ASPHALT INDUSTRY ALLIANCE

ALARM

Annual Local Authority Road Maintenance Survey Report

2024

Publication embargo: 00.01 19 March 2024

About the ALARM survey

Each year the Asphalt Industry Alliance (AIA) commissions an independent survey of local authority highway departments in England (including London) and Wales.

The aim of the survey is to take a snapshot of the general condition of the local road network, based on information provided directly by those responsible for its maintenance. The data received from local authorities provides a means of tracking any improvement or deterioration, allowing long-term trends to be reported, and the qualitative feedback received from them provides context.

Questions in the survey relate predominantly to the maintenance of the carriageway itself – the road surface and structure – and only that part of the total highway maintenance budget which specifically addresses the condition of the carriageway, referred to as the carriageway maintenance budget. Total highway maintenance budgets also cover other significant areas of expenditure – including structural work to bridges, street lighting and cyclical maintenance (for example grass-cutting, checking traffic signals and the replacement of street furniture) – which are excluded from this report.

ALARM 2024 is the 29th annual survey and 72% of authorities responsible for local roads in England and Wales responded. This report summarises the key findings.

The survey and data collation was carried out between December 2023 and February 2024. Unless otherwise stated, the findings are based on the financial year 2023/24, ending 31 March 2024. Where these are unavailable, figures for the calendar year 2023 were requested.

There are four authorities in England, and one in London, which have Private Finance Initiative (PFI) contracts in place to fund and manage their highway maintenance programmes over a 25-year period. These are not included in the survey.

Contents

The ALARM survey 2024 includes the findings of both quantitative and qualitative research.

The data received from local authorities has been extrapolated to represent the 115 local authorities in England without a PFI, 22 in Wales and 32 in London. The results have been collated, analysed and verified by a registered member of the Royal Statistical Society. ALARM survey reports from previous years can be accessed via our website: www.asphaltuk.org. A broad range of other road-related statistics are collated on RoadFile: www.roadusers.org.uk

For further information about the ALARM survey contact:
AIA Press & Information Office,
Archway Office, Barley Wood Stables,
Long Lane, Wrington BS40 5SA
+44 (0)20 7222 0136
info@asphaltuk.org
@AIA_Asphalt | asphaltuk.org
@asphalt-industry-alliance

Quotations used in this report are from local authority highway officials.

Arrows indicate the direction of change from ALARM 2023.

ACKNOWLEDGING ALARM

The Asphalt Industry Alliance (AIA) is happy for journalists, researchers, industry organisations, government departments and others to use and/or quote the findings of ALARM 2024 contained in this report. We stipulate that it is always acknowledged as your source – referencing it as the AIA's ALARM survey report 2024 (or AIA ALARM 2024) – in all cases.

Still a mountain to climb

Overview by **Rick Green**, Chair, Asphalt Industry Alliance

Poor road conditions impact on our everyday lives, from the cost and inconvenience of damage to vehicles, to potentially causing accidents and injury to vulnerable road users such as cyclists, some which might prove fatal. Poor roads are also less energy-efficient to drive on, resulting in increased carbon emissions from vehicle exhausts.

Last autumn the Government acted on repeated calls – including ours – for longer-term, sustained investment with its promise of £8.3 billion additional funding for local roads in England, including London, over the next 11 years. But, with the latest findings of this year's ALARM survey reporting only 47% of local roads across both England and Wales as being in 'good' structural condition, the scale of the challenge is clear.

Continued decline

Almost 95% of ALARM respondents in England and Wales stated that the structural condition of their network has actually declined or, at best, remained in a steady state over the last 12 months. This was mirrored by data highlighting that more than 107,000 miles – equivalent to 53 per cent of the network – has been classified as having less than 15 years' structural life remaining.

The continued decline in structural conditions is also reflected by the cost of tackling the backlog of carriageway repairs which has increased to a new record high of £16.3 billion.

Unfortunately, highway teams have also been hit by the impact of rising costs due to inflation, which has meant that they have been able to do less – even though average carriageway maintenance budgets increased.

As a result, local authorities, who have a statutory responsibility to keep local roads safe, just don't have the funds to allow them to carry out the appropriate maintenance interventions, at the right time. In the meantime, the frequency of extreme weather events is increasing, accelerating the rate at which the network is travelling towards breaking point.

Longer-term approach

By taking a longer-term approach in its funding annoucement the Government has recognised that fixing our roads is about more than filling in potholes. But while the Transport Secretary stated that the additional Network North money was enough "to resurface 5,000 miles of local roads" over the next 11 years, this only equates to just 2.5% of the local road network – or less than 0.25% per year. It also assumes that all existing highway maintenance funding allocations are maintained and not eaten up by inflation in the years to come.

That said, English local authorities and London boroughs would be in an even worse position without this additional funding, so we sincerely hope that this promise is delivered on and that the Welsh Government also honours its commitments to prioritising highway maintenance.

We need to reach the point where local authority highway engineers are able to plan and proactively carry out maintenance work in the most timely and efficient way to the greatest benefit of all road users – rather than just having enough money to address immediate and urgent repairs.

Executive summary

The aim of the Annual Local Authority Road Maintenance (ALARM) survey is to highlight the connection between local road maintenance funding and conditions in England (including London) and Wales. The findings are based on information provided directly by those responsible for their upkeep.

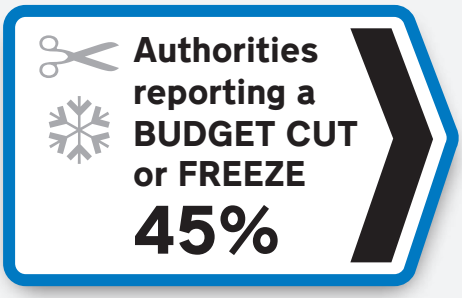
More than 70% of local authorities responded to this year's survey, providing robust data for analysis and underscoring the value that those working in the sector place on its annual findings. It is used by local authorities for benchmarking and by stakeholders across the sector as a valuable tool for tracking local road conditions and funding.

Key facts 2023/24

Funding:

- Local authorities in England and Wales effectively experienced **a real-terms cut** due to the impact of rising costs due to inflation, despite average highway maintenance budgets increasing by 2.3% to £26.4 million per authority.
- **45% of authorities reported a cut or freeze in their highway maintenance budget**, even before inflation is taken into account.
- Against this challenging backdrop, the average percentage of highway maintenance **budget spent on the carriageway increased slightly to 52%. Average carriageway maintenance budgets also increased by 8.5% to £14.1 million** from £13.0 million last year.
- The additional amount local authorities across England and Wales would have needed to maintain their network to their own targets was **£1.22 billion**. This means that the average shortfall in the 2023/24 carriageway budget was **£7.2 million per authority**.
- The **one-time catch-up cost has increased by 16% to a new record high of £16.3 billion** and the work to address it would still take a decade to complete. This is the amount needed, as a one-off (at today's prices), to bring the network up to a condition that would allow it to be managed cost-effectively as part of a proactive asset management approach.

> We have seen a small increase in our highway maintenance budget, but this has been wiped out by the effects of rising inflation. In fact, if anything, we've been able to do less with the money than we did a year ago.



Detailed key findings can be found on page 20.

Conditions:

- Road Condition Index (RCI) data reports the general condition of the surface of the carriageway, not necessarily the structure of the road. It shows there has been another **drop in the length of roads classed as GREEN** (in a good state of repair) and a corresponding increase in those classed as AMBER (showing some deterioration).
- Roads classed as RED (poor overall condition) have again remained stable but still **one in every 10 miles** (11%) of the local road network in England and Wales is likely to require maintenance in the next 12 months. This equates to around 22,300 miles.
- **2 million potholes were filled** over the last year – up more than 40% from 1.4 million last year – equivalent to one every 16 seconds.
- The average frequency of resurfacing for all classes of roads is **once every 80 years**.
- Structural conditions continue to decline and now less than half (only 47%) of local road miles in England and Wales are classed as being in 'good' structural condition, down from 51% last year. The remaining **53% – more than 107,000 miles – now have less than 15 years' structural life remaining**. Structural maintenance is needed when surface maintenance alone won't suffice, and this data helps provide a more complete assessment of the overall carriageway asset.

We have spent the last year firefighting and trying to manage expectations of what can be achieved with the budget we have and a deteriorating network.

Recommendations

Only 6% of ALARM respondents in England and Wales reported that the structural condition of their local road network improved over the last year. The continued decline of our local roads, on which we all rely, is borne out by the fact that the cost of tackling the backlog of carriageway repairs has jumped by more than £2 billion, standing at a new record high of £16.3 billion.

Surface conditions are also reported to be worse – demonstrated by a 40% increase in the number of potholes filled over the last 12 months adding to the existing patchwork of previous repairs. This indicates that local authorities, who have a statutory responsibility to keep local roads safe, don't have the funds to do so in a cost-effective, proactive way, which would allow them to carry out the appropriate maintenance interventions at the right time.

We recognise that there continue to be many pressures on the public purse, but local roads are one of the country's biggest assets, so we call on the Government to:

- **Fulfil its promise** to deliver £8.3 billion in **additional** Network North funding over the next 11 years.
- **Sustain** current levels of funding through the Highway Maintenance Block and Pothole Fund allocations and extend their timeframe to match the additional funding to drive more effective asset management.
- **Increase** the level of all these sources of funding at least in line with inflation to ensure a real-terms increase in highway maintenance budgets.

In addition, the Welsh Government should also honour its commitments to prioritising highway maintenance. Combined these measures would allow local authority highway engineers in England and Wales to proactively plan and deliver improved conditions and create a safe, resilient and sustainable network for the future.

Highway maintenance budgets

There are 202,600 miles of local roads in England and Wales, including London, representing 97.3% of the total road network (source: Department for Transport, 2022). They are considered to be local authorities' most valuable asset, with a combined value in excess of £400 billion, and are maintained by local highway authorities, who have a statutory obligation to keep them in a safe condition.

Highway maintenance is a key service provided by local authorities but is just one of many areas of responsibility and necessary expenditure along with, for example, education, social care and housing.

Feedback received for 2023/24 suggests that the proportion of total local authority budgets allocated to highway maintenance continues on a downward trend. It now represents less than one per cent of local authorities' overall budgets and a small fraction of the total asset value.

These total budgets are funded by central government as well as local authority sources, which includes borrowing, use of capital reserves and monies collected through council taxes and a share of business rates as well as parking fines and other fees.

Highway maintenance funding in England

Local authority budgets for all highway maintenance activity in England (excluding London) were reported to have seen an increase to an average of £34.5 million per authority – the highest monetary value recorded in ALARM but, as an increase of just 3.6%, this was well below the prevailing rate of inflation experienced over the last year.

As to be expected, this average hides a wide disparity between those local authorities seeing increased budgets and those which have experienced a cut from the previous financial year.

In England, 43% of responses report an absolute cut or freeze in monetary terms on last year's highway maintenance budgets, despite the additional Network North funding announced by the Government in October 2023. These are funds reallocated from the cancelled second leg of HS2, which the DfT announced amount to £150 million in 2023/24.

> Unfortunately, the extra funding from DfT isn't extra at all – it's just counterbalancing the effects of inflation. The reality is, there is no additional money.

Of total budgets allocated for highway maintenance, 56% is reported to be funded by central government, while the remaining 44% comes from local authorities' own sources.

The DfT provides 92% of the central government funding to English highway authorities – equating to approximately 52% of authorities' total highway maintenance budgets.

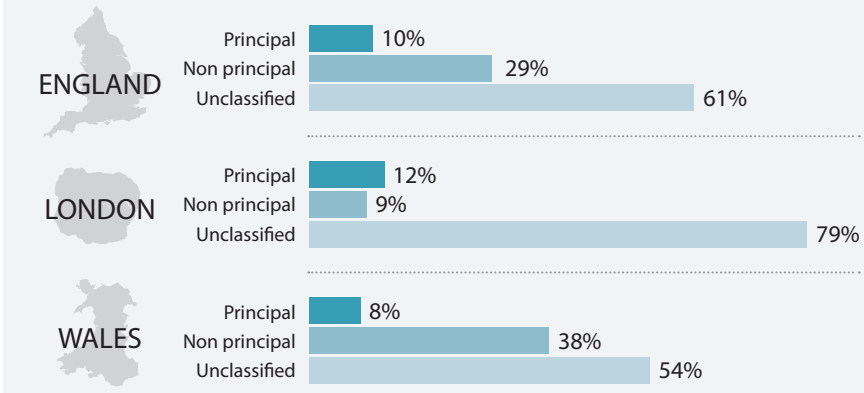
The majority of this DfT funding is not specifically allocated for highway maintenance or improvements and comes from three pots: Highways Maintenance Block needs-based funding, Pothole Fund plus the additional Network North funding.

The remainder of central government funding is from other sources such as the Department for Levelling Up, Housing and Communities, Environment Agency grants and regional and mayoral areas growth funding, although this represents a small proportion of local authorities' total highway maintenance budgets at 4.6%.

In England, 34% of local authorities, particularly those in and surrounding large cities, are members of a Combined Authority, which takes responsibility for allocating all DfT transport-related funding, including highway maintenance, among

Local roads in England and Wales

Proportion of road by type (source: DfT road length data 2022)



its membership. These local authorities reported an average highway maintenance budget of £19.8 million in 2023/24 – significantly lower than the overall average for England (£34.5m).

Highway maintenance funding in London

Respondents in London have reported a 7.5% drop in their overall highway maintenance budget, from an average of £10.7 million per authority in 2022/23 to £9.9 million in 2023/24.

Despite this apparent average decrease, there have been significant capital investment projects – funded from London boroughs' own sources – in a small number of authorities, while others reported only marginal gains. And, as reported last year, there continues to be a disparity between those receiving an increase in their budgets and those experiencing a freeze or a reduction on last year.

London boroughs are, however, benefiting from the Network North funding, with the DfT allocating an additional £7.5 million across the capital in 2023/24. This equates to an average of £235,000 per authority, although feedback suggests not all are seeing these additional funds filter into their budget.

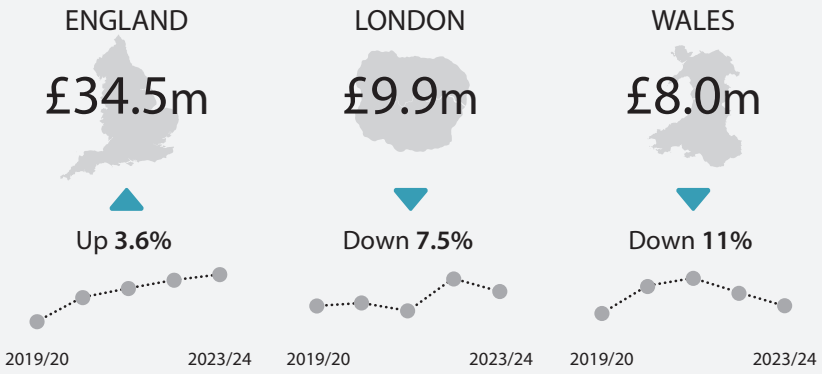
Since the Government withdrew funding to TfL in 2018, the majority of highways maintenance budgets in the capital have come from London Borough's own sources. The cash injections made by Government to TfL between 2020-22 – to deal with the effects of reduced income during the pandemic – were predominantly spent keeping services running.

In 2023/24, only 39% of budgets for London are reported to originate from central government sources, including TfL and DfT, with 61% coming from borrowing and other borough revenue such as parking fees.

Highway maintenance budgets

Average per authority 2023/24, with change from 2022/23

Includes bridge maintenance and structural work, cyclical maintenance (such as sweeping, grass cutting, checking traffic signals and replacing street furniture) and maintaining street lighting.



Highway maintenance budget variances

Percentage of local authorities who saw decrease/increase/no change compared with 2022/23

	Decrease	Increase	No change
ENGLAND	40%	57%	3%
LONDON	27%	60%	13%
WALES	60%	40%	0%

Highway maintenance funding in Wales

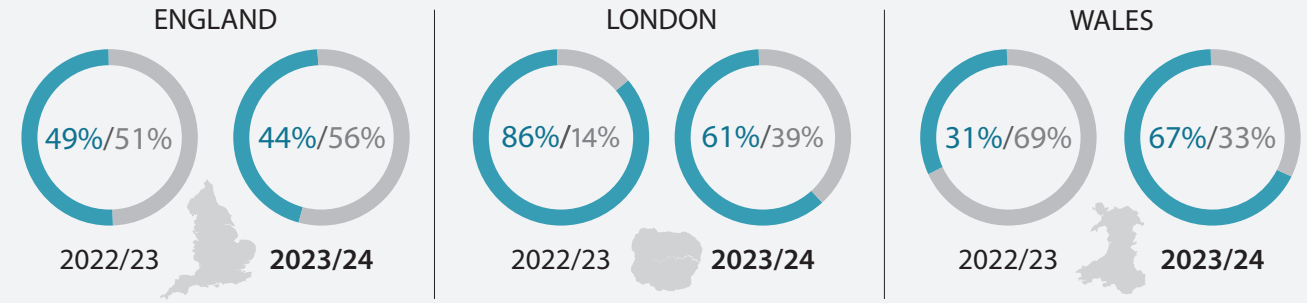
Average budgets reported in Wales have seen a drop for a second successive year to £8.0 million per authority – 11% lower than ALARM 2023 and the lowest figure reported since 2020.

Most Welsh respondents (60%) reported a cut on last year's overall

Highway maintenance budgets continued

Funding streams

Local authority and central government funding



highway maintenance budget, with 40% experiencing increased funding.

Of the total funding, only one third (33%) of the funding came through the Welsh Assembly Government, with some authorities reporting not receiving any monies at all through this source. The remaining two-thirds come from authorities' own sources, representing a sizable shift from last year's data.

Overall picture

The overall total highway maintenance budget across England and Wales for 2023/24 is reported as £4.46 billion, up 3% on the 2022/23 figure (£4.33bn) but did not keep pace with inflation, which would have required an increase of 7.66% (source: statista.com).

The graphic on page 9 demonstrates the fluctuating level of highway maintenance budgets over the last decade, showing a general upward trend in absolute terms but still less than the rate of inflation.

Carriageway maintenance

Defined in the ALARM survey as: *the percentage of the highway maintenance budget spent on the carriageway itself*, the carriageway maintenance figure increased to 52% across ALARM respondents, from 50% in 2022/23 and back in line with the figure reported in ALARM 2021.

There is a disparity, however, between the figure reported in England and that reported in London and Wales. In both these regions the percentage spent on the carriageway has dropped (see graphic below), with qualitative feedback suggesting this is due to an increase in the percentage being allocated to footways as part of local authority's active travel ambitions.

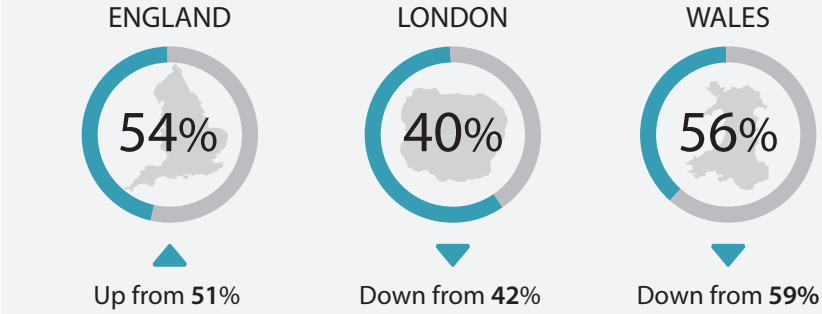
Overall, the reported total carriageway maintenance budget across England and Wales in 2023/24 was £2.38 billion, up 8.7% from £2.19 billion in 2022/23.

The vast majority of local authorities (88% of responses) spent all of this and one in five (22%) of these reported an **overspend** due to factors such as rising prices, schemes carried over from the previous financial year and the scope of projects changing at the point of delivery.

The average reported proportion of the carriageway maintenance budget spent on reactive maintenance (that not planned for at the beginning of the year) is also up across England and Wales (see graphic on page 7).

Carriageway spend

Proportion of the overall highway maintenance budget spent on the carriageway itself (**52%** overall)



Carriageway maintenance budgets

Average per authority, with change from 2022/23

These figures acknowledge that circumstances can create an immediate need for maintenance to keep the roads safe and useable. It is extremely difficult for local authorities to predict and allocate the percentage of budget required for this kind of work but, it is generally agreed that around 16% (the same figure reported for the last four years) is considered a more ideal level, far less than the reported reality.

Unforeseen costs

A sizeable number of respondents have reported having to cope with unforeseen highway maintenance costs over the year.

The reasons identified for this include dealing with the effects of extreme weather events, rising traffic volumes and increased average vehicle weights on a deteriorating network, as well as the impact of inflation which has had a noticeable impact on costs.

In England, 57% of respondents have dealt with unforeseen costs, down from 70% reported last year. The average additional cost incurred has remained in line with that reported last year at £1.9 million per authority.

More London boroughs reported experiencing unforeseen costs – 89% this year compared with 72% last year – but the additional cost incurred dropped to an average of £385,500 per authority from £687,000 reported last year.

The number of respondents in Wales reporting dealing with unforeseen costs remains extremely high at 83% (2022/23: 80%) and the average cost per authority has increased dramatically to £530,300 (2022/23: £98,800), significantly compounding the impact.

Overall, £249.3 million was spent addressing unforeseen costs in England and Wales in 2023/24, up 5.5% from last year, so while the frequency of dealing with such eventualities was less; the cost of addressing them increased.

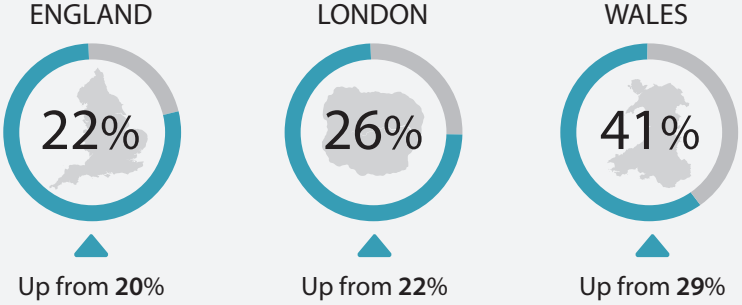
Adverse weather

Adverse weather conditions, particularly wetter winters with more intense downpours and storms and hotter, drier summers, coupled with increased traffic volumes and the age of the network can result in accelerated deterioration and a cycle of reducing resilience.

The combined impacts are more acute on evolved and often less well-maintained roads, where water can penetrate existing cracks or defects, leading to the formation of potholes which proliferate over time, compromising the serviceability of the road.

Reactive maintenance

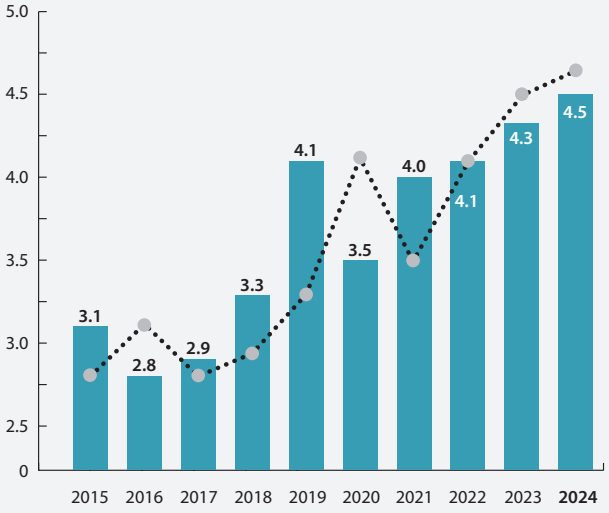
Proportion of carriageway maintenance budget spent on reactive maintenance (**16%** considered ideal)



Highway/carriageway maintenance trends

Total highway maintenance budget in England and Wales

(£bn)

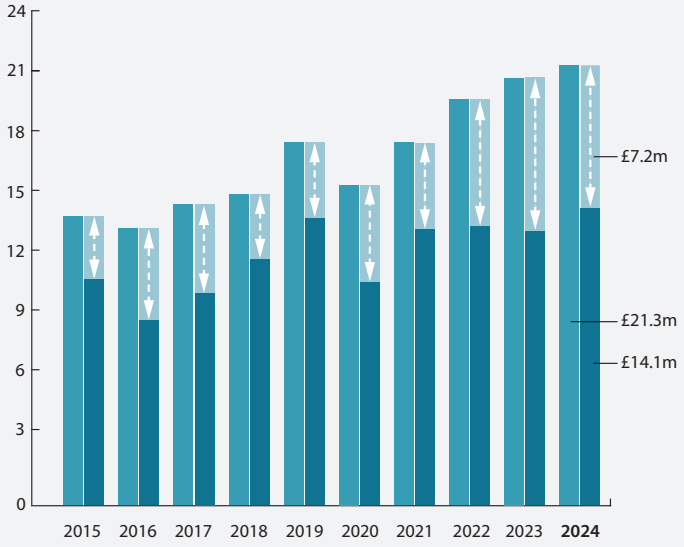


Total highway maintenance budget in England and Wales

Equivalent amount if annual rate of inflation was accounted for (source: statista.com)

Carriageway maintenance budget needed

Annual average per authority (£m)



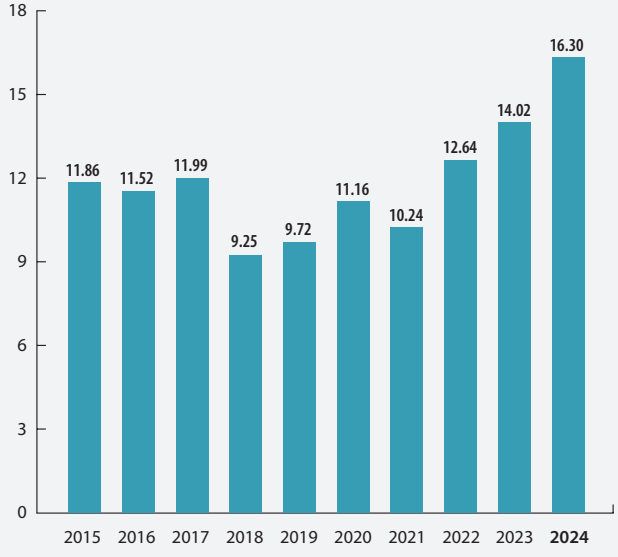
Annual average budget for carriageway maintenance

Annual average carriageway maintenance budget needed

Shortfall

One-time catch-up costs

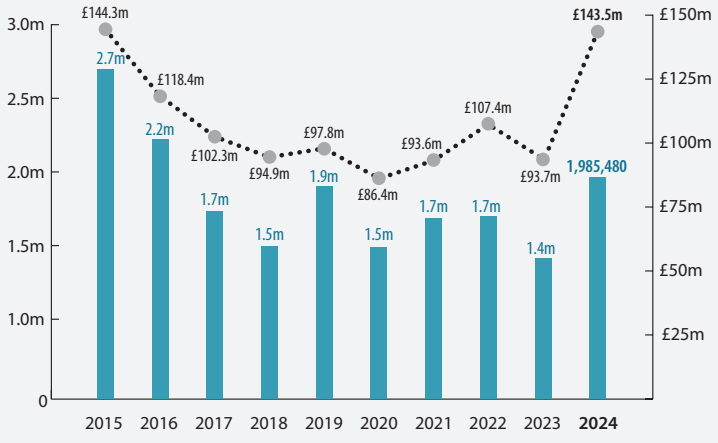
(£bn)



Estimated total one-time catch-up costs

Potholes

Number of potholes filled and cost (£m)



Number of potholes filled

Cost of filling in potholes (£m)

Data reported above is as per previous ALARM surveys and represents financial years. For example, 2024 represents data from 2023/24.

Highway maintenance budgets continued

Budget shortfall

The total shortfall (see panel above) in 2023/24 carriageway maintenance budgets reported in England and Wales (including London) is **£1.22 billion** (2022/23: £1.30 billion), the equivalent of a funding gap of £7.2 million per authority and an average of £6,020 per mile of network. This is a 6.5% drop on ALARM 2023 figures (£7.7m average), but higher than reported in 2022 (£6.4m average).

In England, the shortfall is reported as £7.5 million per authority, a decrease of 11% on last year (2022/23: £8.4m), while in London the gap has increased by 6.8% to £7.8 million (2022/23: £7.3m).

The shortfall reported in Wales has increased again for the fourth successive year, from £4.3 million in 2022/23 to £4.7 million this year – a rise of 9.3%.

Qualitative research demonstrates that the scale of the shortfall could still be being masked by the fact that 50% of local authorities report transferring capital funds, intended for highway improvements, to supplement revenue budgets for 'traditionally' maintenance work. Of course, carrying out road maintenance as part of capital works, still leads to efficient highway improvements, regardless of the funding stream.

One-time catch-up cost (backlog)

Each year the ALARM survey asks highway departments to estimate how much it would cost to address the effects of the legacy of shortfalls and bring their road networks up to scratch (assuming they had the resources in place to make it practical to do so as a one-off project).

This would be the condition from which longer-term and cost-effective, planned preventative maintenance programmes could be put into place, deferring the future cost of more extensive repairs or replacement.

The combined estimate for this one-time 'catch-up' cost – *over and above what local authorities indicate they already receive* – for England and Wales is now **£16.3 billion** – the highest reported in ALARM. It is the third successive year that the figure has jumped (2022/23: £14.02bn; 2021/22: £12.64bn; 2020/21: £10.24bn), and continues the accelerating upward trajectory reported over the last decade (see trend data on page 9).

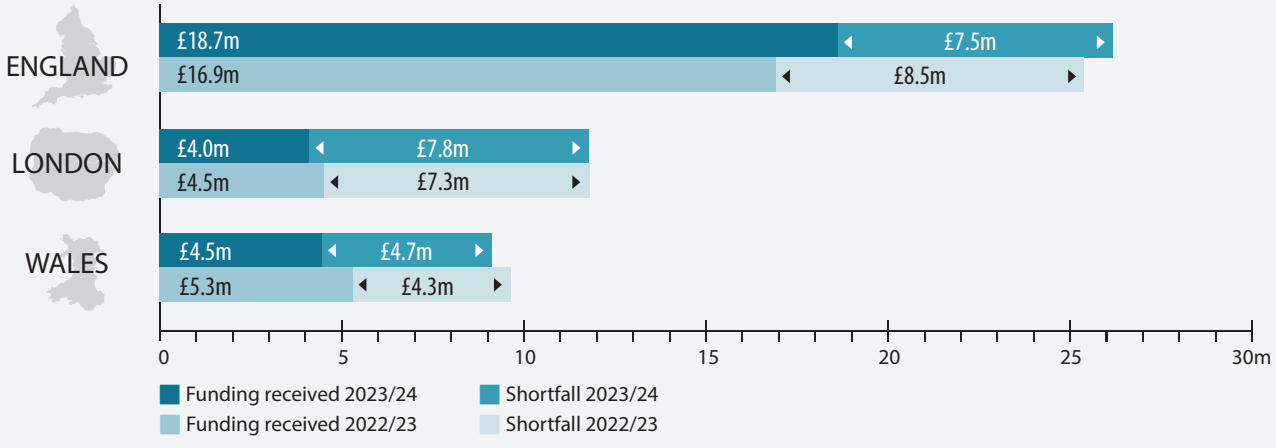
This 16% increase equates to an average carriageway maintenance 'backlog' cost of £80,450 per mile of local road in England and Wales. The one-time catch-up cost is an average of £124.9 million per authority in England; £39.5 million in London and £30.3 million in Wales.

Shortfall versus the backlog

The **shortfall** is the difference between the sums received in any financial year and the amount a local authority would need to keep their network to current target conditions and prevent further decline. The **backlog** describes the amount that would be needed – as a one-off – to bring the network up to a condition that would allow it to be managed cost effectively going forward as part of a proactive asset management approach. .

Budget shortfall

Average carriageway maintenance budget received and average shortfall per authority to meet target conditions (£m)



> Our maintenance backlog is more than 10 times our annual budget, so we have to be very selective about what we pick and don't pick to maintain.

Addressing the maintenance backlog

Highway departments estimated that it would take 10 years to get local roads back into a reasonable steady state, if adequate funding and resources were in place. This breaks down as an average of 11 years in England and 9 years each in London and Wales.

Maintenance backlog

10 years:
average number of years needed to clear carriageway maintenance backlog (2022/23: 11)

Longer term funding

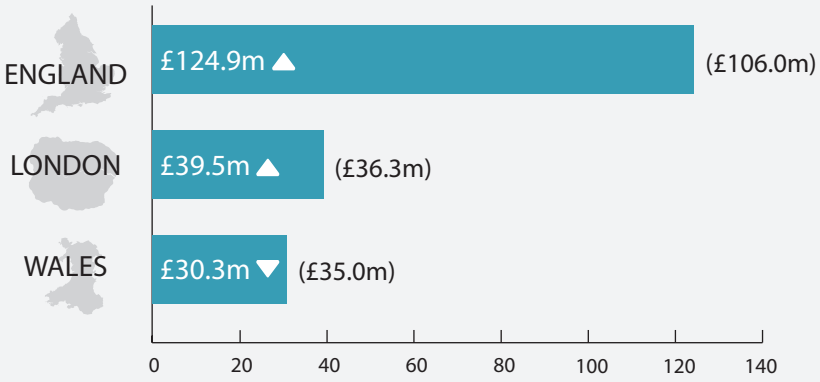
There is consensus among respondents that guaranteed, longer-term funding helps increase efficiency and provide a more resilient road network.

Almost all responses indicate that at least 5 years should be considered as the optimal term (5 years: 54%; 10 years: 40%), with some suggesting up to 25 years (as used for PFI funding models) could be considered "ideal".

Security of funding helps authorities plan with more confidence and drive greater cost and environmental efficiencies through the promotion of proactive asset management techniques.

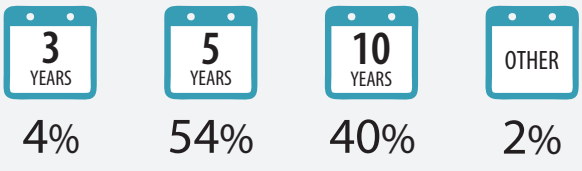
One-time catch-up costs (backlog)

Average additional one-time catch-up cost required to clear carriageway maintenance backlog per authority, £m (2022/23 in brackets)



Longer term funding

Reported ideal term funding in England and Wales (% of responses)



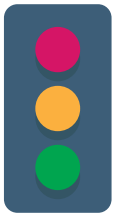
Road condition

Road Condition Index (RCI)

Responses indicate there has been a further decline in the length of roads in England and Wales classed as being in a good state of repair over the course of the year.

Overall, 57% of local roads are now reported to be GREEN (2022/23: 61%), with many dropping into AMBER, which now accounts for 32% of the network. In real terms, it means there are over 8,000 MORE miles of local road in England and Wales that show signs of deterioration than were reported 12 months ago as well as 8,000 LESS miles reported as being in a good state of repair.

RCI Index



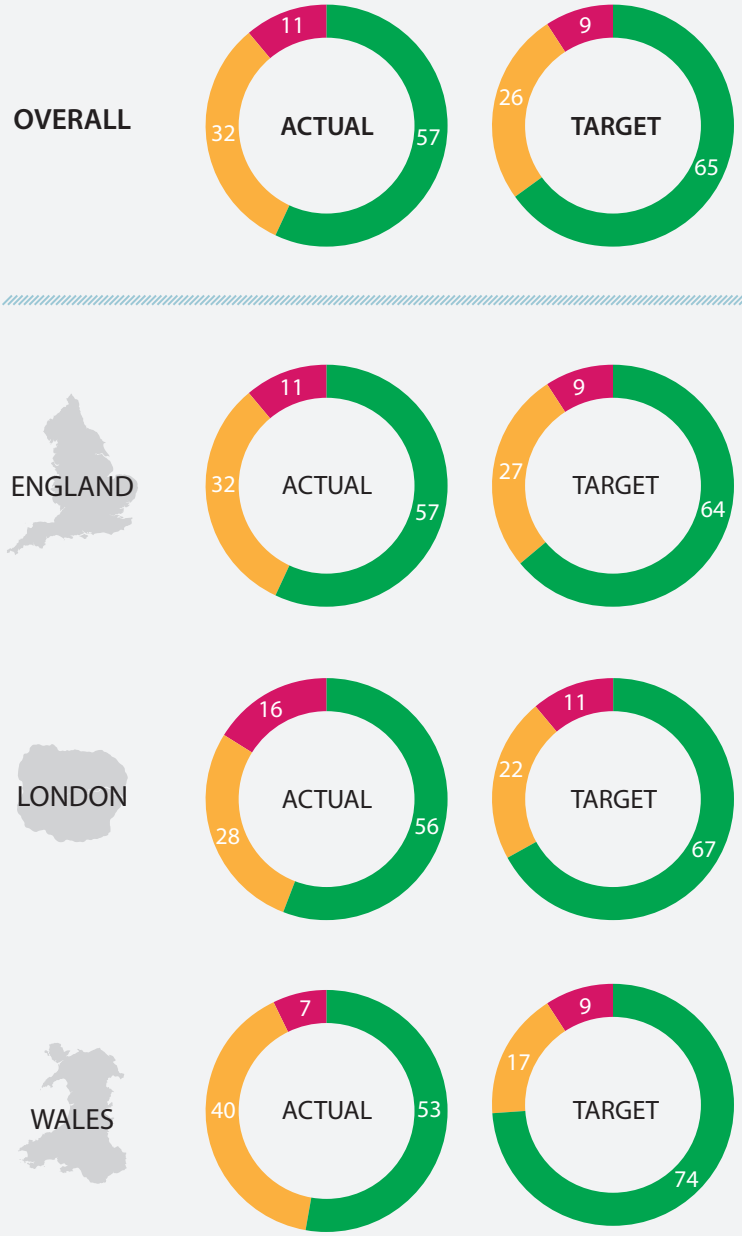
The RCI index features three condition categories (GREEN, AMBER and RED) across three road classes – principal, classified (non-principal) and unclassified – and compares current road conditions against these targets.

Local authorities can adjust the precise definitions of the categories to reflect the individual nature of their networks. However, in general, GREEN defines lengths where the carriageway is in a good state of repair, AMBER is for lengths where some deterioration is apparent which should be investigated to determine the optimum time for planned maintenance and RED for lengths of carriageway in poor overall condition, likely to require planned maintenance within a year or so.

RCI data can be an early indicator of issues relating to the condition of the underlying structure of the road.

Road Condition Index (average all classes)

Performance in England and Wales (% of network)



CARRIAGEWAY STATUS:

GREEN: good state of repair

AMBER: some deterioration is apparent

RED: poor overall condition – likely to require maintenance in next 12 months

Actual Road Condition Index

England and Wales (% of network)

		ALL CLASSES	PRINCIPAL	NON-PRINCIPAL	UNCLASSIFIED
GREEN	England	57 ↓	68 ↓	63 ↓	53 ↓
	London	56 ↓	50 ↓	53 ↓	57 ↓
	Wales	53 ↓	72 ↓	68 –	39 ↓
AMBER	England	32 ↑	28 ↑	31 ↑	33 ↑
	London	28 ↑	29 ↑	31 ↑	27 ↑
	Wales	40 ↑	25 ↑	26 –	52 ↑
RED	England	11 –	4 –	6 –	14 ↓
	London	17 ↑	21 ↑	16 ↑	16 ↑
	Wales	7 –	3 –	6 –	9 ↑

↑ Up from ALARM survey 2023 ↓ Down from ALARM survey 2023 – Same as ALARM survey 2023

The percentage of the local road network classed as RED – likely to require maintenance in the next 12 months – remains at 11%, meaning that just over one in every 10 miles of network in England and Wales (around 22,300 miles) is likely to require maintenance in the next 12 months.

While an asset management approach to highway maintenance means that 100% of the network will not be in 100% perfect condition, 100% of the time, conditions are still falling well below local authorities' own current targets (see chart above).

Qualitative feedback suggests target condition levels are developed and adjusted in line with what is achievable as well as within the parameters of the Well Managed Highways Code (which allows local authorities to develop levels of service in line with local needs, priorities and affordability). Many local authorities have also changed their data collection method, providing updated baseline information, which may have impacted the figures.

Nevertheless, local authorities reported that, if they had sufficient funds and resources, the ideal RCI profile of the local road network in England and Wales would be: 71% GREEN, 22% AMBER and 7% RED.

DfT road length data has been updated to include the results of the latest R199b road length consultation, which is run every three to five years and asks local authorities in England (including London) to provide road length estimates. The DfT compares these with Ordnance Survey data to provide the most accurate road length estimates possible.

As a result of the consultation, total road length estimates in England have actually seen a reduction of around 1.4% with non-principal C roads, in particular, affected.

> We used to use scanner but now use LiDAR to collect road condition data. This has provided us with more accurate picture of surface conditions.

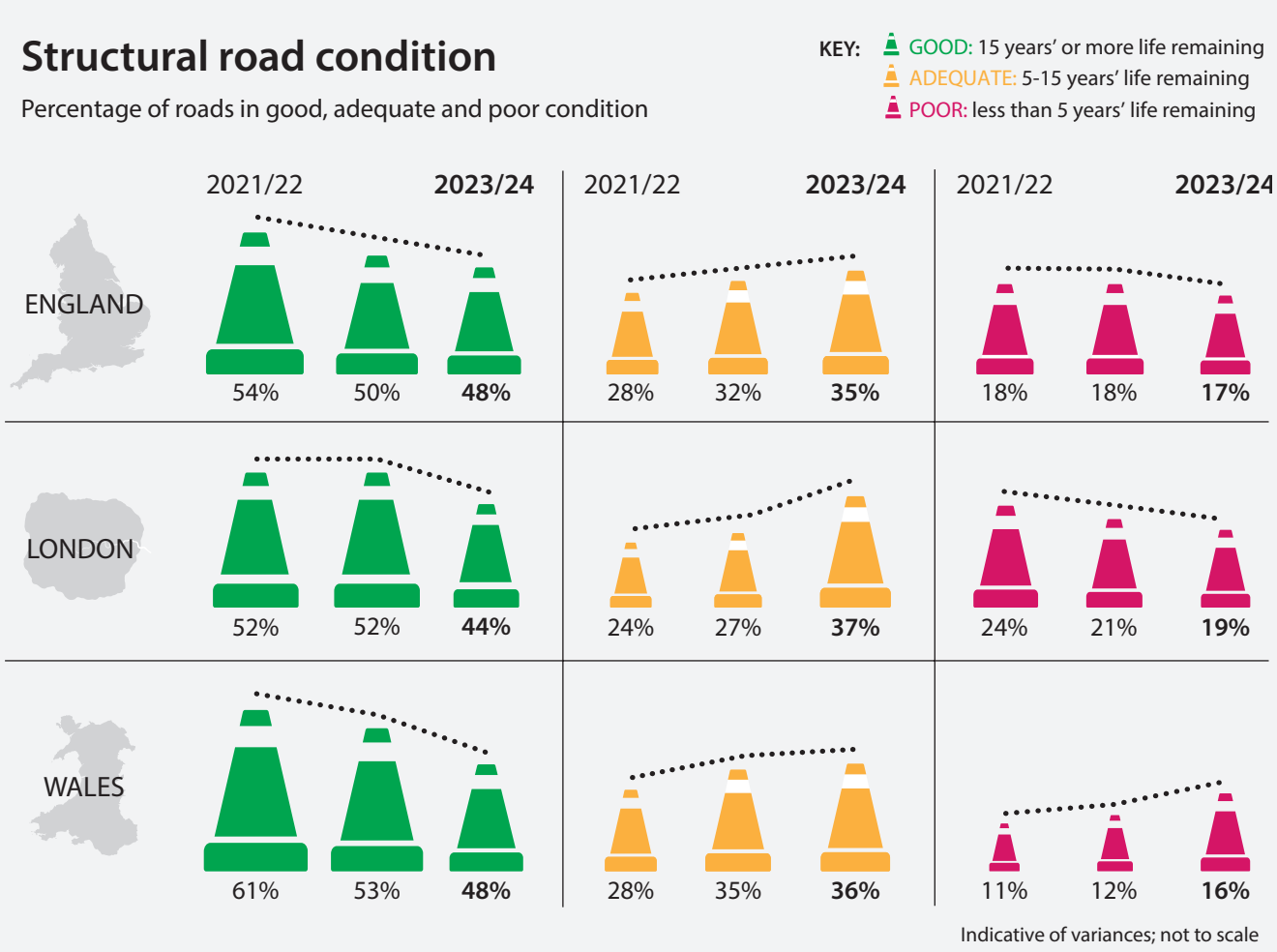
> Once again, our principal A roads have benefited at the expense of unclassified roads as we have to continue to prioritise maintenance due to limited resources.


NTENANCE

Road condition continued

Structural road condition

Percentage of roads in good, adequate and poor condition



Structural road condition

Structural maintenance is required when the condition of the road has deteriorated beyond the point at which only surface maintenance will suffice.

As shown in the chart above, the network has seen further decline in all areas, except the small improvements made in the percentage of roads classed as poor (those with less than 5 years' life remaining) in both England and London.

Overall, 47% of the local road network in England and Wales is now reported to be in good structural condition (with 15 or more years of life remaining), equivalent to approximately 95,220 miles. This has dropped from 51% in 2022/23 and 55% in 2021/22.

Well over a third (36%, equivalent to 72,930 miles) is now reported to be in adequate condition with 5-15 years of life remaining (increasing from 31% in 2022/23 and 27% in 2021/22) and 17% – 34,440 miles – are flagged to be in poor condition (similar to 2022/23 and 2021/22 which were both 18%).

These results are borne out by qualitative research which suggests that 94% of ALARM respondents think the structural condition of their network has declined or remained in a steady state over the last 12 months, with only 6% suggesting their network has improved overall.

Structural assessments are carried out against engineering properties and criteria and may not always identically reflect the visually evident conditions and road user experience indicated by RCI.

Overall structural road condition in England and Wales

GOOD: **47%**
ADEQUATE: **36%**
POOR: **17%**

Road condition continued

Potholes

Potholes are a clearly visible symptom of inadequately maintained roads and can be used as indicators of resilience, potentially pointing to underlying structural issues.

The total number of potholes filled reported in this year's survey has jumped 43% to 2.0 million from 1.4 million in 2022/23. This is the largest number reported since ALARM 2016 and is the equivalent of one pothole being worked on every 16 seconds in England (including London) and Wales.

Qualitative feedback highlighted that more frequent weather extremes are taking their toll across the network and that pothole repairs remain only one element of the challenges local authorities dealt with in the last year, which also included flooding and landslides.

Almost 90% (88%) of authorities responding to the ALARM survey stated that they use a guideline depth of 40mm (or less) to define a pothole. Depth definition is not always the only means of prioritising repairs as the potential effect of a surface defect can vary dramatically depending on the area affected, the nature of the traffic on the road and its location.

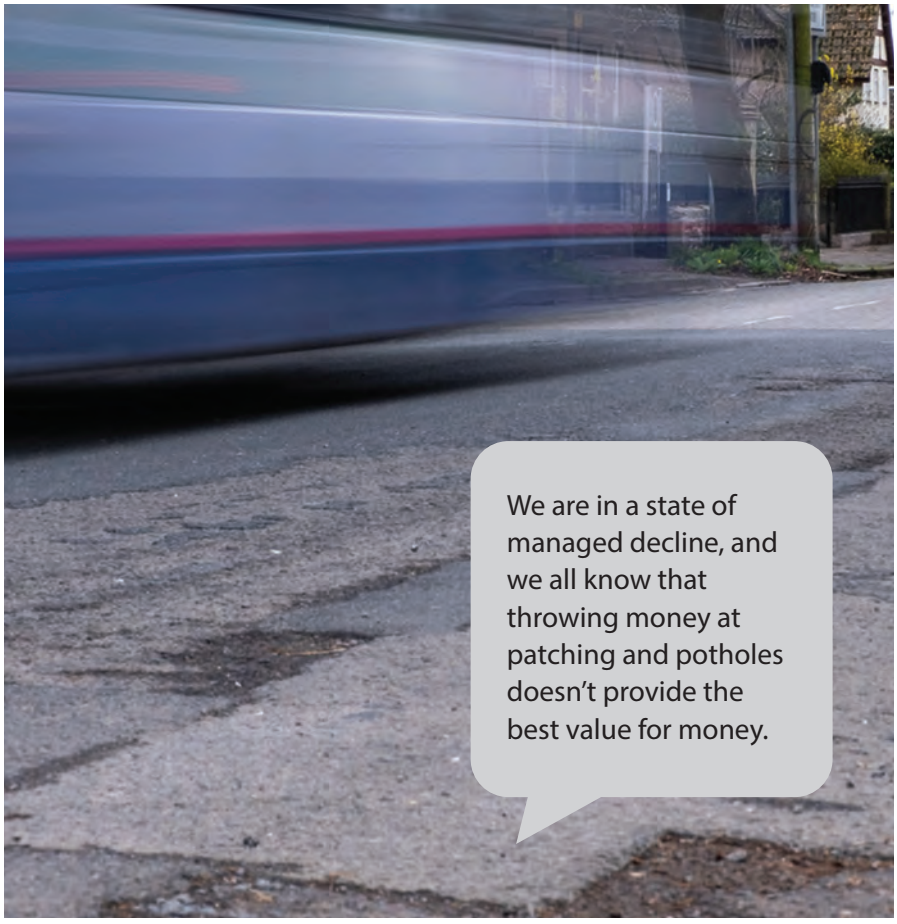
The disparity in cost between filling potholes as part of a planned programme of carriageway repairs compared with that as a reactive repair is again apparent (see graphic above right).

The average cost of filling a pothole – both planned and reactive – across all regions is £72.26. As a result, the total amount spent in England and Wales last year is estimated at £143.5 million, up 50% from the £95.6 million reported last year. This is the highest cost reported since ALARM 2015 when 35% more potholes were filled (2.7 million) for a similar cost, indicating the additional impact of higher rates of inflation in recent years (see chart on page 9).

Potholes

Average number of potholes filled per local authority, plus costs to fill as part of a planned programme and as a reactive repair, with direction change from 2022/23

			PLANNED COST	REACTIVE COST
ENGLAND	15,464	▲	£51.40	£79.53
LONDON	3,519	▲	£79.95	£121.52
WALES	4,296	▲	£51.05	£81.68



Road surfacing frequency

Replacing the entire surface layer of roads at regular intervals maintains an appropriate level of skid resistance – vital for road safety – guards against water ingress and freeze-thaw effects by maintaining a weatherproof seal on the road's surface and enhances overall resilience. It also offers the opportunity to identify and address any deeper structural issues arising which are not initially evident.

Considering the lifespan of particular materials, the type of road and the level and nature of its traffic, the recommended frequency of road resurfacing is between 10 and 20 years – an ideal not achieved on any type of road in England and Wales.

The average frequency of resurfacing across all road types and regions is reported to be once every 80 years. This breaks down as once every 86 years across all road types in England, once every 39 years in London and once every 108 years in Wales.

The data shown in the graphic above right continues to highlight how local authorities have to prioritise key routes, to the detriment of unclassified roads, as current budgets are not sufficient to adequately maintain the whole network.

Over the last 12 months, local authorities in England and Wales reported that they resurfaced an average of just 1.8% of their network, which equates to around 3,690 miles of the 202,600 mile total.

Utility company road openings

Opening a road to create a trench can reduce its structural life by an average of 17% (source: TRL) and the continuing high level of utility openings in England and Wales – again reported as 2.4 million, the same number reported in 2022/23 – can reasonably be assumed to be having an overall detrimental effect.

The majority of reinstatements (82% based on responses received) are completed in accordance with legislation, but local authorities still reported spending an average of 3.9% of their carriageway maintenance budget addressing premature maintenance arising from utilities openings. This totals £91.7 million in England and Wales – more than £542,000 per authority.

Road surfacing frequency

Average frequency (years) of surfacing by road category with direction change from 2022/23

	All classes	Principal	Non principal	Unclassified
ENGLAND	86 ▼	36 ▼	52 ▼	110 ▼
LONDON	39 ▲	23 ▲	35 ▲	42 ▲
WALES	108 ▲	42 ▲	73 ▲	114 ▼

> No matter how good the reinstatements are at the time of completion; they always contribute to the failure of the carriageway.

Utility company openings

Average number of utility openings per authority in past year (previous year in brackets)

ENGLAND	LONDON	WALES
17,263 ▲	10,540 ▼	5,034 ▲
(16,553)	(11,568)	(4,457)

Road condition continued

Road user compensation claims

Number of claims in past year (average per authority) plus **total** cost (£) of dealing with claims (2022/23 figures in brackets)

			COST OF CLAIMS	STAFF COSTS	TOTAL COST
ENGLAND	562* ▲ (305) 2019/20 2023/24	(*93% pothole-related)	£12.2m ▲ (£8.4m)	£10.5m ▲ (£7.0m)	£22.7m ▲ (£15.4m)
LONDON	140* ▲ (96) 2019/20 2023/24	(*73% pothole-related)	£2.0m ▼ (£2.9m)	£2.3m ▼ (£2.4m)	£4.3m ▼ (£5.3m)
WALES	94* ▲ (70) 2019/20 2023/24	(*84% pothole-related)	£989.1k ▲ (£320.9k)	£821.8k ▼ (£1.7m)	£1.8m ▼ (£2.0m)

Road user compensation claims

The average number of claims received by local authorities in England and Wales has increased in number by 80% to 421 per authority, with 89% of the total reportedly relating specifically to potholes.

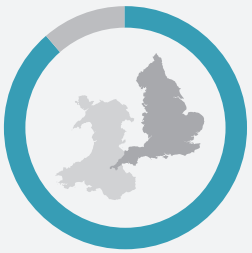
This has also led to a rise in the total amount paid out for compensation claims, which has increased by 31% to £15.2 million, although it is recognised that successful claims will not necessarily relate to the current financial year.

A further £13.6 million was spent on staff costs to deal with claims, bringing the overall total spent addressing claims to £28.8 million across England, London and Wales, up 27% on last year (2022/23: £22.7m). This is the equivalent of £142.15 paid out per mile of road last year.

> There has been an increase in the number of claims we have received in the last 12 months; not just on roads but also footways.

Pothole-related claims

% of road user compensation claims in England and Wales (average per authority)



89%

We've seen reduced revenue funding available for highways due to pressures across other areas of the Council.

We don't live in a perfect world so there is always going to be the need for reactive maintenance.

We've got to the point that there is no more money that can be borrowed from reserves, so the only option is prudential borrowing, which is not sustainable in the long term.

Key findings

	TOTAL*	England**	London	Wales
Percentage of authorities responding	↓ **72%**	↓ 77%	↑ 72%	↓ 50%
Highway maintenance budgets				
Average highway maintenance budget per authority	↑ **£26.4m**	↑ £34.5m	↓ £9.9m	↓ £8.0m
Percentage of highway maintenance budget spent on carriageway	↑ **52%**	↑ 54%	↓ 40%	↓ 56%
Average carriageway maintenance budget per authority	↑ **£14.1m**	↑ £18.7m	↓ £4.0m	↓ £4.5m
Shortfall				
Shortfall in road carriageway budget 2023/24	↓ **1.22bn**	↓ £867.1m	↑ £248.0m	↑ £104.5m
Average carriageway maintenance budget shortfall per authority 2023/24	↓ **£7.2m**	↓ £7.5m	↑ £7.8m	↑ £4.7m
Estimated time to clear carriageway maintenance backlog	↑ **10 yrs**	– 11 yrs	↓ 9 yrs	– 9 yrs
Estimated one-time catch-up costs	↑ **£16.30bn**	↑ £14.37bn	↑ £1.26bn	↓ £677.3m
Estimated one time catch-up cost per authority	↑ **£96.4m**	↑ £124.9m	↑ £39.5m	↓ £30.3m
Road condition				
Frequency of road surfacing (all road classes)	↓ **80 yrs**	↓ 86 yrs	↑ 39 yrs	↑ 108 yrs
Number of potholes filled over past year	↑ **1,985,480**	↑ 1,778,360	↑ 112,608	↑ 94,512
Average number of potholes filled per authority over past year	↑ **11,748**	↑ 15,464	↑ 3,519	↑ 4,269
Average cost to fill one pothole – planned	↑ **£56.76**	↑ £51.40	↑ £79.95	↓ £51.05
Average cost to fill one pothole – reactive	↑ **£87.76**	↑ £79.53	↑ £121.52	↑ £81.68
Total spent filling potholes in past year	↑ **£143.5m**	↑ £128.5m	↑ £8.1m	↑ £6.8m
Compensation claims				
Amount paid in road user compensation claims	↑ **£15.2m**	↑ £12.2m	↓ £2.0m	↑ £989.1k
Staff costs spent on claims (per year)	↑ **£13.6m**	↑ £10.5m	↓ £2.3m	↓ £821.8k

* England, London and Wales

** excludes London

NB Numbers in the table may not add up due to rounding.

↑ Up from ALARM survey 2023
↓ Down from ALARM survey 2023
– Same as ALARM survey 2023
□ Highest recorded in ALARM

About the AIA

Asphalt Industry Alliance

The Asphalt Industry Alliance (www.asphaltuk.org) is a partnership of the two principal bodies which represent the UK suppliers of raw materials used to produce asphalt, as well as asphalt producers and laying contractors: the Mineral Products Association (MPA) and Eurobitume. It draws on the knowledge and resources of each association and their members.

The AIA was established in 2000 to increase awareness of the asphalt industry and its activities, and the uses and benefits of asphalt. Asphalt is the generic term used to refer to the range of bitumen coated materials available in the UK that are used in road construction and maintenance. Asphalt also has other, non-road applications such as airport runways, sports arenas and parking areas.

Mineral Products Association

MPA Asphalt is part of the Mineral Products Association (www.mineralproducts.org), the trade association for the aggregates, asphalt, cement, concrete, dimension stone, lime, mortar and industrial sand industries. It continues to have a growing membership since its formation and is the sectoral voice for mineral products.

MPA Asphalt represents the interests of its asphalt producer and contractor members through representation and liaison with national and European clients, specifiers, regulators, researchers and standards bodies as well as with trade associations from other countries and related industry sectors. It also funds research into asphalt and its uses and operates the Asphalt Information Service which provides general guidance and information on the use of asphalts in the wide range of their applications.

Eurobitume

Eurobitume (www.eurobitume.eu) is the voice of the European bitumen industry, educating and promoting the efficient, economic, effective, safe and sustainable use of refined bitumen in road, industrial and building applications.

Eurobitume provides information and guidance on technical, health, safety and environmental matters, based upon proven data and works to create a positive image and environment for sustained bitumen demand, based on communicating the product benefits to key stakeholders.

In addition, we work with government and regulatory bodies to develop and maintain testing procedures and safety standards to ensure the highest possible quality standards in all bitumen-related operational activities.

Pictures
Front cover: Andrew Norris/Dreamstime
Road sign designs, pages 2 & 3: Crown copyright. Licensed under the Open Government Licence v3.0
Page 8: Clearvista/Dreamstime
Page 14: Dmitry Naumov/Shutterstock

AIA Press & Information Office
Archway Office, Barley Wood Stables,
Long Lane, Wrington BS40 5SA

+44 (0)20 7222 0136
info@asphaltuk.org
@AIA_Asphalt
@asphalt-industry-alliance
asphaltuk.org