



CITROËN

Better Roads

Manifesto

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Executive summary

“One thing that unites every driver I speak to is the terrible state of our local road network. Road users increasingly face dangerous potholes, broken surfaces, collapsing edges and a patchwork of poor repairs – frequently all on the same stretch of carriageway.

For car owners it can result in at best uncomfortable and stressful journeys, at worst expensive repairs to damaged cars. And let’s not forget potholes can cause accidents too. When we asked drivers, more than a quarter told us they’d lost control either from avoiding a pothole, skidding on debris from a pothole or a combination of the two¹.

You’d think there would be a carefully considered action plan to tackle such a serious problem. But our Freedom of Information request to Britain’s 154 local highways authorities² (LHA) exposed a haphazard approach to repairing and maintaining our roads. The result is a huge disparity between councils in how long each takes between potholes being reported and inspected then repairs agreed upon and carried out. It is essentially a postcode lottery on how well your roads are maintained.

That’s why Citroën decided it was time for action. Although our cars with their Advanced Comfort® technology are better than most at dealing with potholes, it’s a different story for other road users. And I don’t think we can carry on as we are, watching what I can only describe as a managed decline of the roads, arguably our most important transport infrastructure.

We’ve teamed up with experienced highways engineer Dave Gaster³ and other experts to investigate why our roads are in such a state.

Our findings reveal a devastating combination of underinvestment, lack of any cohesive funding strategy, ageing infrastructure, poorly considered law changes, insufficient management of utility companies and natural wear and tear. The result is where we find ourselves today: a road network barely fit for purpose.

But what should we do about it? At Citroën, we have been at the forefront of comfort in cars since the 1950s. To achieve this, we’re not afraid to think outside the box; we have a storied history of coming up with innovative answers to the problems that have an everyday impact on people’s lives.

That said, it can’t just be up to brands such as Citroën to use our technology to solve the problem of poor quality roads. Yes, Citroën’s cars have been renowned for comfort and safety for more than 70 years. And the Advanced Comfort® featured on all our new cars employs clever suspension and seating technology to insulate occupants from the road surface. But government and local highways authorities still have an important part to play.

Our six-point plan, carefully conceived with Dave Gaster’s advice, addresses the problems faced by the local authorities that manage our roads by calling to:

- *Reform how LHAs inspect roads, using AI to cut costs, improve data quality and speed up repairs*
- *Give LHAs greater powers to manage how utility companies repair the trenches they dig*
- *Introduce a five-year plan for road funding to save LHAs money*
- *Tighten up legislation around road repairs and recreate a national standard for defects*
- *Employ volunteers to increase manpower at no extra cost*
- *Develop a road cleaning strategy to remove dangerous surface debris*

These plans are backed up by the facts too. Our research into LHAs’ attitudes towards potholes found some consider a road defect to be problematic when a hole is 40 mm deep; for others it must be 80 mm deep. Yet more have no guidance on what a pothole actually is.

There’s also a massive variation in how long it takes LHAs to respond to reports of road defects. Surrey County Council claimed it would take 80 days between a pothole coming to its attention and it being inspected.

Some claim they repair damage to surfaces within hours of being alerted to them. But 15% cite up to three months or longer and one LHA - Stoke-on-Trent - said the longest planned time between agreeing a repair and carrying it out was 357 days!

Equally worryingly, only half of the LHAs who responded to our Freedom of Information request use geolocating to show

repair teams where the holes they’re supposed to be fixing actually are. Those that don’t are not only hindering their repair teams in fixing defects. Not only are those that don’t not helping their repair teams to fix defects, they’re also missing out on gathering valuable data about their roads.

And just two LHAs use volunteers to help them inspect roads when a third of drivers (33%) would happily take part in a supervised voluntary road repair, monitoring or maintenance team.

In addition to volunteering, our exclusive research into attitudes among Britain’s drivers towards potholes found that more than half (56%) would accept an increase in their council tax bill up to 10% (up to £215) if all the funds were spent improving the roads.

Almost half of drivers (49%) would accept a small increase in Vehicle Excise Duty (the majority of those [41%] said a rise of between £5 and £20) if it was all spent on the roads.

More than half of drivers (57%) would happily use a free smartphone app to monitor potholes – if they were asked to do so. I’d urge drivers to sign up to use the STAN app.

That’s an important caveat. It shows British drivers are an engaged bunch who are keen to do the right thing if they’re asked to make everyone’s life better.

Nearly a third of drivers (30%) have reported a pothole. But disturbingly, more than four in five (81%) have been put off doing so because it was too complicated or they didn’t know how.

Our research of drivers and LHAs is proof that the Citroën six-point plan doesn’t just offer common-sense solutions. They’re also achievable and affordable while making our roads safer for every user. The alternative is simple: we carry on as we are, watching our roads crumble before our eyes.”



Greg Taylor
Citroën UK, Managing Director



CITROËN’S EXPERT

Dave Gaster spent 26 years working in local government, the last 10 at director level. This was followed by more than 20 years consulting for local government. He has an HND & BScHons in Civil Engineering and specialises in change management: increasing efficiency, effectiveness and quality in virtually every job he’s taken.

Introduction

Citroën has been an active voice in trying to get government and local highways authorities (LHA) to act on the sorry state of Britain's pothole plagued roads. It sees the impact of the problem first hand: not only through personal experience, but in the damage to people's cars.

The government hasn't been idle. It has introduced its rating system where each of the country's 154 LHAs is graded according to the quality of its roads: red, amber or green - red for the worst, green for the best. Central government has also pledged to allocate £7.3 bn over the next four years to help tackle the pothole problem.

These are welcome steps but Citroën doesn't believe they go far enough. In 2025, LHAs filled 1.9 million potholes. And the condition of Britain's roads is still deteriorating with experts cited in this report claiming the condition of carriageways is getting worse.

There are multiple causes but primarily, current legislation isn't tough enough. Whether that's in controlling how LHAs inspect roads, monitoring how utility companies repair roads after street works, or even defining what a pothole is.

The result is a postcode lottery for road defects along with a huge economic cost to the country with estimates putting the annual price of potholes at anywhere between £5 bn and £14 bn¹.

For more than a century, Citroën hasn't been afraid to think outside the box for solutions to everyday problems. It has led to our Advanced Comfort® technology that helps insulate drivers from the worst of poor road surfaces. But that is no longer enough.

The result is this manifesto where Citroën has worked with qualified highways engineer Dave Gaster to form a six-point plan that it thinks will help return many of our roads to a more acceptable state. Citroën is calling to:

- *Reform how LHAs inspect roads making greater use of AI*
- *Give LHAs greater powers to manage utility companies repairs*
- *Introduce a five-year plan for road funding*
- *Tighten up legislation around road repairs*
- *Employ volunteers for 'free' manpower*
- *Develop a road cleaning strategy to remove dangerous surface debris*

This wouldn't just make Britain's roads better. It would save society money too. Inefficiencies in the way LHAs operate are causing them to miss out on £2.2 bn of savings².

The country would save an estimated £3.3 bn by cutting the 6% of fatal and serious collisions caused by poor quality carriageways. And hard-pressed Britons currently pay £1.8 bn every year fixing pothole damage to their cars³.

In this manifesto, Citroën looks in depth at what's causing roads to crumble. It then sets out a six-point plan for helping LHAs to tackle the problem. And it explains the potential savings that can be made through reforming how roads are maintained and looks at what Citroën's Advanced Comfort® means for drivers.

Citroën's research also surveyed British drivers' attitudes towards how roads are maintained while Freedom of Information requests to LHAs show what's going on at council level. This is one of the most comprehensive independent reports compiled on the state of Britain's roads in 2026.



Why Britain's roads are crumbling

Most people agree the local roads that make up 98% of Britain's network are in a sorry state. According to Citroën's research, nine in 10 drivers think there's a lack of pride in the maintenance of public roads.

Another recent report states a 59% level of dissatisfaction among residents. That's the highest level of displeasure with any local government service¹.

The 2026 Annual Local Authority Road Maintenance (ALARM) survey, from the Asphalt Industry Alliance, states that to return the 183,000-mile local road network to a serviceable state would cost Britain's 154 local highways authorities (LHA) £18.6 bn. Eight years ago, that figure was £9.25 bn so the problem has effectively doubled in less than a decade.

Highways engineer Dave Gaster said: "Due to long-term under investment, poor law changes and incomprehensible working practices, our once-great highways are now catastrophic. In many parts of the country they're exceeding the tipping point towards rapid decay." Here's why.

Road design and construction – many roads unsuited to modern traffic

The majority of Britain's local roads were designed and built more than 50 years ago. But while in 1974 there were 16.5 million registered vehicles on the road, in 2025, there were 41 million². And the weight of the average small family car has gone from 930 kg to 1,230 kg³.

As the Local Government Authority states: "Historic road building practices and materials may not be suited to modern traffic volumes and climate conditions." Dave Gaster added: "Unfortunately many new roads, especially those in new housing developments, are constructed to even worse standards than those built 60 years ago."

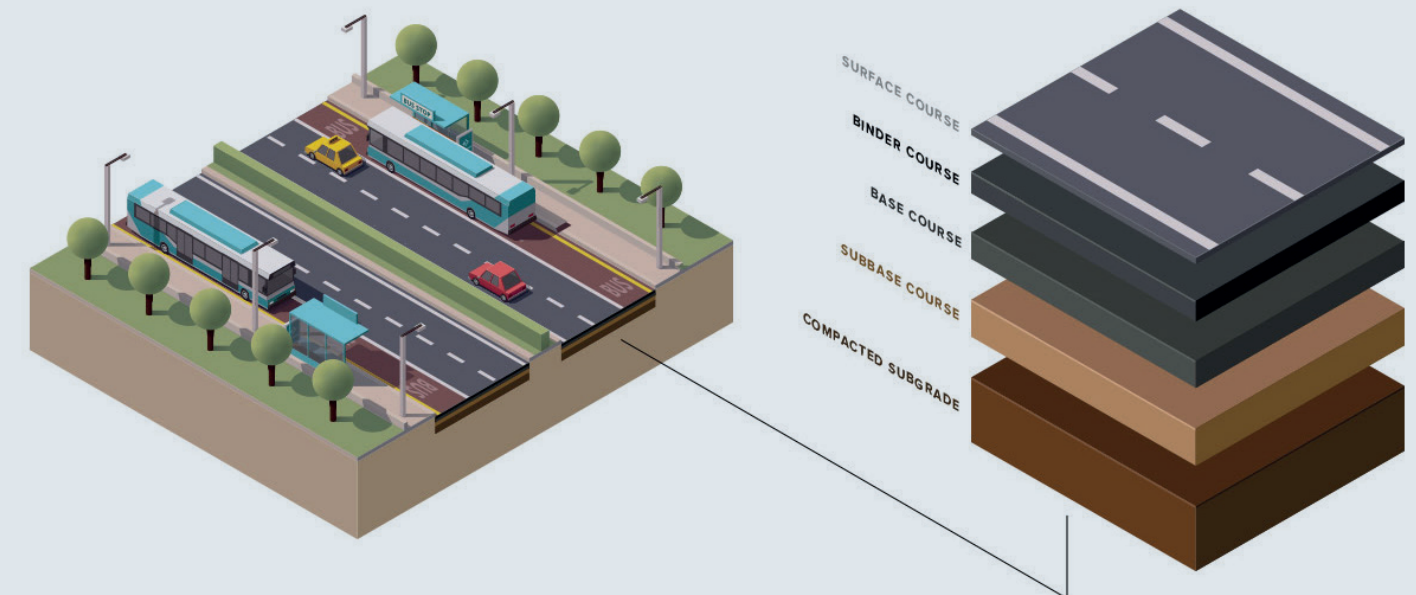
Roads should be designed according to the amount of traffic they carry and an average standard axle weight per vehicle of eight tonnes. While regular cars are significantly lighter than this, a modern truck's axle weight might be eight times heavier. Simple physics means the square of that is exerted in terms of pressure on the road surface and therefore wear.

So, a road that was initially a country lane but over the decades has been swallowed up by a developing town might be carrying far more weight of traffic than it was initially designed for.

Then there are the materials used for both building roads and repairing them. Road building is a complex process. For a road, or a repair to one, to have any longevity, the right materials must be used to the right thickness and be compacted in the right way. These details can vary depending on the part of the carriageway being talked about. And work should also be carried out in the right weather conditions, so not too hot or cold.

"Road construction has a wonderful array of wrongness," said Dave Gaster. "The different layers of the base can be too thin, too wet, too cold, too hot, not compacted enough, wrong materials. Get just one of these factors wrong and it will have an impact on the lifespan of the repair or road."

In addition, with the UK government planning to build 1.5 million new homes before 2030, Gaster believes Britain is storing up a roads timebomb. "Building roads on housing estates is almost an afterthought to many developers," he said. "Those roads are generally built in 50 to 70 m long sections at a time. They are invariably built up to the 'base course' (the middle layer of materials that form the road's foundation) with the final 'wearing or surface course' added once all construction on the site has finished.



What roads are made of

Every road sits on a base of compacted subgrade. This is natural soil, clay or sand and may be mixed with lime or cement for added strength. It is usually 250-600 mm thick but its thickness, how much it's compacted and what it's made from depends on the stability of the land beneath.

On top of it, the sub-base acts as structural support to distribute loads while also allowing water to drain away and prevent the layer below deforming. It's usually made from crushed stone or gravel (called aggregates) and is 100-300 mm thick.

The base course supports binder and surface courses by distributing the road's load to the sub-base. It is made from well-graded crushed stone, gravel or bitumen/concrete treated aggregates depending on the road's use. The base course is important for road strength. Thickness will vary from 60-300 mm depending on anticipated load.

The binder course provides a strong bond between base and surface layers and adds flexibility. It is formed from bitumen with aggregates and is 50-100 mm thick.

The surface course is the part seen and driven on. It should be smooth and skid resistant for maximum safety as well as waterproof to protect lower layers from water damage. It will be 25-50 mm thick on asphalt roads, 150-300 mm thick on concrete roads.

image above taken from Falconsurfacing.co.uk

“They are built too thin, too wet, too dry, under-compacted, without awareness of the impacts of flexible constructions like the binder course between rigid ones and so on.

“Kerbs should be set in concrete in one go for the ultimate structural integrity. But in my experience, this frequently doesn’t happen, I suspect because of lack of knowledge. When the final surface is laid, the road roller will push the kerb away creating a space. Weeds will then grow in the gap between kerb and asphalt; small weeds become big weeds with roots damaging the road’s structure and it will eventually fail. Every estate being built now could be a financial burden to its local council in a few years’ time.”

Law changes – a haphazard approach to road maintenance

In 1991, the New Roads and Street Work Act (NRSWA) replaced the Public Utilities Works Street Work Act (PUSWA). This change gave utility companies the right to permanently repair their trenches and excavations. Before this switch, councils looked after permanent repairs, called reinstatements, and would mend or resurface 11% of their road network every year. Now they only repair or resurface 3%⁴.

From 2005, every local highways authority (LHA) was advised to abide by the *Well Maintained Highways* code of practice. This gave LHAs consistent guidance over how roads should be maintained. Any hole that was 40 mm or more deep was considered a pothole that needed fixing.

In October 2016, this was replaced by the *Well Managed Highway Infrastructure* code of practice. Although there are still national guidelines in place for what constitutes a pothole – 40 mm deep and 250 mm across – many LHAs have adopted the Well Managed Highway Infrastructure’s so-called ‘risk-based approach’.

This allows each LHA to come up with its own definition of what constitutes a road surface defect.

Citroën’s research found that while many LHAs agree a defect becomes a problem when a hole is 20 mm deep, for most its 40 mm, but some don’t classify a defect as troublesome until its 80 mm deep. When it comes to width, there’s a greater disparity: some LHAs define a pothole as 75 mm, 250 mm or even 300mm

wide. A quarter (27%) of LHAs who responded to Citroën’s FOI use the ‘risk-based approach’ set in the *Well Managed Highway Infrastructure* code of practice.

The result is neighbouring authorities might have very different standards. Mark Morrell, who worked for a utility company during his career and is more commonly known by his campaigning moniker ‘Mr Pothole’, explained: “Anything from 50 mm deep to 100 mm deep depending on the category or speed of carriageway. But some authorities measure the defect at the deepest point while others measure it at the edge.”

In real terms, a 100 mm deep hole on a 60 mph road may take Authority A four working days to inspect after it’s been reported, with no initial investigation immediately after reporting to see how bad the hole really is.

Next door in Authority B, it may only take two hours after reporting to visit the same size of hole on a similar stretch of road and make it safe.

Dave Gaster said: “Authority A might be considered better at maintaining its roads than Authority B in statistical terms because it has a less rigorous definition for what kind of defect causes a risk. Yet Authority A’s roads will have more defects and be less safe. Currently, our regulations are simply nurturing potholes. The only way to ensure a potentially dangerous pothole is fixed quickly is by getting the police involved.”

If all LHAs are playing to different rules, it makes the government’s league tables purporting to compare and rate the country’s roads a far from accurate representation.

And the government’s existing database is far from complete anyway: 10 LHAs told us they don’t record their driven inspections onto it.

Infrastructure alterations – often result in potholes

Digging holes in the road shortens the carriageway’s lifespan by 17% according to TRL, a respected transport research organisation. And at least 55% of the potholes in a ‘mature’ British town⁵, for example the average market town, are caused by failed repairs to the road surface.

The repairs are often the result of street works, where the road is dug up by a utility company to bury their cables or pipes. The government estimates about 2.2 million road and street works are carried out every year⁶. The ALARM survey backs this up, claiming each LHA had an average of 13,040 openings last year.

Currently the 200 organisations who have the right to dig up British roads have two-years’ responsibility for the repairs they’ve done following works. After that, the roads and any utility repairs revert to the LHA again.

The government has issued extensive guidelines to utilities, in the shape of a 262-page document. Among other things, this states fixes should last for 10 years. But a House of Commons Transport Committee report⁶ said these reinstatements frequently fail after just two years. It claimed even apparently well-repaired trenches can fail long-term.

“It’s no surprise,” said Dave Gaster. “When you excavate with a digger, its bucket will compact then loosen the road’s sub-base around two to three times the trench width either side of the trench it’s dug. While the evidence of the failure is the hole at the edge of the trench repair, that’s likely happened because of what’s gone on under the ground that you can’t see.”

Traffic calming measures added retrospectively to slow cars can also cause roads to fail. Rumble strips and lateral white lines that send harsh vibrations through cars to slow them send equal and opposite forces through to the road, again causing premature degradation.

Natural wear and tear – older carriageways more likely to fail

Roads lead a hard life. And as with anything, from cars to humans, they begin to wear out the older they get. Currently the average frequency of road resurfacing across England and Wales is 97 years⁷. That has declined from 57 years in 2016 the ALARM survey states⁸. The recommended frequency of resurfacing is every 10 to 20 years⁷.

In addition to ageing surfaces and the increased volume of heavier vehicles, roads must also cope with other factors such as greater drainage requirements. Just as

budgetary concerns prevent LHAs from resurfacing roads as frequently as desirable, they also mean hedges and verges aren’t maintained, drains are no longer unblocked, road markings fade away and road signs are gradually overgrown by vegetation.

Citroën’s Freedom of Information request to LHAs revealed that around one in six don’t record hazards such as overgrown vegetation and poor signage when they do their road inspections.

Wetter winters and more flash flooding increase the speed roads deteriorate at, which in turn places new demands on funding. And while all that road users might see is more potholes and puddles, the impact goes far deeper than the road surface.

The latest ALARM survey says that while 51% of local roads have 15 years or more remaining life, around one in six (16%) have less than five years’ life left in them.

Asphalt Industry Alliance steering committee member Brian Kent said: “I’ve been working on the ALARM report for 10 years and where before we used to talk about the need for resurfacing, we’re now talking about the structural integrity. The issue isn’t just in the surface course anymore; it’s now actually going into the lower layers.”

Dave Gaster added: “Folklore dictates most potholes form because of water getting into the cracks in the carriageway surface, then expanding and contracting through freezing and thawing. That’s simply not true: we’ve just had an incredibly mild winter and the potholes are worse than ever. There are more than 200 reasons why road surface defects form, that’s why so many repairs fail.

“If the roads were properly built, upgraded and maintained over time, there would be no cracks within the first 25 to 40 years of their life.”

Throw in an ageing workforce and limited supply of new skilled workers and there can be competition between LHAs over personnel, which in turn pushes up staff costs.

At the same time, the sector risks losing expertise as workers approach retirement. And an unsettled workforce means LHAs struggle to implement the latest innovative technologies and techniques.



Fragmented approach to roads – makes strategic planning impossible

Local roads are the most extensive, heavily used but under-maintained infrastructure asset in the UK. They make up 98% of the total road network and carry 66% of all motor traffic miles in England⁹.

Yet while the government has just promised £27 bn over five years to upgrade the strategic road network (motorways and arterial routes), local roads are getting just £7.3 bn over the same period. And these smaller routes have a critical importance to all of us, whether as individuals, communities or businesses.

Despite the pivotal role local roads play, the local highway authorities (LHA) that look after them face severe budgetary constraints. Of course, no council wants to inflict poor quality roads on its residents. But neither do they want unsafe schools or inadequate social care. And the funding councils do get from central government is frequently short term, fragmented and from different sources.

In England, 43% of local road funding comes from the local authority via council tax. The remaining 57% is from central government⁷. That is split between the Department for Transport (DfT) and the Department for Levelling Up, Housing and Communities (DLUHC).

Money to keep roads serviceable - rectifying defects such as potholes, grass cutting and salt spreading and called revenue maintenance expenditure comes from the DLUHC. The DfT spends its share, called capital maintenance expenditure, on renewing roads.

But a 2025 National Audit Office report slammed the DfT for its lack of knowledge of the state of local roads. The Condition and Maintenance of Local Roads in England stressed: “Unlike its longer-term funding for the strategic road network, DfT’s funding for local roads has generally been short term and provided through multiple funds... in the past decade, funding for local roads has been provided through 12 different funds.”

It added: “DfT does not consider the condition of roads or the factors that contribute to their deterioration when allocating funding to local authorities.”

Unsurprisingly perhaps, this funding model hinders strategic, long-term investment in roads and over decades has contributed to the growing maintenance backlog. Equally, high inflation over recent years has seen many authorities face a real-term cut in their budgets. The result means many LHAs are caught in a doom loop of reactive patch and repair work rather than proactive resurface and replace. The impact on road users is no consistent experience across the country: some roads are pockmarked with potholes, those in the next-door authority might appear smooth and well maintained.

HOW MUCH WORSE ARE BRITAIN’S ROADS?

It’s no accident that drivers in other countries don’t have to navigate the potholed horror show frequently experienced in Britain. Quite simply: foreign countries value roads as the important asset they are by giving them the funding they deserve.

Research by the Organisation for Economic Cooperation and Development (OECD) showed that in 2019, the UK spent around £2 bn on our roads. That’s half (51%) of the 2006 spend.

Our nearest neighbour France is frequently feted for the quality of its roads. There are two main reasons for this. The country is twice the size of the UK with approximately the same population making traffic density much lower on average. And rather than halving its spending on roads, the country whose disarmingly charming name for a pothole is ‘chicken’s nest’ (nid de poule), has maintained roads spending at a constant level.

Sweden meanwhile spent 141% of its 2006 sum; Austria is on 152%; top of the charts was New Zealand which on 178% in 2019 spent approaching double its 2006 amount.

Lack of funding certainty – results in expensive reactive maintenance

While the DfT and DLUHC provide more than half the money for roads, the local highway authorities (LHA) are responsible for spending that money.

But despite the £7.3 bn between 2026 and 2030 budgeted by the DfT, roads have been underfunded for decades according to the annual ALARM report. And there's still a lack of clarity among LHAs over how much each will receive over that period because of the haphazard way it's granted.

This lack of financial certainty means that rather than having funded, long-term strategies for maintaining and resurfacing roads, LHAs are fighting simply to keep roads open and operational. Of their budget, 25% goes on 'reactive' maintenance, that is work not planned for at the start of the year⁷.

Dave Gaster explained: "Reactive maintenance like this is always going to be more expensive and less effective than when it's planned."

The Road Haulage Association backs this up, claiming planned road maintenance is up to 57% more cost-effective than reactive repairs.¹⁰



WHY EUROPEAN ROADS ARE BETTER

Britons often go abroad and marvel at the quality of the roads. Research by the RAC shows that nearly two thirds (62%) of drivers think European roads are better than our own. But why?

NIRA Dynamics measures the quality of continental Europe's roads through its supply of indirect Tyre Pressure Monitoring Systems to car makers. Product strategist Björn Zachrisson said: "Our continuous monitoring shows clear correlations between infrastructure investments and road quality improvements."

"When verifying why certain European countries are showing significant improvements in road quality, it's crucial to consider the interplay of national infrastructure policies, regional funding mechanisms, and broader European Union investment frameworks."

Estonia and Latvia have benefited greatly from European Union investment to modernise their transport infrastructure. But he puts the consistency of high road quality in Germany, Austria and Switzerland down to a "well-established maintenance culture".

He added: "These countries have long-standing policies for periodic resurfacing, winter damage mitigation, and continuous quality checks. Yearly or biannual maintenance cycles enshrined in national transport strategies mean that road quality neither degrades dramatically nor improves drastically. Instead, it remains consistently good."

Citroën's six-point plan

Britain's roads keep the country moving by connecting our towns, cities, ports, businesses, and communities, significantly more so than other developed countries where rail use is more prevalent. Millions of people rely on roads to commute to work, transport goods, access healthcare, visit friends and family. Yet the condition of our roads has deteriorated so they're no longer acceptable for a modern, advanced nation.

Using expert insight, Citroën's six-point plan has been designed to break this cycle; to offer a lasting solution that makes roads better and safer, for car drivers and more vulnerable road users alike.

1. Make using AI for inspections compulsory

Reform how LHAs inspect roads to cut costs, improve data quality and speed up repairs.

Much has been written about artificial intelligence replacing humans in the workforce. Spotting potholes is one area where machines really can do a better job.

Currently most local authorities will employ someone to drive along a road with an inspector passenger who will jot down where they see potholes, failed road markings and other defects.

But on busy, fast-moving rural roads, many won't stop and precisely locate the potholes or see how much of a danger they really represent. An experienced LHA manager told us: "At the very best this will detect 80% of defects. They'll fail to see others due to traffic, shadows, puddles or lack of concentration."

And since the Well Managed Highway Infrastructure code of practice was introduced in 2016, many LHAs have reduced inspection frequencies, despite deteriorating roads. In fact, one of the LHAs who responded to Citroën's FOI request (Kingston-upon-Thames) admitted it did no driven inspections. This is because LHAs can save money by cutting down or forgoing inspections and the legislation permits them.

Using AI-based apps such as STAN (or its commercial derivative SmartVision) to monitor the road from the operator's smartphone would have multiple benefits:

- It would guarantee a much more accurate report on the road's condition. The AI won't just spot every imperfection in the road surface, it will also objectively assess and categorise them for a much richer data set
- Data will be consistent. Currently one human's assessment of a pothole might be very different to another's
- AI-driven reporting removes reliance on public pothole reports, which are frequently duplicated and subjective (e.g. exaggerated severity). Again, the result is more accurate and consistent data
- It would offer a precise geo-location for every defect, making it much easier for repair crews to fix the right failing
- No need for repeat site visits to verify defects. All imagery is captured, stored and accessible for review
- AI takes a high-quality photograph for every inspection, providing a verifiable "point-in-time" record of road conditions
- Boring, time-consuming manual data logging would become a thing of the past. Currently, inspection reports are filled out by hand and must then be input

to a database. AI systems automatically upload their findings in minutes (typically <15 minutes). Reports can be generated automatically

- It would free up at least one operator. This person would then be able to either scrutinise other roads or carry out site inspections where their skills are being put to better use
- With a system like STAN, a complete historical record is maintained within the platform, enabling trend analysis and retrospective review of road conditions and decisions
- Volunteers could even be tasked with mapping some roads such as all town and village back roads. A strong focus on utilities' work-in-progress, plus new housing developments would significantly reduce future issues from them
- Councils can equip their own fleet with these systems. These vehicles travel the network regularly – offering an opportunity to gather better data on vehicles that will already be driving those routes anyway

AI could transform our driving experience. Existing inspectors would focus on fast-failing roads, rural A, B, C and unclassified roads, seeking to radically reduce the backlogs of repairs.

Mike Mockford, sales director for Metricell, which is behind STAN, said: "Our system is around 90% accurate and every pothole is subsequently reviewed and validated by our team. In addition, each pothole can be assessed against LHA inspection guidelines to ensure consistent, compliant decision making.

"Every pothole is assigned a risk score and priority level to support smarter, proactive maintenance planning. And non-pothole defects, such as cracking and water pooling, key early indicators of pothole formation – are detected too, enabling predictive maintenance. Our AI also assesses 100-plus road asset types such as signage and road markings. It really is a significant step forwards over human inspections."

Only half of local highway authorities use any kind of geolocating to pinpoint potholes. More don't (49%) than do (47%), others do no inspections at all.⁵

2. Hold utilities/developers to account

Give LHAs greater powers over fixing roads after street works.

Road infrastructure alterations, frequently conducted by utility firms, have a significant impact on road quality. And included within the Traffic Management Act 2004 (TMA) is the framework for passing the costs of street repairs to the utility companies who carry out the work.

But the TMA is a toothless tiger as the House of Commons Transport Committee revealed: the current two-year guarantee for street works is too short. It needs to be increased to at least five years¹⁰.

More than half of people would accept an increase to their Council Tax bill and almost half would accept a small increase in VED if all the proceeds were spent on road improvements.²

The ALARM report claims LHAs in England and Wales reported spending an average of 3.1% of their carriageway maintenance budget addressing premature maintenance arising from utility openings. This totals £89.3 million, or just more than £528,400 per authority.

So, it's clear the current system isn't satisfactory. To encourage more rigorous repairs, LHAs need to be able

to fine utilities heavily if repairs fail, particularly if this happens more than once. This would provide an incentive for the utilities or their contractors to do the job properly in the first place.

If the continuous improvement strategy from point one of these six was employed, it would help if the underlying cause of each pothole was understood. This would prevent partial repairs that fail in days. At the moment, utilities must register their reinstatement work for inspection. Failure to do so can result in a fine of up to £2,500¹⁰. But to levy that, LHAs have to go to the small claims court. And if utilities pay early, the fine is reduced to either £240 or £160. This is simply too little to be a compelling incentive for firms with multi-million pound turnovers to oversee their street works effectively.

3. Change how roads are funded

Introduce a five-year plan for road funding to save LHAs money.

The lack of funding certainty and a fragmented approach is a significant driver of poor quality roads. Rather than random spending boosts announced in the annual Budget, nearly two thirds (61%) of local highway authorities (LHA) told the 2026 ALARM survey that five years was the optimum funding period. This five-year funding model gives each LHA financial certainty that would result in a range of benefits.

It would enable more efficient planning, allowing LHAs to schedule work more effectively. In turn, that has a positive impact on procurement letting LHAs save cost through economies of scale. And funding certainty permits LHAs to invest in new technology and their workforce.

The latter means they might be able to address problems such as the ageing workforce and evolving skill demands by offering a proper career path with training and upskilling opportunities to attract new recruits. This would buck the current trend where almost a third (31%) of LHAs only use external contractors for filling potholes. Meanwhile just more than a third (37%) use their own in-house salaried teams. The remainder employ a combination of the two.

The Chartered Institution of Highways and Transportation (CIHT) believes a five-year funding model, similar to that used on the strategic roads network that funds major arterial roads and motorways, could result in savings and efficiencies of 5-10%. On the current £21.9 bn annual road expenditure, that's £2.2 bn.

If this was combined with the 'continuous improvement' methodology used by Citroën to build cars, there could be a significant impact for the better on how roads are repaired and maintained and how local authorities set policies and strategies.

When potholes appear only around a third of LHAs use in-house salaried teams to repair them. Around a third rely entirely on external contractors to rectify defects.¹¹

4. Create a national standard

Tighten up legislation around road repairs

The 2016 change to the *Well Managed Highway Infrastructure* code of practice and its frustratingly vague wording has resulted in a widely varying national standard for roads.

Currently, the code states: "A risk-based inspection regime, including regular safety inspections, should be developed, and implemented for all highway assets." And "A risk-based defect repair regime should be developed and implemented for all highway assets."

Dave Gaster countered: "We need to reinstate the 'Liverpool Precedent'³ which states that a hole that's 40 mm deep should be filled. Reports of dangerous defects need to be investigated swiftly and made safe or repaired according to a national standard. Additionally, the Law Lords precedent 'Crawley vs Barnsley' should

be reinstated. This required all dangerous issues to be assessed within a day and if found true, made safe immediately."

Recreating a national standard would prevent individual LHAs from defining what constitutes a pothole differently and enable a much more rigorous repair schedule to be implemented around the country.

Commonality between LHAs over inspecting roads would enable better practice to be shared across different parts of the country. In turn, that would give some meaning to publicly available tables that compare the state of different LHAs' roads.

Again, there could be exponential benefits by using 'continuous improvement'. This might include:

- Consulting all road users to make highways safer, more economically viable and inclusive
- Addressing effectiveness and efficiency at all times. While the core LHA team tackles the potholes that need immediate work, others could deal with emerging defects. Dave Gaster said: "History has shown five-to-eight-fold increases in defects fixed per day doing this."
- Seeking collaboration and cooperation across all parties either involved in road management or road use, linking all safety, environmental and desired activities into all changes to the network

There's a huge variation in responding to defects. Currently the longest planned time between a defect being logged and a physical inspection varies from two hours (in emergency cases) to 80 days.⁴

5. Use volunteers

Employ volunteers to increase manpower at no extra cost

In the UK, millions of people volunteer every year. Government stats show that more than one in four adults (28%) take part in some sort of formal volunteering at least once a year⁶. That's around 14 million people who give their time free of charge to help schools, youth clubs, mutual aid groups or mentoring or befriending others.

Britain has a vast pool of people who are willing to give up their time to help make the community a better place. But there is no formal scheme to use volunteers to help LHAs monitor and maintain our roads.

The power of goodwill could be employed in many ways:

- Volunteers could inspect urban roads, geolocating and reporting defects in the carriageway. This would free up LHA inspectors to spend more time on rural roads which tend to pose a greater road safety threat
- Single LHA operatives who have the knowledge, experience and equipment to repair potholes could work as supervisors to small groups of volunteers who would contribute their labour
- In areas where official pothole mapping is incomplete, volunteers could use their personal transport to drive specified routes, mapping potholes and other defects using AI
- Volunteers, including local councillors, who have experience of civil engineering or road working could take geo-located photos with time stamps showing utility repairs in progress
- And while the New Roads and Street Works Act limits how much LHAs can monitor utility repairs, there are no such restrictions over volunteers, making it a smart tactical use of resources
- In addition town and/or parish councils could be enlisted to address local issues, such as vegetation obstructing access or signage, minor defects on back roads, pedestrian trips, or poor workmanship by utility companies

HOW VOLUNTEERS CAN WORK

After becoming frustrated at perceived inaction from West Northamptonshire Council, Dave Gaster gathered a small group of volunteers to carry out his own survey of Brackley's main roads, between July and September 2023. This was to ensure the roads complied with Section 58 of the Highways Act that broadly states roads should be fit for purpose.

"On eight roads, there were more than 300 defects such as blocked gullies, obscured road signs, flooding and 121 potholes.

When the LHA reviewed the report, it found 25 potholes were so dangerous that they needed instant repairs. On its own inspections, the LHA had found just one pothole worthy of repair," Gaster told us. "On another length of road, the LHA found no defects; our volunteers discovered 34, 18 of which needed filling immediately."





Of the LHAs who responded to the Citroën FOI, just two, City of London Corporation and the London Borough of Hillingdon, use volunteers. 97% don't. Yet a third of people would take part in a supervised voluntary road repair.⁷

Sweep up the 'secret' killer

Develop a road cleaning strategy to remove dangerous surface debris

When a pothole opens up, what's known as scree (gravel down to fine dust) is spread across the road. According to Dave Gaster, for every 1 cm³ of pothole that opens, eight times the cubic centimetre volume area of particles is displaced. Usually pushed to the edges or middle of the road by traffic, this scree congregates like a patch of marbles, waiting to catch out the unwary cyclist, motorbike rider and in extreme cases car drivers.

Citroën's research showed that more than a quarter of drivers (28%) had lost control either avoiding a pothole or because of scree on the road, or both.

Gaster added: "It's very rare that highways engineers are called to investigate road crashes. When the police carry out their investigation, they might say an accident is caused by excessive speed. They probably won't add that speed wouldn't have been a problem if the corner hadn't been covered in scree."

Mr Pothole, Mark Morrell added: "Loss of the wearing surface course is not recognised by some highways authorities as a safety hazard. However, approximately 60% of the grip between car and road surface can be lost when this is missing. It reduces braking efficiency and impairs the handling of a vehicle so has safety implications for all road users."

One simple way to address this problem is for LHAs to identify where scree builds up at junctions, roundabouts and bends. They could then develop a road sweeping strategy for these areas.

Only a quarter of local authorities sweep all their roads at least once every three months.⁸



HOW ROAD SURFACE DEBRIS HAS AN IMPACT ON SAFETY

Dave Gaster revealed how he used a simple correlation between road surface scree and crashes to cut the number of collisions.

He explained: "I used 'CrashMap'⁹ to identify a number of junctions, roundabouts and roads where crashes frequently occur, then surveyed these sites in person to check for surface delamination or scree. Over 40% had loose materials present. Yet police statistics say just 1.6% of crashes are caused by scree on the road.

"Reporting (and getting repairs via a councillor) stopped all future incidents at one roundabout suffering weekly crashes due to approach-road potholes and surface scree.

"Police rarely hold an LHA to account over a road crash. But Section 39.3 of the Road Traffic Act says police and highways authorities have a combined responsibility over road safety. After studies of vehicle crashes or near misses, they should take action to make roads safer."

Making this happen

Shifting attitudes, addressing funding

Potholes are the most obvious and dangerous symptom of poor road maintenance. Other symptoms include blocked drains, degraded white lines, vegetation growing over signs and even trip hazards on pavements. As with any plague, eradicating symptoms means focusing on the causes. In this case those causes are attitudes and funding.

No one is pretending that local highway authorities are awash with money and choosing to underfund their roads. They spend the bare necessity on keeping roads functioning because of monetary pressures from other departments.

But by shifting attitude and addressing how roads are funded through the lens of the financial benefits to the whole society of safer, more effective roads, road maintenance could become ever-more self-sustaining.

Savings from properly maintained roads

After significant falls through the 1980s, 90s and 00s, the number of fatalities on British roads continues to decline, but since 2010 at a stubbornly slow rate. Considering the advances in car safety and medical techniques over the last 16 years, it seems likely there are other contributory factors to the slow rate of decline and roads themselves will have a role to play.

In 2024, collisions on our roads cost the economy £54.7 bn¹. That's an increase of more than £12 bn over 2023 and represents £6.2 m every hour of every day of the year. Put another way, if there were no road crashes, society would save £54.7 bn – almost the entire UK defence budget.

UK government road safety statistics state that 'poor or defective road surface or deposits on the road' result in 3% of all fatal or serious collisions. 'Driver or rider view obscured by vegetation or buildings or layout or road signs' accounts for another 3%. Removing just those crashes would save society £3.3 bn. In 2025, RAC garage

data showed that if pothole damage was anything more than a puncture, the average repair cost £590.

And in February 2026, the RAC logged an average of 225 calls a day from pothole victims. That's five times the average 43 a day it recorded throughout 2025.

Meanwhile the 2026 Kwik Fit Pothole Impact Tracker claims the nation's drivers spent £1.8 bn in 2025 repairing pothole damage to their cars. That's the highest sum since its annual survey began in 2013.

There's the cost to local authorities too. The ALARM survey reports that LHAs paid out £31 m in compensation claims to owners with damaged vehicles. But that pales into insignificance compared to the savings LHAs are missing out on through the current way roads are funded.

Chair of the Asphalt Industry Alliance, David Giles, said: "Local authorities told us that if, hypothetically, their backlog of repairs was cleared, the amount they would need to maintain their roads to a steady state each year, would be £1 bn less a year every year going forward."

And there's a potential £2.2 bn saving from having a guaranteed five-year funding plan. Employing the Continuous Improvement methodology to ensure roads are continually maintained and managed in the most efficient way possible, with input from all stakeholders, would further increase savings.

Congestion on roads, whether it's caused by weight of traffic, crashes or road works also poses a significant cost to society. The Road Haulage Association believes congestion currently costs the UK economy £30.8 bn a year. And each car owner loses an average of £968 a year due to traffic delays².

Air pollution too, exacerbated by congestion, costs the UK £27 bn annually³. The most recent census claims a fifth of greenhouse gases could be attributed to road traffic⁴. Resolving disruptive potholes will result in fewer such unintended consequences.

Put all these costs together and thinktank the Centre for Economics and Business Research (CEBR) claims that the total cost of potholes to the British economy in damage, time wasted and increased emissions is £14.4 bn a year⁵.

Road funding reform is a win-win-win

Providing proper funding to return our roads to the condition they deserve to be in won't just yield a return

in savings to society through fewer crashes and less congestion. It will also free up more money for local highway authorities. And car drivers will benefit from an improved, safer driving experience with fewer costly repairs to damaged cars.

Meanwhile, having a systemic Continuous Improvement methodology at the heart of how roads are managed, maintained and used will ensure cooperation and collaboration plus the necessary change in attitude for a societal shift to the good.



Why every driver deserves the Citroën experience

Citroën has spent more than 100 years creating a unique driving experience focused on in-car wellbeing. Citroën Advanced Comfort® features innovative solutions and smart technology dedicated to ensuring all occupants enjoy a comfortable and stress-free travelling environment.

Another recent report states a 59% level of dissatisfaction among residents. That's the highest level of displeasure with any local government service¹.

The 2026 Annual Local Authority Road Maintenance (ALARM) survey, from the Asphalt Industry Alliance, states that to return the 183,000-mile local road network to a serviceable state would cost Britain's 154 local highways authorities (LHA) £18.6 bn. Eight years ago, that figure was £9.25 bn so the problem has effectively doubled in less than a decade.

Why is this more important than ever for British roads? Quite simply, cars with a more forgiving suspension take defects in the road surface such as potholes in their stride, giving driver and passengers alike a more compliant, relaxed and safer ride.

It's something that definitely resonates with British drivers. Citroën's exclusive research revealed that nearly two thirds of drivers (62%) cited comfort as very or somewhat important to them when buying a car.

How Advanced Comfort® works

The stand-out Citroën comfort that's a brand hallmark is based on four pillars:

- *Cocoon effect interiors that are soft to the touch with refined acoustics*
- *Practical interior spaces that bring people together*
- *A calming ambience for inner peace*

- *Intuitive and useful technology that results in an effortless drive*

The most important contributor to these pillars – bearing in the mind the poor state of Britain's roads – is the Advanced Comfort® structure that is integral to every current Citroën.

When a car hits a bump in the road, the shock absorbers soak up much of the impact's force but occupants still feel vibrations through the seats, floor, pedals or steering wheel. To counter these, all modern Citroëns are built using structural bonding.

This is where the structural parts of the car's body are joined using an adhesive. Where the line of adhesive is interrupted, there's an electrical weld point. This improves overall body rigidity which cuts down on the vibrations transmitted to the occupants inside. And fewer welds mean less weight, also reducing fuel consumption.

Suspension

A car's body is connected to the road through the tyres, wheels and suspension. Conventional suspension features shock absorbers, springs and mechanical bump stops. The latter are like buffers that soak up the final forces of an impact once the shock absorbers and springs have taken up as much as they can.

Citroën Suspension with Progressive Hydraulic

Cushions® replaces the mechanical stops with one progressive oil-filled hydraulic buffer at the top of the suspension for compression, one at the bottom for rebound. Where traditional mechanical stops soak up much of the energy from the shock absorbers over a bump then return some of it through the car's structure, Citroën's cushions absorb and dissipate much more of the energy at the end of the suspension's travel.

The progressive nature of these hydraulic cushions smooths out the ride much more gradually than mechanical stops, similar to the 'magic carpet ride' of previous models.

In the 1950s, Citroën revolutionised suspension with its hydropneumatic system that uses hydraulic fluid plus gas rather than springs and shock absorbers for damping. Then in the early part of the 21st Century, the company's Hydractive 3 system gathered data about the road and driving style to adapt suspension responses accordingly.

The latest iteration of this, Citroën Suspension with Progressive Hydraulic Cushions®, has further benefits too. Newton's Third Law of Motion dictates that when one object exerts a force on another object, the second object exerts an equal and opposite force back.

This means when a Citroën does encounter a pothole, not only is it less likely to suffer serious harm because Advanced Comfort® helps it to absorb the impact's shockwaves but it's also less likely to inflict further damage to the road.

Seats

Since the 1950s, seats have been an important contributory factor to Citroën's legendary comfort. While the seats in current models have some visual similarities to their predecessors, as you might expect, they've developed hugely over time.

By drawing inspiration from the bedding industry, Citroën employs different types of foam and distinct densities to various parts of the seat. For example, high-density foam is used in the seat centre with thick textured foam on the surface.

This enables seats to adapt to the body shape of each occupant, then 'rebound' to their starting shape when vacated, in a similar way to a memory foam mattress. The result is seats that are soft yet supportive but importantly which also reduce feedback to their occupants from imperfections in the road surface.

Inner peace

Citroën Advanced Comfort® also means generous, spacious and airy interiors with clever storage solutions and improved noise suppression through acoustic glass and continuously improving sound deadening materials.

Peace of mind is exacerbated by dashboard screens that only show useful information for a soothing interior ambience. And a head-up display presents information in the driver's field of vision to aid concentration on the road ahead. Vital when there are potholes to be avoided.

Where Britain goes from here

Nine in 10 of the people Citroën asked said they felt there was a lack of pride in the maintenance of public roads in this country¹. Citroën has invested in this pothole campaign because it wants to reverse that trend while drawing wider attention to the decline of Britain's roads.

More importantly, Citroën wants to play a constructive part in doing something about it – for the benefit of all road users. The exclusive research has shown that road users are keen to play a more significant part, whether it's through paying more or donating their time.

And this manifesto also reveals that sorting out the country's roads won't just benefit drivers. It will have a significant benefit to society in general, potentially through billions of pounds worth of savings.

So what can people do about it? Drivers can download the STAN app to their smart phone and survey roads when they drive. They can use Citroën's template to write to their MP urging them to adopt this manifesto's six-point plan. They can even contact their local authority and investigate the options for volunteering.

As for government, it could draw inspiration from abroad. The country generally considered to have the best road network in the world, Singapore, regards transport as integral to its inhabitants' lives. And it believes providing safer roads for all is paramount. While there are multiple differences between Britain and Singapore, there's evidence adopting these attitudes could yield significant results.

Of Citroën's six suggestions to resolve the state of Britain's local roads, none costs extra money. Three (one, two and six) actually enable local highway authorities to save money. Meanwhile suggestions three, four and five may require up-front cost but should cut costs long term.

Isn't the shift in attitude required to implement these changes worth it for a local roads asset estimated to be worth in excess of £400bn?





Glossary

New Roads and Street Work Act (NRSWA)

Replaced the Public Utilities Works Street Work Act (PUSWA) in 1991. This change gave utility companies the right to permanently repair their trenches and excavations, taking the task away from LHAs.

Well Maintained Highways

This 2005 code of practice gave LHAs consistent guidance over how roads should be maintained. Any hole that was 40 mm or more deep was considered a pothole that needed fixing.

Well Managed Highway Infrastructure This 2016 code of practice replaced Well Maintained Highways. It offers guidelines but allows each LHA to come up with its own definition of what constitutes a road surface defect.

Risk-based approach

This enables LHAs to assess the risk of failure and assess the consequences of that failure in order to prioritise maintenance.

Continuous Improvement

This is used in many industries, including automotive, and refers to the ongoing effort to enhance processes, products or services through small, incremental changes. It focuses on refining methods over time rather than disruptive overhauls.

Liverpool Precedent

States that a hole that's 40 mm deep should be filled. Reports of dangerous defects need to be investigated swiftly and made safe or repaired according to a national standard. It resulted from a 1968 court judgement over a dangerous pavement.

Crawley Vs Barnsley

This required all dangerous issues to be assessed within a day and if found true, made safe immediately. It came about after Lee Crawley took Barnsley council to court after injuring himself in a pothole that had been reported but not repaired.

Freedom of Information (FOI)

The 1982 Freedom of Information Act is a legal framework that allows the public to request access to documents held by government agencies and ministers.

References

EXECUTIVE SUMMARY

- OnePoll research of 2,000 UK adult drivers. Conducted 24-26 April 2026
- Freedom of Information request sent to Britain’s 154 local highway authorities.
Response rate was 47% (73 LHAs)
- Dave Gaster has an HND & BSchHons in Civil Engineering. His speciality is change management, increasing efficiency, effectiveness and quality in virtually every job and assignment. He’s accrued 26 years local government experience, the last 10 at director level. This was followed by more than 20 years consulting to local government. The worldwide inventor of Lean and Systems Thinking, he has published eight booklets including ‘Potholes for Councillors’ in 2016 and following five years of research launched ‘Curing Pothole Britain’ which focuses on efficiency and effectiveness to improve roads maintenance and management. In a recent consultation review of Well Managed Highway Infrastructure code of practice, Dave has voiced over 140 views, making more than 20 recommendations and leaning heavily on Citroën’s six-point plan.

Why Britain’s roads are crumbling

- Centre for Economics and Business Research
- CIHT: Unlocking the benefits of funding for local roads
- Kwik Fit Pothole Impact Tracker 2026

Citroen’s six point plan

- LGA polling Oct 2024
- Department for Transport
- Citroën GS vs. Citroën C3
- 2023/24 RAC
- Dave Gaster research, London Boroughs of Hillingdon and Tower Hamlets, Solihull, Cheshire and Nottingham City
- Transport Committee Managing the impact of street works: Government Response 2024-26
- Asphalt Industry Alliance ALARM survey 2026
- Asphalt Industry Alliance ALARM survey 2016
- UK Parliament
- Submission from the Road Haulage Association (RHA) to HM Treasury

Making this happen

- CIHT: Unlocking the benefits of funding for local roads
- OnePoll research of 2,000 UK adult drivers. Conducted 24-26 April 2026
- Griffiths v Liverpool Corporation (1966) reinforced that a highway authority cannot rely on speculation to defend itself; it must show that reasonable care was taken to maintain the specific section of the highway where the accident occurred
- Freedom of Information request sent to Britain’s 154 local highway authorities. Response rate was 47% (73 LHAs)
- Ibid
- Community Life Survey 2024/25: Volunteering and charitable giving
- Freedom of Information request sent to Britain’s 154 local highway authorities.
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- <https://www.crashmap.co.uk/Search>
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Why every driver deserves the Citroen experience

- Department for Transport
- Submission from the Road Haulage Association (RHA) to HM Treasury
- Royal College of Physicians A breath of fresh air. Responding to the health challenges of modern air pollution
- Census 2021
- Centre for Economics and Business Research 29 April 2024

Where Britain goes from here

- OnePoll research of 2,000 UK adult drivers. Conducted 24-26 April 2026
- Department for Transport: Economic Appraisal for investing in local highways maintenance

