Annual Local Authority Road Maintenance Survey 2020

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Each year the Asphalt Industry Alliance (AIA) commissions an independent survey of local authority highway departments in England 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 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. The total highway maintenance budget covers other significant areas of expenditure – including structural work to bridges, street lighting, cyclical maintenance for example grass-cutting, checking traffic signals and the replacement of street furniture – which are excluded from this report.

ALARM 2020 is the 25th annual survey and 67% 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 2019 and February 2020. Unless otherwise stated, the findings are based on the financial year 2019/20, ending 31 March 2020. Where these are unavailable, figures for the calendar year 2019 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.
The ALARM survey 2020 includes the findings of both quantitative and qualitative research. The data received from local authorities has been extrapolated to represent the 113 local authorities in England without a PFI, 22 in Wales and 32 in London. The results have been collated, analysed and verified by an independent researcher. 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

Acknowledging ALARM
The Asphalt Industry Alliance is happy for journalists, researchers, industry organisations, government departments and others to use and/or quote the findings of ALARM 2020 and the infographics contained in this report. We stipulate that it is acknowledged as your source – referencing it as the AIA’s ALARM survey 2020 – in all cases.

Please contact the AIA press office on 020 7222 0136 or email: info@asphaltuk.org if you have any queries.

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This year marks the 25th anniversary of the Annual Local Authority Road Maintenance (ALARM) survey, which was introduced to gather information on local road conditions and funding directly from those responsible for its maintenance.

Since the first report in 1995 much has changed: we have seen six different Prime Ministers in residence in No. 10, and 17 Transport Secretaries come and go, but one fact remains the same – there has been an ongoing lack of sustained investment in our local road network.

Over the past 25 years we have repeatedly seen a pattern of short-term cash injections to stem accelerating decline, followed by further years of underfunding. This stop-start approach is wasteful and has done little to improve the overall condition of this vital asset. In fact, it has just contributed to a rising bill to put things right.

This year's findings show us that the green shoots of improving conditions reported last year have not been sustained. Local authorities have once again reported more cuts to their overall budgets, and highway maintenance has taken a bigger hit than some other departments as cash-strapped authorities make increasingly difficult decisions on how reduced funds are allocated.

As a result, highway departments have received a smaller share of the overall pot this year, resulting in highway maintenance budgets dropping by an average of 16% across England and Wales. Taking inflation into account, they are now at the same level they were 15 years ago, yet the network continues to age.

And, it's a triple whammy for the road surface and structure. Carriageway maintenance has received a smaller bite, of a smaller slice, of a smaller cake, with authorities having to spend more money on other aspects of the asset, such as bridges, cycleways and drainage works to cope with the increased incidence of extreme weather events.

Less funding for the carriageway inevitably means less maintenance, and this is borne out by the reported reduction in pothole repairs, rising budget shortfalls, increasing one-time catch-up costs, downward target adjustments as well as declining structural road conditions.

This year’s ALARM survey highlights that there are 7,240 fewer miles of roads reported to be in GOOD structural condition, with 15 years or more of life remaining, and 1,100 more miles of roads classed as POOR, with less than 5 years’ life remaining. And, in the middle, there is a continued increase in the number classed as ADEQUATE, with between 5-15 years’ life remaining, suggesting an ongoing slide towards mediocrity.

The March 2020 Budget announcement suggests the new Government recognises the important role local roads play in keeping communities connected and the economy thriving. The pledge of an extra £2.5 billion for English local roads over five years is a big step in the right direction. However, £500 million extra a year for English local authorities is not even enough to plug the £616 million reported shortfall in carriageway maintenance (England only). What's more, it's only a fraction of the estimated £11.14 billion needed across England, London and Wales to bring the local network up to a level from which it can be maintained cost-effectively going forward.

Additional and sustained investment in our local roads will help underpin the Government’s levelling-up strategy and social cohesion goals, as well as complementing its ambitions for more sustainable modes of transport.

The world is dealing with new and unprecedented challenges and, understandably, resources will need to be prioritised accordingly in the short-term.

Looking ahead, however, a sustainably-funded, well-maintained local road network will be key to supporting recovery and regrowth.
Key facts 2019/20

- **Average Highway Maintenance Budgets DOWN 16%**
  - £826.6m Carriageway Budget Shortfall
  - Roads Resurfaced every 66 YEARS
  - £22.8m Dealing with Compensation Claims
  - 1.8m Utilities Openings

- A One-time Catch-up would take 11 years to Complete and Cost £11.14bn
- More Potholes Filled Equivalent to 1 Every 21 Seconds

Detailed key findings can be found on page 16.
Local highway authorities in England and Wales, including London, are responsible for over 204,600 miles of roads (source: Department for Transport, 2019). This represents 97.3% of the total road network and the DfT puts the asset value at over £400 billion and describes it as “the largest and most visible community asset for which local highway authorities are responsible. “Local roads are used daily by the majority of people and they are fundamental to the economic, social and environmental well-being of the country.” (Transport Select Committee report: Local roads funding and maintenance: filling the gap, July 2019)

Highway maintenance is just one part of local authority responsibility. Feedback suggests that the proportion of their total budget allocated to this area in 2019/20 has dropped significantly in England to 4.2% (2018/19: 5.6%; 2017/18: 6.3%) and in London to just 1.3% (2018/2019: 3.0%; 2017/18: 10.5%). Wales has seen a slight increase to 2.9% (2018/2019: 2.3%; 2017/18: 3.5%).

The budgets are funded by central government – through Transport for London (TfL) in the capital and the Welsh Assembly Government (WAG) in Wales – as well as local authority sources, including borrowing, use of capital reserves and monies collected through parking fines and other fees.

Across all regions average local authority budgets for highway maintenance dropped by 16% since last year. In England (excluding London) the reported fall was 15% to £26.8 million (2018/19: £31.5m; 2017/18: £26.2m), 30% of which is funded by central government, while 70% comes from local authorities’ own sources.

**Funding streams**

Over two thirds (68%) of central government funding for local roads in England comes from the Department for Transport (DfT), but also includes other sources such as the Ministry of Housing, Communities and Local Government (MHCLG), Environment Agency (EA) grants and regional growth funding.

DfT funding is split into several pots, the majority of which are not ring-fenced. The exception is bid-for funds, such as the Challenge Fund, which are ring-fenced specifically for highway improvements but also includes a requirement for successful local authorities to match or contribute. English authorities received a share of the £198 million Challenge Fund for 2019/20 and 2020/21, announced in July 2019.

Incentive-based funding was introduced by the DfT in England in April 2016. To secure this element, local authorities must respond to an annual self-assessment questionnaire covering asset management, resilience, customer satisfaction, benchmarking and efficiency,
Self-assessment is a huge piece of work that has to be resourced in ever-stretched highway departments, but it is useful as it helps promote the benefits of asset management to a wider audience.

Funding streams
Local authority and central government funding

Winners and losers
Highway maintenance budget range per mile of local road

and operational delivery. The results determine which of three bands they are placed in – and therefore how much from the £151 million incentive funding available in 2019/20 they were allocated – with band 1 at the lowest end and band 3 at the highest.

The approach aims to promote efficiency improvements and reward success: local authorities still in band 1 next year (2020/21) will, for the first time, receive no incentive funding at all.

Responses show there has been a slight increase in the number of local authorities placing themselves in the highest band, which has increased to 89% (2018/19: 87%; 2017/18: 84%). Qualitative research highlights that authorities are generally supportive of this shift in allocating funds and efficiencies have been achieved as a result.

Significantly, 70% of highway maintenance budgets in England came from local authorities’ own sources – 57% of which was through borrowing – a huge increase on the 45% reported in the previous two financial years.

Respondents in London have reported a 21% drop in their overall highway maintenance budget to an average of £8.4 million (2018/19: £10.6m; 2017/18: £9.2m), with the impact of the Government’s decision to withdraw funding to TfL in 2018 being felt. Only 10% of funding is now reported as originating from central government sources (2018/19: 32%; 2017/18: 73%), with another dramatic increase in the use of London Boroughs’ reserves and borrowing.

Budgets reported by authorities in Wales have also seen another slight decrease to £7.7 million (2018/19: £7.8m; 2017/18: £8.1m), with 85% coming through the
Highway maintenance budgets continued

Welsh Assembly Government and 15% from authorities’ own sources.

Winners and losers
The average totals hide a wide disparity between those seeing increased highway maintenance funding and those local authorities who have experienced a cut, with funds diverted to other areas of council expenditure, notably education and social care. In England half of all local authorities (51%) reported a cut in last year’s highway maintenance budgets, while in London this figure was 60%. In Wales only around a quarter of authorities reported a year-on-year reduction.

This disparity is particularly apparent when considering highway maintenance budgets per mile of local road, which varies from almost £1,300 per mile (2018/19: £9,000 per mile) to more than £50,000 per mile (2018/19: £90,000 per mile).

Overall, the reported total highway maintenance budget across England and Wales has returned to 2017/18 levels at £3.46 billion, down from a high of £4.1 billion in 2018/19. This annual figure was reported in 2010 at £3.1 billion which, allowing for an inflationary increase would be worth £4.1 billion today, indicating that budgets are not keeping pace with inflation or taking account of an ageing network.

Carriageway spend
Proportion of the overall highway maintenance budget spent on the carriageway itself

<table>
<thead>
<tr>
<th>Country</th>
<th>Proportion</th>
<th>Change from 2018/19</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>52%</td>
<td>Down from 54%</td>
</tr>
<tr>
<td>London</td>
<td>47%</td>
<td>Down from 57%</td>
</tr>
<tr>
<td>Wales</td>
<td>42%</td>
<td>Down from 58%</td>
</tr>
</tbody>
</table>

Carriageway maintenance budgets
Average per authority, with change from 2018/19

<table>
<thead>
<tr>
<th>Country</th>
<th>Budget 2018/19</th>
<th>Change from 2017/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>£13.9m</td>
<td>Down 18% from £17.0m</td>
</tr>
<tr>
<td>London</td>
<td>£4.0m</td>
<td>Down 33% from £6.0m</td>
</tr>
<tr>
<td>Wales</td>
<td>£3.2m</td>
<td>Down 30% from £4.6m</td>
</tr>
</tbody>
</table>

We have experienced significant drainage increases due to the wet autumn and winter and the lack of cleansing and historical investment. Since October 2019, 96 new flooding issues were identified. On average it costs the service £28k per scheme, a total of £2.69m, and [only] additional revenue costs of £250k are currently forecast.

Years of under-funding within both revenue and capital budgets has led to insufficient cyclical maintenance of the asset and, with the impact of climate change, we have seen a decline in the overall network condition. Increased traffic volumes particularly on the minor road network has accelerated further structural decline.
Adverse weather resulted in heat damage to road surfaces and drought damage resulted in significant and dangerously cracked roads up to 50mm wide by 450mm deep, which had to be closed for safety reasons.

Carriageway maintenance
The percentage of the highway maintenance budget spent on the carriageway itself (the carriageway maintenance budget) has dropped to 50% across the ALARM universe (2018/19: 55%; 2017/18: 56%). Local authority highway engineers have reported that this is due to more money being needed for other aspect of the asset, such as bridges, cycleways and drainage works to help local authorities cope with the increased incidence of extreme weather events.

Consequently, total carriageway maintenance expenditure across England and Wales in 2019/20 was around £1.77 billion, (2018/19: £2.23 billion; 2017/18: £2.04 billion).

The majority of local authorities (84% of responses) spent all of this, with 17% reporting an overspend (albeit down from 32% reported in ALARM 2019) due to a wide range of factors including adverse weather conditions, schemes carried over from the previous financial year and the scope of projects changing at the point of delivery.

The average proportion of the carriageway maintenance budget spent on reactive maintenance (that not planned for at the beginning of the year) was 20% in England, 19% in London and 21% in Wales. These figures acknowledge that unforeseen circumstances can create an immediate need for maintenance to keep the roads safe and serviceable. It is extremely difficult for local authorities to predict the percentage of budget required for this kind of work, but it is generally agreed that around 12% is considered a more ideal level, significantly less than the reported realities.

Unforeseen costs
There has been a continued increase in the number of respondents who had to cope with unforeseen costs over the last year in England, up from 55% last year to 58% this, primarily due to the continued effects of adverse weather as well as increased traffic weights and volumes on a deteriorating network.

In London and Wales, the figures are lower than reported last year: 36% in London, from 64% last year; and 40% in Wales from 57%.

Reactive maintenance
Proportion of carriageway maintenance budget spent on reactive maintenance (12% considered ideal)

- **England**: 20% (Up from 19%)
- **London**: 19% (Down from 25%)
- **Wales**: 21% (Up from 17%)

Adverse weather
Adverse weather conditions, particularly wetter winters with more intense downpours and hotter, drier summers, coupled with increased volume and weight of traffic and the age of the network can result in accelerated deterioration and unpredicted failures.

The impact is particularly acute on lesser maintained and therefore less resilient roads, where water can penetrate existing cracks or defects, leading to the formation of potholes and, in time, undermine the entire structure of the road.

We have seen a big increase in unforeseen costs due to failure of the concrete sub-structure caused by the introduction of hybrid buses.
Highway/carriageway maintenance trends

Total highway maintenance budget in England and Wales
(£bn)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total highway maintenance budget in England and Wales</th>
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</thead>
<tbody>
<tr>
<td>2010</td>
<td>3.1</td>
</tr>
<tr>
<td>2011</td>
<td>2.9</td>
</tr>
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<td>2012</td>
<td>2.5</td>
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<td>2013</td>
<td>2.9</td>
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<tr>
<td>2014</td>
<td>2.8</td>
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<td>2015</td>
<td>3.1</td>
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<td>2016</td>
<td>2.8</td>
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<td>2017</td>
<td>2.9</td>
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<td>2018</td>
<td>3.5</td>
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<tr>
<td>2019</td>
<td>4.1</td>
</tr>
<tr>
<td>2020</td>
<td>3.5</td>
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</table>

Carriageway maintenance budget needed
Annual average per authority (£m)

<table>
<thead>
<tr>
<th>Year</th>
<th>Carriageway maintenance budget needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>3.5m</td>
</tr>
<tr>
<td>2011</td>
<td>4.0m</td>
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<tr>
<td>2012</td>
<td>4.5m</td>
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<td>2018</td>
<td>0.5m</td>
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<tr>
<td>2019</td>
<td>0.0m</td>
</tr>
<tr>
<td>2020</td>
<td>1.4m</td>
</tr>
</tbody>
</table>

One-time catch-up costs
Estimate per authority (£m)

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimated one-time catch-up costs per authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>£250m</td>
</tr>
<tr>
<td>2011</td>
<td>£200m</td>
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<tr>
<td>2012</td>
<td>£150m</td>
</tr>
<tr>
<td>2013</td>
<td>£100m</td>
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<td>2014</td>
<td>£50m</td>
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<tr>
<td>2015</td>
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<tr>
<td>2016</td>
<td>£119.6m</td>
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<tr>
<td>2017</td>
<td>£80.6m</td>
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<tr>
<td>2018</td>
<td>£99.0m</td>
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<tr>
<td>2019</td>
<td>£90.9m</td>
</tr>
<tr>
<td>2020</td>
<td>£144.3m</td>
</tr>
</tbody>
</table>

Potholes
Number of potholes filled (with cost £m)

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of potholes filled</th>
<th>Cost of filling in potholes (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1.4m (£103.5m)</td>
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<tr>
<td>2011</td>
<td>1.0m (£80.6m)</td>
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<td>2012</td>
<td>1.7m (£99.0m)</td>
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<td>2013</td>
<td>1.7m (£90.9m)</td>
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<td>2014</td>
<td>1.9m (£144.3m)</td>
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<tr>
<td>2015</td>
<td>2.2m (£119.6m)</td>
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<tr>
<td>2016</td>
<td>2.7m (£86.4m)</td>
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</tr>
<tr>
<td>2017</td>
<td>1.5m (£97.8m)</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>1.7m (£102.3m)</td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>1.5m (£94.9m)</td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>1.9m (£97.8m)</td>
<td></td>
</tr>
</tbody>
</table>

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ALARM 2020
The severity of the weather experienced – both flooding and heat/drought damage – is reflected in the average additional cost incurred, which in England was £1.8 million per authority (2018/19: £2,572,500; 2017/18: £938,600).

In London the average additional cost was £166,700 (2018/19: £464,300; 2017/18: £191,200) and in Wales £160,000 (2018/19: £353,300; 2017/18: £373,300).

The full effects of damages caused by the series of storms experienced in early 2020 are not yet known and so are not reflected in this data.

 Longer term funding

Budgets are currently set annually, but all respondents agreed that guaranteed, longer term funding helps increase efficiency and provide a more durable road network. The *majority* (64%) indicate that 5 years is the optimum term with a further 32% stating that 10 years would be ideal.

Security of funding helps authorities plan with more confidence and drive greater efficiencies. Previous research carried out by the AIA demonstrated that planned, preventative maintenance is 20 times less expensive per square metre than reactive work, such as patching and filling potholes.

Advocates of a more holistic approach to highway maintenance expenditure, in which revenue budgets (mostly from a local authority’s own sources) could be combined with capital funding (mostly from central government) and allocated where most needed, believe a TotEX (combined total expenditure) approach would help drive further efficiencies and improve conditions.

Around 56% of respondents, in line with last year’s figure (57%), would be supportive of such a move with others citing causes for caution.

The shortfall in England has widened from £4.1 million last year to £5.4 million this, a 32% jump between what local authorities have and what they need.

In London the gap has closed slightly to £3.6m (2018/19: £4.0m; 2017/18: £3.0m), while in Wales, the average shortfall reported has increased dramatically to £4.2m per authority (2018/19: £2.8m; 2017/18: £3.1m). The real extent of the shortfall could be being masked by the fact that 44% of local authorities report transferring capital funds, intended for maintenance, to the revenue budget to make up for shortfalls.
Highway maintenance budgets continued

One-time catch-up costs
Average additional one-time catch-up cost required to clear carriageway maintenance backlog per authority, £m (2018/19 in brackets)

- **England**: £85.4m ▲ (£69.9m)
- **London**: £24.3m ▼ (£31.9m)
- **Wales**: £32.8m ▼ (£36.3m)

Highway maintenance budgets continued

One-time catch-up costs
Each year the ALARM survey asks highway departments to estimate how much it would cost to address the shortfall 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, reducing the future cost of more extensive repairs or replacement.

The estimate for this one-time ‘catch-up’ cost – over and above what local authorities say they receive – has grown by around 14% to £11.14 billion from the £9.79 billion reported last year, which equates to an average of £54,450 per mile of local road in England and Wales.

The one-time catch-up cost is an average of £85.4 million per authority in England, £24.3 million in London and £32.8 million in Wales.

Maintenance backlog
Highway departments reported that it would now take 11 years to get local roads back into a reasonable steady state, if adequate funding and resources were in place, a small increase on the 10 years reported in ALARM 2019.

This breaks down as an average of 12 years in England, 8 years in London and 10 years in Wales.
Road condition

Road Condition Index (RCI)
This is the third year we have reported on RCI data and what is marked is the decline in target conditions over that time. In 2018, local authorities aimed to have 74% of their overall road networks, across all categories, classified as being in GREEN condition. In 2020, this has fallen to 59% – or the equivalent of 6,642 miles of local roads where ‘good’ is no longer the aspiration.

Feedback from highway engineers is that targets have had to be adjusted in line with available budgets. In addition, the implementation of the Well-Managed Highway Code, which allows authorities to develop levels of service in line with local needs, priorities and affordability, has also impacted on target setting.

While the fall in targets is significant, actual performance is now more in line with these lower targets than in previous years, with authorities reaching or exceeding targets for all parts of the network targeted GREEN.

In contrast, once again we heard about the ‘rising wave of amber’: in ALARM 2018, 26% of the network was classed as AMBER (roads where signs of deterioration are apparent) but this year it has risen to 29%. This means that there are nearly 6,000 more miles of road in this category than two years ago, of which unclassified roads are being disproportionately affected. Roads that fall into the RED (poor condition) classification, now only represent 9% – 19,034 miles – of the overall network, compared with 10% reported last year and 12% the previous one.

Overall Road Condition Index
Performance against target in England and Wales (% of network length)

<table>
<thead>
<tr>
<th></th>
<th>TARGET</th>
<th>ACTUAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019/20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GREEN</td>
<td>30</td>
<td>29</td>
</tr>
<tr>
<td>AMBER</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>RED</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>60%</td>
<td></td>
</tr>
</tbody>
</table>

We have always got one eye on ambers – they are an indicator of when things are getting worse.

RCI explained
The RCI features three condition categories – GREEN, AMBER and RED – and compares current road conditions against these targets. Local authorities can adjust definitions of the categories to reflect their networks. However, in general, GREEN defines carriageway in a good state of repair; AMBER is where some deterioration is apparent, which should be investigated to determine the optimum time for planned maintenance, and RED for carriageway in poor overall condition.
Road condition continued

**Structural road condition**

Percentage of roads in good, adequate and poor condition

<table>
<thead>
<tr>
<th>Region</th>
<th>17/18</th>
<th>18/19</th>
<th>19/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGLAND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>54%</td>
<td>55%</td>
<td>51%</td>
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<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td>LONDON</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>51%</td>
<td>45%</td>
<td>52%</td>
</tr>
<tr>
<td>WALES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>55%</td>
<td>58%</td>
<td>53%</td>
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</tbody>
</table>

**KEY:**
- GOOD: 15 years’ or more life remaining
- ADEQUATE: 5-15 years’ life remaining
- POOR: less than 5 years’ life remaining

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**Structural road condition**

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

As shown in the chart above, the picture is again mixed, with improvements in some areas and further decline in others. Overall, around 51% (2019: 55%) of the local road network is reported to be in good condition (with 15 or more years of life remaining), equivalent to 104,839 miles.

Over a quarter (28%, equivalent to 57,089 miles) is reported to be in adequate condition (5-15 years of life remaining) and 21% – 42,675 miles – in poor condition and having less than five years of life remaining.

However, compared with last year, there are reported to be 7,240 fewer miles of ‘good’ roads and 1,100 miles more ‘poor’ roads.

**Potholes**

Potholes are symptomatic of inadequately maintained roads and can point to underlying structural issues.

After the increase in the total number of potholes filled in last year’s report, this year’s figure has returned to 2018 levels – around 1.5 million, the equivalent of one pothole being repaired every 21 seconds in England (including London) and Wales.

The decline in the number of potholes filled is only part of the story, however. Qualitative feedback reported that continuing weather extremes are taking their toll across the network as pothole repairs account for around **60% of all defects** local authorities reported they dealt with in the last year.

More than two-thirds (67%) of authorities responding to the ALARM survey stated that they use the guideline depth of 40mm (or less) to define a pothole.

As the effect of a pothole can vary dramatically depending on its location and the nature of the traffic on the road, depth
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 change from 2018/19

<table>
<thead>
<tr>
<th>Region</th>
<th>Planned Cost</th>
<th>Reactive Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>£44.00</td>
<td>£73.76</td>
</tr>
<tr>
<td>London</td>
<td>£47.33</td>
<td>£64.34</td>
</tr>
<tr>
<td>Wales</td>
<td>£32.35</td>
<td>£65.83</td>
</tr>
</tbody>
</table>

It feels like we are constantly chasing our tail. Maintenance costs increase as the structure of the roads deteriorate and we are now starting to see the consequences of delaying intervention. It has got to the point where full reconstruction is needed and we just don’t have the funds.

Potholes form when water penetrates existing cracks in the road and then freezes and expands in cold weather. When the water melts again it leaves a gap, causing the road surface to rupture and potholes to form as traffic drives over the weakened areas.
definition is not always the only means of prioritising repairs.

The disparity in cost between filling potholes as part of a planned programme of carriageway repairs and as a reactive repair is again apparent.

Taking an average cost for filling a pothole across each region, the total amount spent in England and Wales last year is down from the figure reported in ALARM 2019, but is still estimated at £86.4 million.

Road surfacing frequency

There has been a slight improvement, overall, in road surfacing frequency reported in England (excluding London) and Wales: from once every 79 years to once every 76 years in England; and once every 59 years to once every 58 years in Wales.

London paints a different picture with the figure seeing a sizable increase from once every 28 years reported in ALARM 2019 to once every 36 years.

Taking the lifespan of particular materials into account, 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 only achieved on principal roads in London.

The discrepancy between the reported resurfacing frequency for principal roads and the rest of the network in all regions, continues to highlight how local authorities have to prioritise key routes, at the expense of the unclassified parts of the network, which represent the greatest share by length, as current budgets are not sufficient to maintain the other 90.5% of the network adequately.

Replacing the surface layer of roads at regular intervals maintains an appropriate level of grip, vital for road safety, and guards against water ingress and freeze-thaw effects by maintaining a weatherproof seal on the road’s surface.

Utility company road openings

Opening a road to create a trench can reduce its structural life by up to 30% and the continuing high level of utility openings in England and Wales – reported as 1.8 million in 2019/20 – can have a detrimental effect. Even though the majority (85% based on responses received) are completed in accordance with legislation, local authorities reported they spent an average of 14% of their carriageway maintenance budget addressing premature maintenance arising from utilities openings.

This amounts to an average of £1.5 million per authority or £250.3 million of unnecessary expenditure in England and Wales.

The percentage of early failures of utilities openings, which result in us having to carry out reinstatement work, needs to be addressed.
Road user compensation claims

<table>
<thead>
<tr>
<th>Authority</th>
<th>Claims</th>
<th>Cost of Claims</th>
<th>Staff Costs</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGLAND</td>
<td>312*</td>
<td>£6.6m</td>
<td>£12.7m</td>
<td>£19.3m</td>
</tr>
<tr>
<td></td>
<td>(535)</td>
<td>(£6.2m)</td>
<td>(£16.3m)</td>
<td>(£22.5m)</td>
</tr>
<tr>
<td></td>
<td>15/16 16/17 17/18 18/19 19/20</td>
<td>(*81% pothole-related)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LONDON</td>
<td>91*</td>
<td>£1.2m</td>
<td>£1.5m</td>
<td>£2.7m</td>
</tr>
<tr>
<td></td>
<td>(80)</td>
<td>(£444k)</td>
<td>(£3.2m)</td>
<td>(£3.6m)</td>
</tr>
<tr>
<td></td>
<td>15/16 16/17 17/18 18/19 19/20</td>
<td>(*31% pothole-related)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WALES</td>
<td>88*</td>
<td>£330k</td>
<td>£488k</td>
<td>£818k</td>
</tr>
<tr>
<td></td>
<td>(80)</td>
<td>(£251k)</td>
<td>(£330k)</td>
<td>(£581k)</td>
</tr>
<tr>
<td></td>
<td>15/16 16/17 17/18 18/19 19/20</td>
<td>(*57% pothole-related)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Road user compensation claims

Overall, the amount of time and money spent settling claims has decreased for the second year as local authorities and their legal advisors become better at challenging potentially fraudulent claims.

The total paid in road user compensation claims – 69% of which relate specifically to potholes – in England (excluding London) and Wales was £8.1 million.

A further £14.7 million was spent on staff costs to deal with the claims across the ALARM universe, bringing the overall total spent addressing claims to £22.8 million.
## Key findings

<table>
<thead>
<tr>
<th>Percentage of authorities responding</th>
<th>TOTAL*</th>
<th>England**</th>
<th>London</th>
<th>Wales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>67%</td>
<td>78%</td>
<td>53%</td>
<td>32%</td>
</tr>
</tbody>
</table>

### Highway maintenance budgets

- **Average highway maintenance budget per authority**
  - TOTAL*: £20.7m
  - England**: £26.8m
  - London: £8.4m
  - Wales: £7.7m

- **Percentage of highway maintenance budget spent on carriageway**
  - TOTAL*: 50%
  - England**: 52%
  - London: 47%
  - Wales: 42%

- **Average carriageway maintenance budget per authority**
  - TOTAL*: £10.4m
  - England**: £13.9m
  - London: £4.0m
  - Wales: £3.2m

### Shortfall

- **Shortfall in annual carriageway maintenance budget**
  - TOTAL*: £826.6m
  - England**: £616.0m
  - London: £117.0m
  - Wales: £93.6m

- **Average annual carriageway maintenance budget shortfall per authority**
  - TOTAL*: £4.9m
  - England**: £5.4m
  - London: £3.6m
  - Wales: £4.2m

- **Estimated time to clear carriageway maintenance backlog**
  - TOTAL*: 11 yrs
  - England**: 12 yrs
  - London: 8 yrs
  - Wales: 10 yrs

- **Estimated one-time catch-up cost**
  - TOTAL*: £11.14bn
  - England**: £9.64bn
  - London: £777.0m
  - Wales: £722.0m

- **Estimated one-time catch-up cost per authority**
  - TOTAL*: £66.8m
  - England**: £85.4m
  - London: £24.3m
  - Wales: £32.8m

### Road condition

- **Frequency of road surfacing (all road classes)**
  - TOTAL*: 66 yrs
  - England**: 76 yrs
  - London: 36 yrs
  - Wales: 58 yrs

- **Number of potholes filled over past year**
  - TOTAL*: 1,481,746
  - England**: 1,340,632
  - London: 85,696
  - Wales: 55,418

- **Average number of potholes filled per authority over past year**
  - TOTAL*: 8,863
  - England**: 11,864
  - London: 2,678
  - Wales: 2,519

- **Average cost to fill one pothole – planned**
  - TOTAL*: £43.10
  - England**: £44.00
  - London: £47.33
  - Wales: £32.35

- **Average cost to fill one pothole – reactive**
  - TOTAL*: £70.91
  - England**: £73.76
  - London: £64.34
  - Wales: £65.83

- **Total spent filling potholes in past year**
  - TOTAL*: £86.4m
  - England**: £78.9m
  - London: £4.8m
  - Wales: £2.7m

### Compensation claims

- **Amount paid in road user compensation claims**
  - TOTAL*: £8.1m
  - England**: £6.6m
  - London: £1.2m
  - Wales: £330k

- **Staff costs spent on claims (per year)**
  - TOTAL*: £14.7m
  - England**: £12.7m
  - London: £1.5m
  - Wales: £488k

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* England, London and Wales
** excludes London

* Up from ALARM survey 2019
* Down from ALARM survey 2019
* Same as ALARM survey 2019
About the AIA

Asphalt Industry Alliance
The Asphalt Industry Alliance (AIA) is a partnership of the two principal bodies which represent the suppliers of raw materials used to produce asphalt, as well as asphalt producers and laying contractors: the Mineral Products Association (MPA) and Eurobitume UK. It draws on the knowledge and resources of each association and its 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 surfacing. 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 (MPA) – the trade association for the aggregates, asphalt, cement, concrete, dimension stone, lime, mortar and silica 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 UK
Eurobitume UK is the trade association of the UK bitumen supply industry and its members produce most of the UK’s bitumen. Almost all of this is used in the construction and maintenance of bituminous, or asphalt roads, which account for over 95 per cent of all UK roads.

Eurobitume UK is a consultative body formed to promote the technical benefits of bitumen to the construction industry; to provide the industry with information and advice; and to fund research into bituminous products. It also works with contractors and authorities on issues relating to the use and recycling of bituminous materials.

It is involved in the development of industry policy on quality assurance and standards relating to issues such as safety, storage and the handling of bitumen as well as the development of specifications and test methods for bitumen.