'A' roads:

- M60/A663/A627
- M20/A20
- M5/A30
- M1/A38.

### Interviews with lorry drivers

Eight face-to-face interviews with lorry drivers.

### Interviews with stakeholders

Six in-depth interviews with key stakeholders across the transport sector carried out by telephone.

<sup>3</sup> Road users' priorities for improvement: car and van drivers and motorcyclists (2015)

<sup>4</sup> Road users' priorities for improvement: heavy goods vehicle drivers (2015)

## Contact Transport Focus

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Transport Focus is the operating name of the Passengers' Council

## Transport Focus is the independent consumer organisation representing the interests of:

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

**We work to make a difference for all transport users**