



ALARM

**Annual Local Authority
Road Maintenance** Survey

2017

About the ALARM survey

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

Its aim 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, thus providing a means of tracking any improvement or deterioration. At the same time, questions are asked related to funding, the type of maintenance carried out and the issues affecting maintenance service levels, to help provide context to the results.

Questions in the survey relate solely to the maintenance of the carriageway itself – the road surface and structure – and only that part of the total highway maintenance budget which covers the carriageway specifically. (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 survey.)

ALARM 2017 is the AIA's 22nd annual survey. Just over 63% of authorities responsible for roads in England and Wales responded and this report summarises the key findings.

The survey was carried out during January and February 2017. Unless otherwise stated, the findings are based on the financial year 2016/17, ending 31 March 2017. Where these are unavailable, figures for the calendar year 2016 were requested. References to "last year" relate to the financial year 2015/16.

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.

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The ALARM survey 2017 includes the findings of both quantitative and qualitative research. Submissions received have been extrapolated to represent the 114 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 research company.

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 2017. We do ask that it is acknowledged as your source – referencing it as the AIA's ALARM survey 2017.

Please contact our press office on tel: 020 7222 0136
or email: info@asphaltuk.org if you have any queries about this.

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1 in 6
local roads
may need to
be replaced
in the next **5** years



One-time
catch-up
cost: **£12.06**
BILLION



One
pothole
filled
every...



Annual
carriageway
shortfall:
£730m



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Mind the gap

Introduction by **Alan Mackenzie**, Chairman, Asphalt Industry Alliance

Almost all journeys begin and end on a local road. We rely on them every day of our lives and, to quote the Department for Transport's (DfT) Road Investment Strategy, they '*keep the population connected and the economy flowing*'.

It's not surprising then that the public believes improving the condition of our roads is a national priority. Unfortunately, as this latest ALARM survey again reveals, central government doesn't seem to agree. Behind the smokescreen of big numbers aggregated over several years to make them sound impressive, lies decades of underfunding which, coupled with the effects of increased traffic and wetter winters on an ageing network, means one in six of our local roads will not be fit for purpose in five years' time.

Furthermore, the gap that exists between the amount local authority highway teams received this year and the amount they say they need to keep the carriageway in reasonable order is £730 million. Excluding London, the shortfall for English councils alone is £570 million – almost half as much again as the DfT has pledged for 2017/18.

The message from the research which informs ALARM is that highway teams simply do not have enough money to arrest the terminal decline in the condition of our local roads and the network is not resilient enough to meet the challenges ahead.

Local authorities need over £12 billion to bring the network up to scratch – a figure that has remained largely unchanged for four years. And, even given adequate funding and resources, the time needed to implement this one-time catch-up remains well over a decade.

As a result, cash-strapped highway teams have to prioritise maintenance activity, with a disastrous effect on overall road condition. Although the number of roads classed as 'good' has increased in England and Wales, so has the number of those classed as 'poor'. This is clearly not sustainable in the long-term and many highway engineers have warned of a tipping point ahead.

In the face of this shocking underfunding from central government, the efficiencies achieved by hard-pressed highway teams through proper asset

management should be applauded. Working smarter, greater collaboration and improved communication are all contributing to their ability to do more with less – though there will come a point when there are no further efficiency savings to be found.

Our local roads are an asset worth in excess of £400 billion but, at present, less than 1% of their value is being spent annually on maintenance. Looking ahead, governance, regionalisation, skills and technology are all issues that could have profound consequences for the future of the network.

The message is clear: our local roads are failing and it's time we had a rethink about how to adequately fund them in the future. Clearing the maintenance backlog remains impossible without a significant increase in funding.

English councils (excluding London) Local highway maintenance spend 2016/17

Needed: £3.05bn

Council spend: £2.48bn

Shortfall: £570m

Key findings

	TOTAL*	England**	London	Wales
Percentage of authorities responding	↑ 63%	↑ 70%	↑ 44%	− 55%
Highway maintenance budgets				
Average highway maintenance budget per authority	↑ £17.1m	↑ £21.8m	↓ £7.5m	↓ £6.9m
Percentage of highway maintenance budget spent on carriageway	↑ 58%	↑ 58%	↑ 56%	↑ 58%
Average carriageway maintenance budget	↑ £9.9m	↑ £12.6m	↑ £4.2m	↑ £4.0m
Shortfall				
Shortfall in annual carriageway maintenance budget	↓ £729.9m	↓ £569.8m	↓ £79.8m	↓ £80.3m
Average annual carriageway maintenance budget shortfall per authority	↓ £4.3m	↓ £5.0m	↓ £2.5m	− £3.7m
Estimated time to clear carriageway maintenance backlog	↓ 12 years	↓ 13 years	↓ 10 years	↑ 9 years
Estimated one-time catch-up cost	↑ £12.06bn	↑ £10.78bn	↓ £686.1m	↓ £591.5m
Estimated one-time catch-up cost per authority	↑ £71.8m	↓ £85.7m	↓ £21.4m	↓ £26.9m
Road condition				
Frequency of road surfacing (all road classes)	↓ 51 years	↓ 55 years	↓ 23 years	↑ 63 years
Number of potholes filled over past year	↓ 1,748,916	↓ 1,535,352	↓ 72,544	↑ 141,020
Average number of potholes filled per authority last year	↓ 10,410	↓ 13,468	↓ 2,267	↑ 6,410
Average cost to fill one pothole – planned	↓ £49	↓ £46	↓ £72	↑ £53
Average cost to fill one pothole – reactive	↑ £72	↑ £69	↑ £98	↓ £59
Total spent filling potholes in past year	↓ £102.3m	↓ £88.3m	↓ £6.2m	↑ £7.9m
Compensation claims				
Amount paid in road user compensation claims	↓ £6.0m	↓ £5.3m	↓ £640.4k	↓ £43.5k
Staff costs spent on claims (per year)	↓ £3.3m	↓ £2.6m	↓ £682.6k	↓ £43.8k

* England, London and Wales

** excludes London

↑ Up from ALARM survey 2016

↓ Down from ALARM survey 2016

− Same as ALARM survey 2016

Highway maintenance budgets

Highway maintenance is funded by central government – through Transport for London (TfL) in the capital and the Welsh Assembly Government in Wales – as well as other local authority funding, including borrowing.

In England (excluding London) the reported average local authority budget for highway maintenance increased by 10% to £21.8 million, approximately half of which is funded by the DfT.

English authorities now receive these funds partly on a needs-based allocation (not ring-fenced) and, for the first time, some incentive-based funding as a result of the self-assessment process introduced by the DfT in April 2016.

To secure this element, which will represent a quarter of all DfT funding available to highway teams in England by the 2018/19 financial year, local authorities must respond to an annual questionnaire covering asset management, resilience, customer satisfaction, benchmarking and efficiency, and operational delivery.

The results determine which of three bands they are placed in – and therefore how much additional funding they can expect to receive – with band 1 at the lowest end and band 3 at the highest.

The approach aims to promote efficiency improvements and reward success and means councils still in band 1 in 2020/21 will receive no incentive funding at all. Band 3 must be reached by 2018/19 to maintain funding levels.

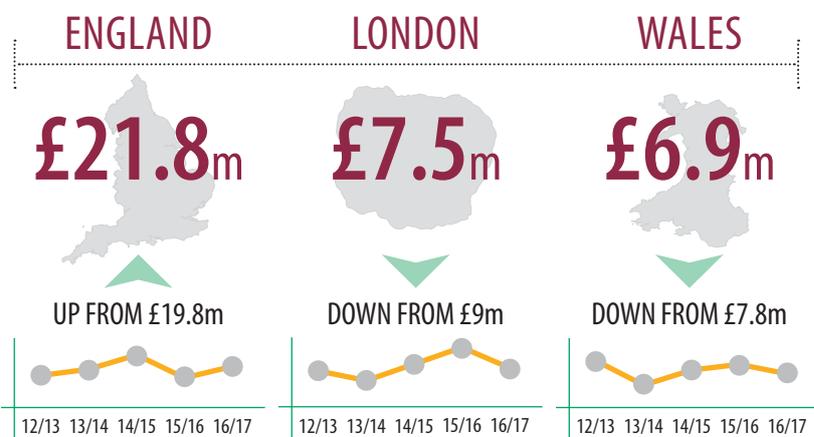
Responses show there has been a marked improvement in the number of councils placing themselves in the highest band, which has increased to 45% from just 3% last year, and qualitative research highlights that authorities are supportive of this shift in allocating funds.

In addition, English authorities have received monies through the DfT's Pothole

OVERALL AVERAGE HIGHWAY MAINTENANCE BUDGET 2016/17



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



PROPORTION OF OVERALL BUDGET SPENT ON CARRIAGEWAY MAINTENANCE

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



DfT INCENTIVE-FUND BANDING

English authorities (excluding London)

2015/16

BAND 3: 3%

BAND 2: 81%

BAND 1: 16%

2016/17

BAND 3: 45%

BAND 2: 53.5%

BAND 1: 1.5%

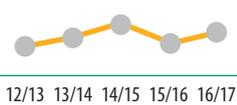
ACTUAL AVERAGE BUDGET FOR CARRIAGEWAY MAINTENANCE



ENGLAND



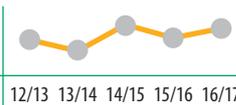
UP FROM £10.89m



LONDON



UP FROM £3.87m



WALES



UP FROM £3.67m



Our Challenge Fund bid submission cost us about £20,000 to put together and we were unsuccessful. That's £20,000 less to spend on our roads.

It's not necessarily worst first: we look to preserve those roads that may fail in the future.

The DfT self-assessment was a valuable process to go through and is keeping everyone focused.

Reaching band 3 will allow us to maintain our level of funding rather than seeing it cut.

Quotations are from local authority highway officials.

PROPORTION OF CARRIAGEWAY MAINTENANCE BUDGET SPENT ON REACTIVE MAINTENANCE



ENGLAND



NO CHANGE
IDEAL PROPORTION 15%

LONDON



UP FROM 32%
IDEAL PROPORTION 29%

WALES



DOWN FROM 34%
IDEAL PROPORTION 14%

PROPORTION OF AUTHORITIES OVERSPENDING ON STRUCTURAL BUDGET

ENGLAND



UP FROM 6%

LONDON



DOWN FROM 23%

WALES



UP FROM 18%



Highway maintenance budgets continued

Action Fund and a number were also successful in bidding for Challenge Fund money for specific schemes.

Respondents in London have seen a marked drop in their overall highway maintenance budget, which fell by around 17% from an average of £9 million last year to £7.5 million, which is a return to the level reported in ALARM 2015. Feedback suggests this is due to the level of borrowing reported by individual councils last year not being repeated.

Welsh authorities reported a drop in their budgets to an average of £6.9 million from the £7.8 million reported last year. This average hides a wide disparity that exists between those seeing increased funding (both from bidding for additional Welsh government funds and prudential borrowing) and others who have seen their budgets cut and funds diverted to other areas of council expenditure.

These figures indicate that the total

highway maintenance budget across England and Wales has increased by around 3.5% to £2.88 billion (2015/16: £2.78 billion), but is still down 7% on the £3.1 billion peak reported in ALARM 2015.

The percentage of this overall budget spent on the carriageway itself (the carriageway maintenance budget) is an average of 58% across all authorities, up from last year. This indicates that the total carriageway maintenance expenditure across England and Wales in 2016/17 was £1.66 billion, again up on last year (£1.5 billion) but below the £1.8 billion reported two years ago.

Almost all local authorities (92% of respondents) spent all of this allocation and just over 11% report an overspend.

The average proportion of the carriageway maintenance budget spent on reactive maintenance (that not planned for at the beginning of the year) is largely in line with last year's findings: 22% in

England; 36% in London and 32% in Wales.

It is extremely difficult for councils to predict the percentage of budget required for this kind of work but the ideal proportion stated by respondents has increased in all regions. Feedback suggests that local authorities are becoming more realistic about the level of unplanned repairs required due to the worsening condition of the network.

Unforeseen costs

There has been a significant increase in the number of respondents who had to cope with unforeseen costs last year as a result of structural failures caused by adverse weather conditions, increased volume and weight of traffic and the age of the network.

Water penetrates existing cracks or crevices leading to the formation of potholes and, in time, can undermine the entire structure of the road. The impact is particularly acute on poorly maintained, less resilient roads.

In England, 43% of authorities reported



unanticipated costs, while in London this figure was 53% and in Wales 56%.

The average additional cost incurred in England has rocketed to £8.3 million, predominantly due to the extent of storm damage from December 2015 and January

2016, which was not known at the time of last year's survey.

London's average bill has dropped for the second successive year to £272,000 while Wales has seen the average additional cost reduced by more than 60% to £213,000.

Longer term funding

There is consensus among authorities that guaranteed, longer term funding helps increase efficiency and provide a more durable road network (99% of all respondents agreed). Security of funding helps authorities plan with more confidence and drive greater efficiency and it has been demonstrated that planned, preventative maintenance is 20 times less expensive per square metre than reactive work, such as patching and mending potholes.

Driving efficiency

The vast majority of local authorities in England responding to the ALARM survey (98%) are already participating in the Highway Maintenance Efficiency Programme (HMEP) or interested in participating. The figure in the capital is a little lower among respondents (80%), while Wales is developing its own approach based on highway asset management.

Over three quarters (78%) of authorities across all regions have completed their Highway Asset Management Plan (HAMP) and had it formally approved. A similar number (70%) report they refer to their HAMP at least quarterly as a means of influencing their carriageway maintenance programme, and 78% report that using it has provided quantifiable time and/or money savings.

Budget shortfall

The shortfall is the difference between the annual budget that highway departments calculate they require to keep the carriageway in reasonable order and the actual budget they receive.

The reported average shortfall in annual maintenance budget has decreased in England (from £5.3 million last year to £5.0 million this) and London (from £2.7 million to £2.5 million) and remained static in Wales

LOCAL AUTHORITIES REPORTING UNFORESEEN COSTS

ENGLAND



UP FROM 32%
(£2.5m)

LONDON



UP FROM 31%
(£345m)

WALES



DOWN FROM 60%
(£513k)

LONGER TERM FUNDING REPORTED IDEAL TERM OF FUNDING

REPORTED IDEAL TERM OF FUNDING

ENGLAND

2016/17



LONDON

2016/17



WALES

2016/17



Highway maintenance budgets continued

at £3.7 million for the third consecutive year.

Although the small dip in the overall figures reported is to be welcomed, this year local authorities reported a total £729.9 million funding gap – and the overall long-term trend remains upwards.

Addressing the shortfall

Highway departments were asked to estimate how much it would cost to 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.

The estimate for this one-time “catch-up” cost has remained largely unchanged for the last four years and is a considerable £12.06 billion. This breaks down as an average of £85.7 million per authority in England; £21.4 million in London and £26.9 million in Wales.

Maintenance backlog

If adequate funding and resources were in place to get roads back into a reasonable condition, highway departments reported that the estimated amount of time required to carry out such work would be around 12 years.

MAINTENANCE BACKLOG

Years to clear backlog (2015/16 in brackets)

WALES	9 (7)
LONDON	10 (16)
ENGLAND	13 (14)
OVERALL AVERAGE	12 (14)

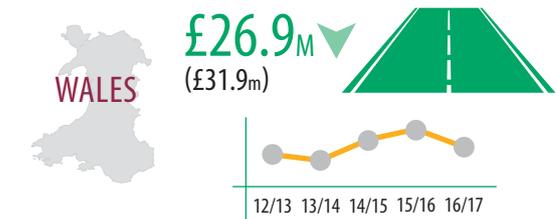
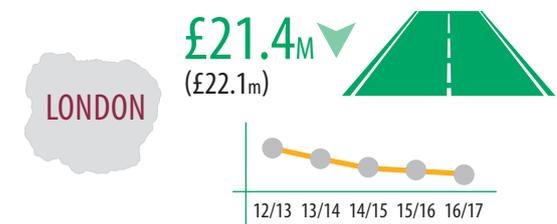
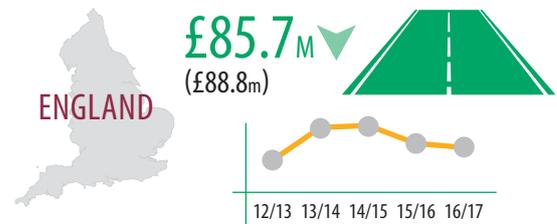
BUDGET SHORTFALL

Average annual carriageway maintenance budget required and average shortfall (2015/16 in brackets)



ADDRESSING THE SHORTFALL

Average one-off investment required to clear carriageway maintenance backlog (2015/16 in brackets)



Road condition

Structural road condition

Around half of all roads were reported as being in good structural condition (with 15 years or more residual life), an overall improvement on last year's survey findings.

More than one in six were also reported to be in poor condition (defined as the road having less than five years of life remaining). This was in line with expectations following last year's feedback from respondents that much of the network is coming to the end of its structural life. While poor structural condition and the need for repair may be indicated by road surface defects, it may also be masked by unsuitable repair treatments which serve only to temporarily plug the hole or "paper over the cracks" and are in effect a false economy.

Potholes

Around 64% of authorities responding to the ALARM survey use the guideline depth of 40mm 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 definition is not always the only means of prioritising repairs.

This year's survey has shown a reduction in the average number of potholes filled per authority, although the total number remains high at 1.7 million. The figures for England show a 19% decrease, with the biggest drop in London (43%). Wales has seen a slight increase in the number filled (19%).

The considerable disparity in cost between filling potholes as part of a planned programme of carriageway repairs

and as a reactive repair is again evident, with reactive repairs costing almost a third more. Taking an average cost for filling a pothole across each region, the total amount spent in England and Wales last year is estimated at £102.3 million, the lowest figure reported since ALARM 2012.

Road surfacing frequency

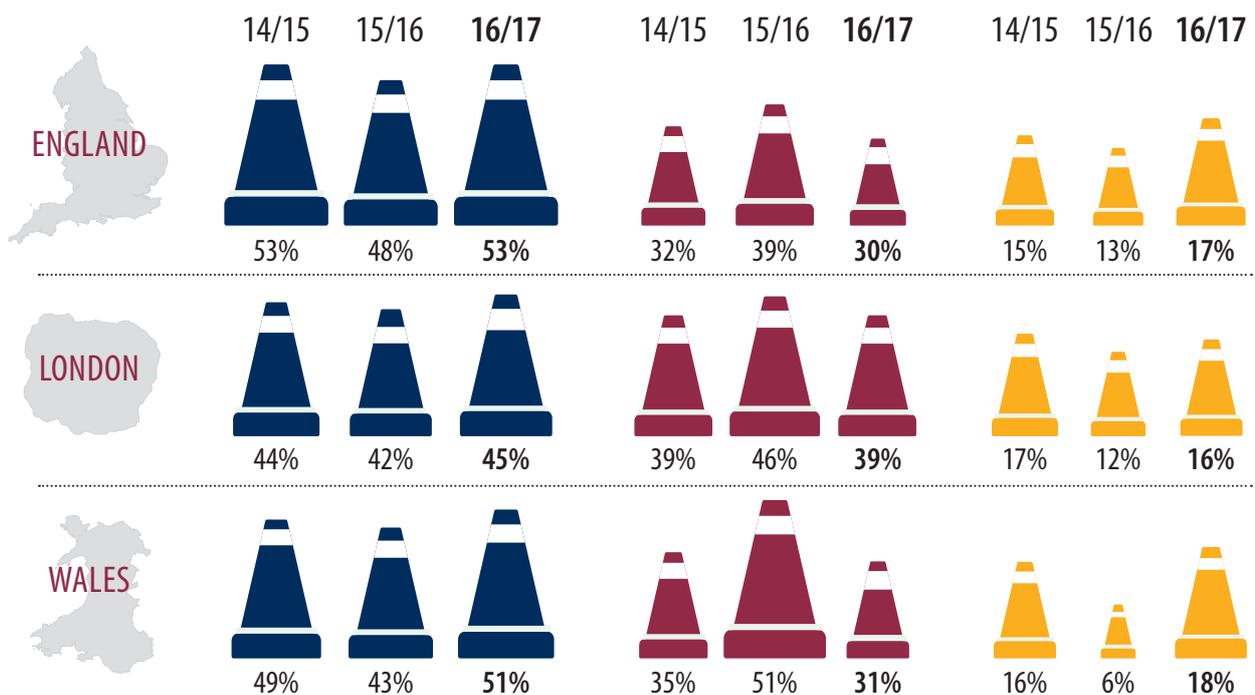
Taking into account the lifespan of particular materials, the type of road and the level and nature of its traffic, the recommended frequency of road resurfacing is between 10 and 20 years – an ideal only achieved on principal roads in London.

Replacing the surface layer at regular intervals maintains an appropriate level

STRUCTURAL ROAD CONDITION

Percentage of roads in good, adequate and poor condition

-  Good: 15 years or more life remaining
-  Adequate: 5-15 years life remaining
-  Poor: less than 5 years life remaining



Road condition continued

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. It also provides an opportunity to better assess and treat any structural issues deeper in the road.

Utility company road openings

Opening a road to create a trench reduces its structural life by around 30% and the continuing high level of utility openings in England and Wales has a detrimental effect.

Although the majority of openings reported (84% based on responses received) are completed in accordance with legislation, around 15% of

maintenance budgets are spent on the premature maintenance which they necessitate.

We have a policy of right first time, which means permanently repairing potholes rather than just carrying out a temporary fill. This costs a bit more but saves money in the long run.

If we are getting a lot of potholes reported on a road that has been earmarked for resurfacing in a few years' time, we will look to accelerate the programme of works rather than fill in the potholes.

We are targeting main routes that connect communities.

POTHOLES

Average number of potholes filled in 2016/17 per local authority, plus costs to fill as part of a planned programme and as a reactive repair

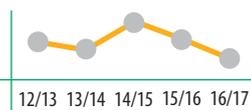


ENGLAND

13,468



DOWN FROM
16,616



PLANNED COST



REACTIVE COST

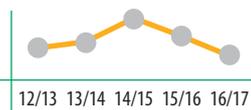


LONDON

2,267



DOWN FROM
4,099



PLANNED COST



REACTIVE COST

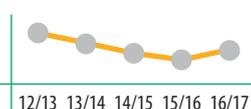


WALES

6,410



UP FROM
5,217



PLANNED COST

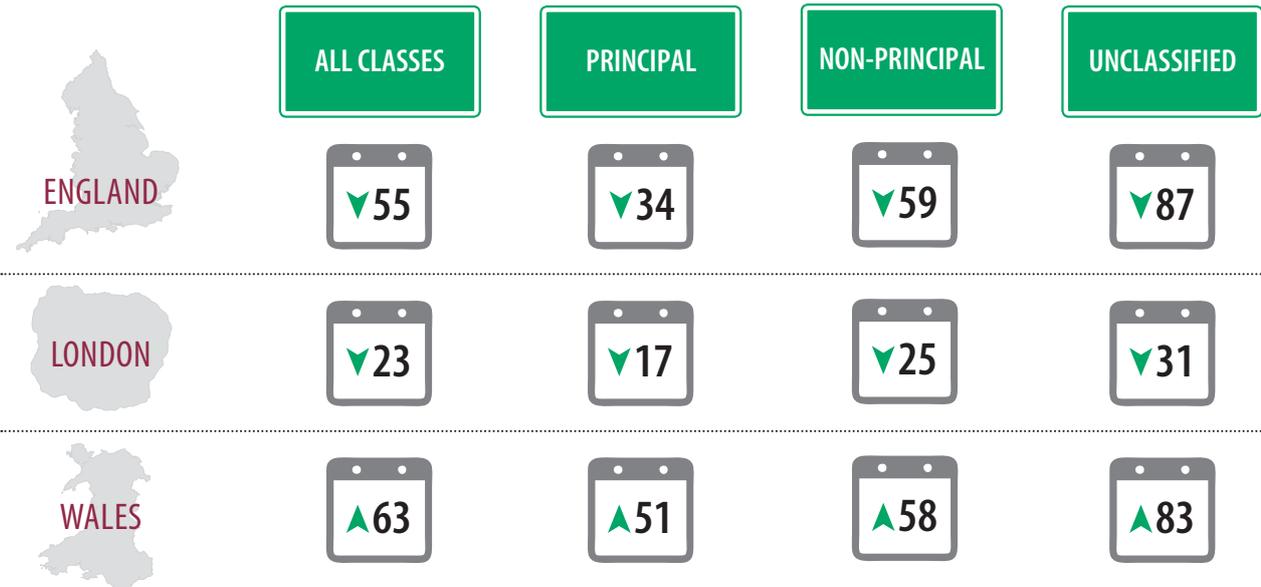


REACTIVE COST



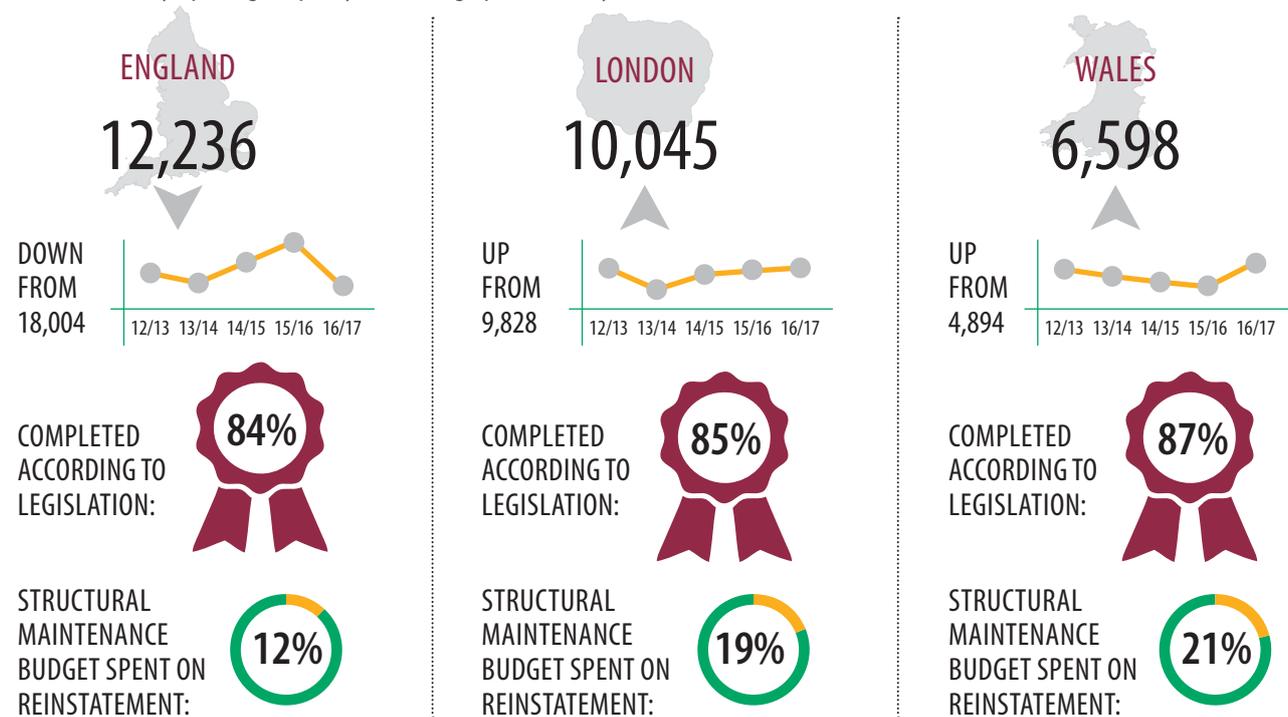
ROAD SURFACING FREQUENCY

Frequency (years) of surfacing by road category (average per authority) with change from 2015/16



UTILITY COMPANY OPENINGS

Number of utility openings in past year (average per authority)



Road user compensation claims

Road user compensation claims

The average number of claims received by local authorities in England and Wales for damage to persons or vehicles due to poor road condition is 204 of which around 70% relate specifically to potholes. The amount of time and money spent settling claims has seen a large reduction as councils and their legal advisors become better at challenging potentially dishonest claims.

The majority of our claims are pothole related.

Historic bad weather caused failures on our network which were repaired and we are seeing the benefits of that now.

Our risk based approach means we can leave quite a deep pothole on a little-used road in the middle of nowhere, whereas on a high street we'd fix it fairly quickly.

Deterioration is the elephant in the room. No one wants to talk about it; but it's not going to go away.

ROAD USER COMPENSATION CLAIMS

Number of claims in past year (average per authority) plus cost of dealing with claims



ENGLAND

281



DOWN FROM 330



COST OF CLAIMS



STAFF COSTS



TOTAL COST



LONDON

34



UP FROM 32



COST OF CLAIMS



STAFF COSTS



TOTAL COST



WALES

39



DOWN FROM 72



COST OF CLAIMS



STAFF COSTS



TOTAL COST



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.



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