

# ALARM

Annual Local Authority  
Road Maintenance Survey

2015

# About the ALARM Survey

Each year the Asphalt Industry Alliance (AIA) commissions an independent survey of all local authority highways 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, other survey 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 such as 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.)

The ALARM Survey 2015 is the 20th annual survey, in which just over 50 per cent of all the authorities responsible for roads in England (including London) and Wales participated.

This report summarises its key findings.

The survey was carried out during January and February 2015. Unless otherwise stated, the findings are based on the financial year 2014/15, ending 31 March 2015. References to “last year” relate to 2013/14.

There are four authorities in England, and one in London, which have Private Finance Initiative 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 Asphalt Industry Alliance is grateful for the support of the Association of Directors of Environment, Economy, Planning and Transport (ADEPT) for its assistance in compiling the ALARM questionnaire.

The results of the ALARM survey have been analysed by an independent market research company.

Media and other organisations quoting directly from the report should acknowledge the ALARM Survey 2015 as the source.

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## Two steps forward, one step back

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

It is 20 years since the Annual Local Authority Road Maintenance (ALARM) survey was introduced to provide a detailed picture of the condition of the local road network. During that time we have seen five governments and 10 different Secretaries of State for Transport but, when it comes to our roads, little has changed; much of the network is still crumbling and a huge backlog of repairs still need to be tackled.

It's true that the level of shortfall between what highways engineers need to maintain their roads properly and what they actually receive has decreased substantially over the last two decades. This is a testament to successive governments' acknowledgement of the importance of the issue. The first ALARM survey, published in 1996, showed an average shortfall of £9 million per authority, while this year's figure is just over £3.2 million.

While we are moving in the right direction, the results of this year's survey again highlight the scale of the task that remains. One in six of our roads is classed as being in poor condition and local authorities still need over £12 billion, the same amount reported last year, to bring the network up to scratch. And, the average length of time it would take to clear this backlog is 13 years.

Given the pressures that local authorities continue to face, they must be

commended for all the work they do, in collaboration with industry, in delivering a local road network that we all rely on daily. With over 50% of councils in England and Wales responding to this year's survey, their contribution continues to ensure it paints an authoritative and robust picture.

Unsurprisingly, the number of potholes filled has increased dramatically in the last year to almost 2.7 million; around a third higher than the previous year. The government's emergency funding for pothole and flood repair has been a major factor in this increase and, although we understand that the Department for Transport is promoting permanent repairs, the point remains that money would be better spent preventing potholes forming in the first place.

The government's commitment to £6 billion of funding for local road maintenance between 2015 and 2021 is welcome, but this is only enough for local authorities to keep pace with repairs and will not prevent continuing deterioration. So, while we acknowledge this move will provide some security of funding, if ring-fenced by an incoming government, we continue to advocate that this money should be proactively directed towards structured road maintenance programmes as part of local councils' long-term asset management plans.

This approach is certainly gaining

traction and we are encouraged that 85% of this year's respondents recognise the benefits of developing asset management plans, as promoted by the Highways Maintenance Efficiency Programme (HMEP). Research has shown that adopting an 'investing to save' approach pays dividends – with every planned investment in the road network providing long-term savings of more than twice the value.

A less welcome figure highlighted by this year's survey is the dramatic increase in the amount paid in road user compensation claims in England (excluding London) which, at £20.2 million, has doubled since last year. Although some of this may be attributed to claims from previous years, undoubtedly it is a drain on resources when everyone is working hard to achieve better roads.

Looking ahead, our aim is to bring the condition of our local road assets up to a standard where they can be maintained properly with a reduced future whole-life cost. Both local authorities and the road maintenance supply chain need to be allowed to plan to achieve this goal and we hope that any incoming government will recognise the importance of the funding commitments.

## Key findings

	TOTAL*	England**	London	Wales
Percentage of authorities responding	52%	53%	56%	41%
Shortfall in annual road structural budget	£548.6m	£428m	£39.8m	£80.8m
Average annual budget shortfall per authority	£3.2m	£3.7m	£1.2m	£3.7m
Percentage of budget used on reactive maintenance	25%	23%	29%	34%
Estimated time to clear carriageway maintenance backlog <sup>1</sup>	13 years	12 years	15 years	13 years
Estimated one time catch-up cost	£12.16bn	£10.7bn	£807m	£646m
Estimated one time catch-up cost per authority	£71m	£93m	£25.2m	£29.4m
Percentage of authorities reporting unforeseen additional costs	32%	31%	28%	44%
Average additional cost per authority (where figures available)	£4.1m	£5.7m	£810k	£475k
Frequency of road surfacing (all road classes)	63 years	64 years	31 years	59 years
Number of potholes filled over past year	2,670,350	2,380,730	159,776	129,844
Average number filled per authority last year	15,706	20,702	4,993	5,902
Average cost to fill one pothole	£57	£52	£72	£65
Total spent filling potholes in past year	£144.3m	£124.4m	£11.5m	£8.4m
Amount paid in road user compensation claims	£23m	£20.2m	£2.2m	£702k
Staff costs spent on claims (per year) average per authority	£104k	£104k	£88k	£138k
Average number of utility trenches over past year per authority	13,258	15,776	9,340	4,904

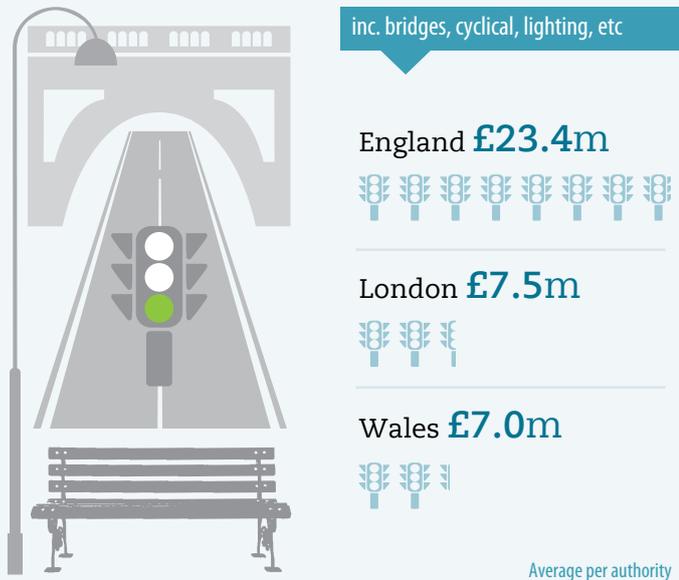
<sup>1</sup>Based on current budgets

\* England, London and Wales

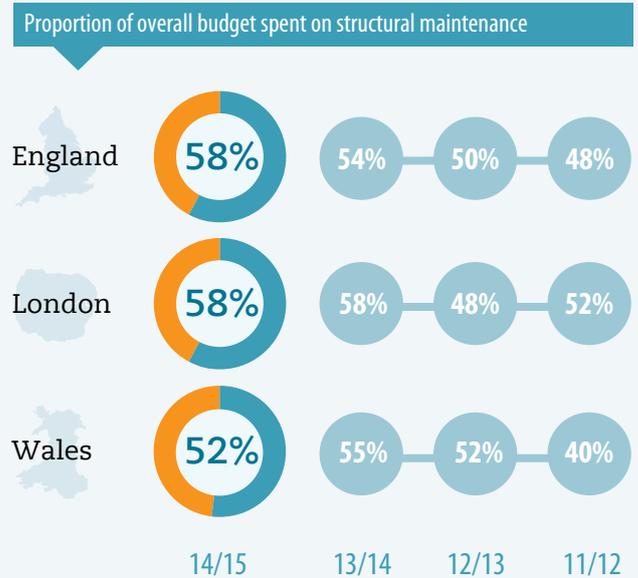
\*\*excludes London

## Road maintenance budgets

### OVERALL ROAD MAINTENANCE BUDGET 2014/15



### STRUCTURAL MAINTENANCE BUDGET



The total road maintenance budget covers works such as bridge maintenance including structural work; cyclical maintenance for example sweeping, grass cutting, checking traffic signals and replacing street furniture; and the maintenance of street lighting.

The budget allocated for maintenance of the carriageway itself and its structure is just one part of this total. It is funded by central government and funds allocated are not ring-fenced for highway maintenance; they can be re-allocated to other local services at a council's discretion.

The average local authority 2014/15 budget for highway maintenance has seen a noticeable increase across all areas. England (excluding London) has increased to £23.4 million (from £20.4 million last year); London is £7.5 million (up from £4.2 million); and Wales is £7 million (up from £4.4 million). Budgets in England (including London) have been enhanced by additional central government funding as well as

extra allocation by individual councils. Welsh highways departments are adjusting to new arrangements, which require them to bid for funding.

This additional funding has led to the total maintenance budget across England and Wales increasing to £3.1 billion, from £2.8 billion in the previous financial year.

#### Structural maintenance budget

More than half of the total road maintenance budget was spent on structural maintenance, i.e. the carriageway itself, indicating a total structural maintenance expenditure across England and Wales in 2014/15 approaching £1.8 billion, compared to the estimate of £1.6 billion the previous year.

The proportion of budget spent on structural maintenance is 58% in England and London and 52% in Wales. Almost all local authorities indicated that they spent 100% of this allocation.



“The extra funding is still not sufficient. The current six year funding (2015/6-2020/1) by government does not provide any increase after 2015/6 but merely maintains the funding level. This will not take account of inflation pressures and is not a sustainable model for funding.”\*

\*This and other quotations are from local authority highways officials.

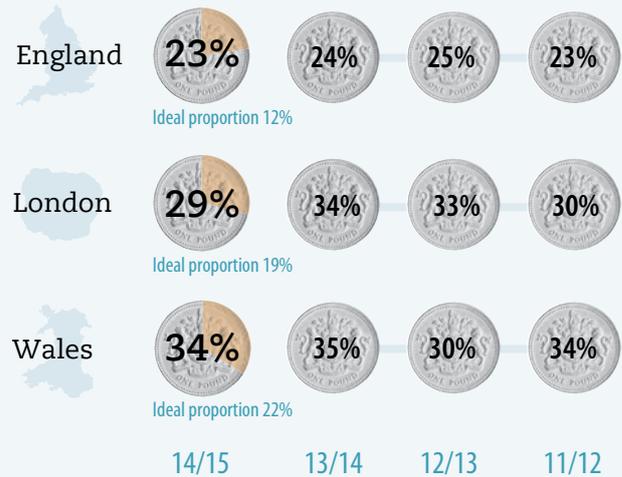
## LEVEL OF SPENDING

Proportion of authorities overspending on structural budget 2014/15



## REACTIVE MAINTENANCE

Amount of budget spent on reactive maintenance



### Level of spending

The proportion of authorities over-spending their annual maintenance budget has seen a large decrease in both England and Wales: the figure in England is 18% (23% in 2014); and Wales 25% (33% in 2014). Feedback suggests that this is due to the additional funding that has been made available this year and the fact that some highways departments are able to carry their unspent maintenance budgets over into the following financial year.

London, conversely, has seen the number of authorities over-spending increase by a quarter to just over one in five (22%). The lower figure identified in ALARM 2014 for the capital (17%) was most likely as a result of the beneficial legacy of works carried out in preparation for the 2012 Olympics. This year's figure is more in line with previous years' findings.

### Reactive maintenance

The average proportion of the road maintenance budget spent on reactive

maintenance (that not planned for at the beginning of the year) varies between 23% in England (excluding London) and 33.6% in Wales, with the capital in the middle at 29%.

These figures acknowledge that we live in the real world where unforeseen circumstances can create an immediate need for reactive maintenance to keep the roads safe and serviceable. It is extremely difficult for councils to predict

the percentage of budget required for this kind of work, but it is generally agreed that around 15% could be considered the ideal – a figure that has remained consistent with last year's findings.

The level of reactive maintenance required is a good indicator of the overall state and resilience of the roads: the better the condition of the road; the less likely the need for unplanned repairs.



## Road maintenance budgets continued



### Unforeseen costs

The continuing trend of wet winters, record rainfall and severe flooding – particularly in England – has continued in 2014/15.

Water is the most severe threat to road conditions in this country as it can undermine the lower, structural layers which, if not quickly rectified, can lead to major damage that is both costly and time-consuming to repair.

Unfortunately, the effects are often only seen on the surface and treatments there may not be sufficient to address the underlying cause.

More than a third of authorities in England and Wales reported that they had to cope with unforeseen costs, primarily those areas worse hit by adverse weather conditions. In England 31% of authorities reported unanticipated costs, while the figure was 44% in Wales and 28% in London.

While there has been a large reduction compared with the numbers that had

to cope with unforeseen costs last year (England: 65%; Wales: 80%; London: 29%), the average additional cost has seen a three-fold increase in England from £1.6 million in 2014 to £5.7 million this year.

At the time that last year's ALARM survey questionnaires were completed a number of the worst hit areas in England were unable to estimate the extent of the damage, but it is clear from this year's findings that the cost was far heavier than anticipated.

Wales and London appear to have weathered the storm marginally better with the average additional costs rising to £475,000 in Wales (up 40% from £337,000) and reducing by over 10% in London to £810,000 (down from £905,000 in 2014).



**“We’ve got to get more realistic with funding. We need to get the right sort of spending to the right place at the right time.”**

**“We are trying to be more proactive and identify work for the next two or three years so if we secure additional funding we will have the schemes already in place.”**



**Longer term funding**

Local authority highway maintenance programmes are traditionally managed against budget figures that are set annually. It has long been recognised that this hinders efficient planning of maintenance work, in particular, planned preventative maintenance, which is demonstrated to be 20 times less expensive per square metre than reactive work, such as patching and mending potholes.

The vast majority of authorities have again stated in this year’s survey that they believe longer term funding will aid efficiency and help provide a more durable road network, with more than half quoting five years as the optimum term to aid forward planning.

As such, the government’s increased road funding programme, which means that its contribution to road maintenance funding is allocated across the next six years (until 2021), should help authorities plan with more confidence and drive greater efficiency.

**Ideal term of funding**

	England	London	Wales
3 years	10%	12%	0%
5 years	50%	53%	75%
10 years	35%	29%	25%
Longer than 10 years	5%	6%	0%



## Road maintenance budgets continued

### BUDGET SHORTFALL

Average required per authority and average budget shortfall

England **£17.3m** required: **shortfall £3.7m**



London **£5.5m** required: **shortfall £1.2m**



Wales **£7.8m** required: **shortfall £3.7m**



### ADDRESSING THE SHORTFALL

One-off investment required to clear carriageway maintenance backlog



#### Budget shortfall

The shortfall is the difference between the annual budget that highways departments calculate they require to keep their road networks in reasonable order and the actual budget they receive.

The reported shortfall in annual maintenance budgets remains significant, but the amounts reported by English authorities have reduced dramatically compared with last year.

In England the average shortfall has reduced by nearly a third to £3.7 million (£5.1 million in 2014), while London authorities have seen the figure reduce by even more (40%) to £1.2 million (£2 million in 2014).

Feedback suggests that the reduction is due to additional funding that has been made available, secured and appropriately allocated at both central and local government level. In addition, an increasing number of authorities (now 98% in England and 78% in London based on responses

received) are participating in the Highway Maintenance Efficiency Programme (HMEP) and succeeding in putting their Highway Asset Management Plans (HAMPs) in place and into practice.

Welsh respondents report a budget shortfall increase from £2.85 million last year to the same level as English authorities at £3.7 million, despite an increase in overall road maintenance funding.

#### Addressing the shortfall

Highways departments were asked to estimate how much it would cost to bring their road networks up to scratch (assuming that 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.

Despite a reduction in reported annual budget shortfalls, the estimate for this

one-time “catch-up” cost has increased to £12.16 billion, from £12 billion last year. This breaks down as an average of £93 million per authority in England; £25.2 million in London; and £29.4 million in Wales.

#### Maintenance backlog

If adequate funding and resources were in place to get roads back into a reasonable condition, highways departments reported that the estimated amount of time required to carry out such work in England would be 12 years, 13 years in Wales and 15 years in London.

These figures are similar to the estimates authorities provided last year, suggesting current funding levels are, at best, only keeping pace with repairs but are doing nothing to help tackle the backlog.

# Road condition

## Current structural road condition

There has been another small, but significant, reduction in the percentage of local authority roads reported as being in poor condition: defined as the road having less than five years of remaining life. The average figure across England and Wales is now just under 16%, with all areas showing a reduction on last year's figures.

The lack of preventative maintenance combined with increased rainfall over recent years has led to increasing concerns over the condition of the road structure. Although the road surface may appear to be in reasonable condition, damage to the underlying layers – often unseen to the untrained eye – is considerably more expensive to repair and requires the road to be closed during extensive works.

This is particularly concerning as the majority of roads are assessed by automated mechanical devices which assume that good surface condition approximates to a sound structural condition.

Some improvement has been made

in England (excluding London) since last year's report with authorities now reporting that 53% of their network is in good structural condition (defined as having 15 years or more residual life), compared with 48% in 2014.

In London this figure has remained in line with last year at 44% (2014: 43%) while Wales has seen a drop in those roads reported as being in good condition from 54% last year to 49% this.

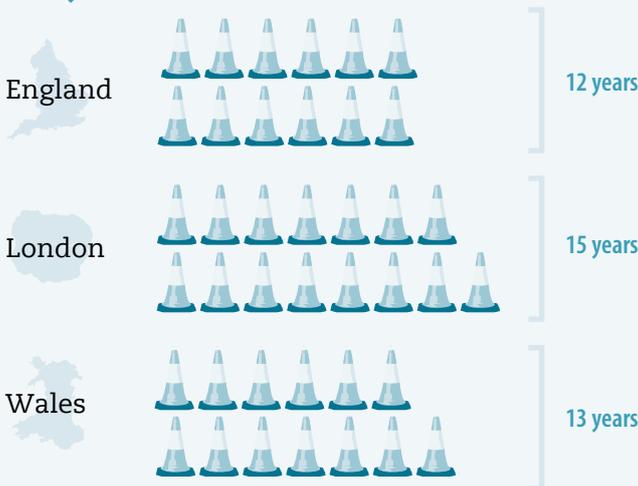


**“Roads matter to our constituents. Accessibility to services in a rural county relies on being able to use a decent highway network.”**



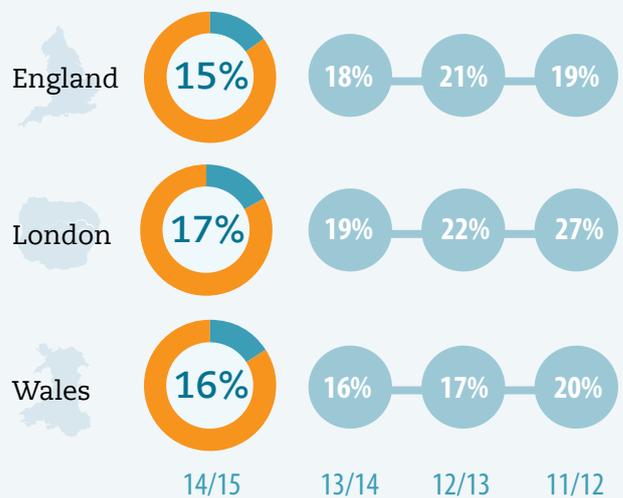
## MAINTENANCE BACKLOG

Time to clear backlog



## STRUCTURAL ROAD CONDITION

Percentage of road network in poor structural condition



## Road condition continued

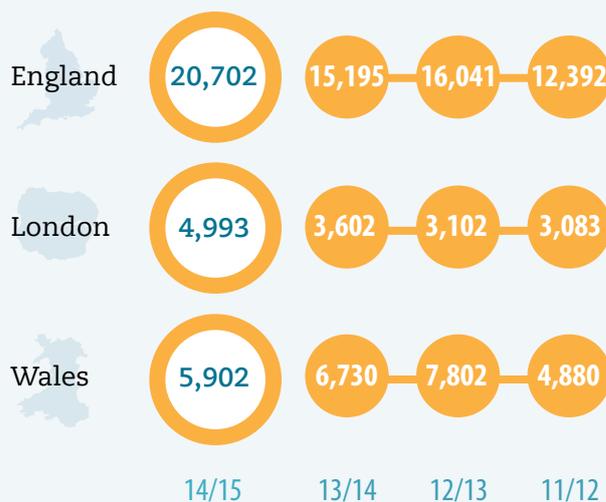
### COST OF FILLING POTHOLES

Average cost of filling one pothole



### POTHOLES FILLED PER YEAR

Potholes filled per year – average per authority



#### Potholes

The guideline depth for definition of a pothole is 40mm and over 60% of authorities responding to the survey use this to categorise potholes on their network.

The effect of a pothole can vary dramatically depending on its location and the nature of the traffic on the road, so depth definition is not always used as the only means of prioritising repairs.

Some authorities use shallower or deeper measurements to define a pothole, with a greater number in London (almost 28%) reporting that they use a measurement shallower than 40mm to define potholes.

#### Number of potholes

This year's survey has seen a huge increase in the average number of potholes filled per authority during the course of the year. Last year's report saw a small reduction on the previous year, but the figures for England in 2014/15 show a 36% increase

and in London, a 39% increase. Wales is the exception, with an average of 5,902 potholes filled per authority, down on last year's figure of 6,730. This means that almost 2.7 million potholes were filled in England and Wales last year.

The average cost of filling a pothole remains fairly consistent with previous years but the large increase in the number of potholes filled means that the total cost across England and Wales is now estimated at £144 million, a significant increase on the 2014 figure of £107 million.



“We have got to stop fixing potholes and actually fix roads. And, in order to fix roads we have got to make the investment.”

“If we continue to react to defects as they occur we will end up just chasing potholes and that would mean we would never get round to fixing roads.”



## UTILITY COMPANY OPENINGS

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



### Road surfacing frequency

Replacing the surface layer 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.

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.

This optimal length of time between resurfacing is only achieved on principal roads in London, where the average time before resurfacing is 21 years.

The length of time between resurfacing of all classes of roads (principal, non-principal and unclassified) across all regions remains consistent with last year's findings. The only exception is non-principal roads in Wales, which have seen a reduction from 82 years reported last year, to 58 years.

The average length of time between

resurfacing local roads in England, excluding London, across all road classes is 64 years, a slight improvement on last year's figure of 68 years.

### Utility company road openings

The number of utility openings on local roads in England and London over the past year increased by 15% and 18% respectively, while Wales saw a very small decrease from 4,980 last year to 4,904 this year. The total number of utility openings is estimated at more than 2.2 million, up

from 1.9 million last year. Opening a road to create a trench reduces its structural life, although by how much is open to debate. Most highway engineers believe the effect of deep trenching reduces road life by at least 30%, and this is borne out by research.

Most utility openings (90%) are completed in accordance with legislation; although it is estimated from the responses received that, on average, 13% of maintenance budgets is spent on premature maintenance which they necessitate.

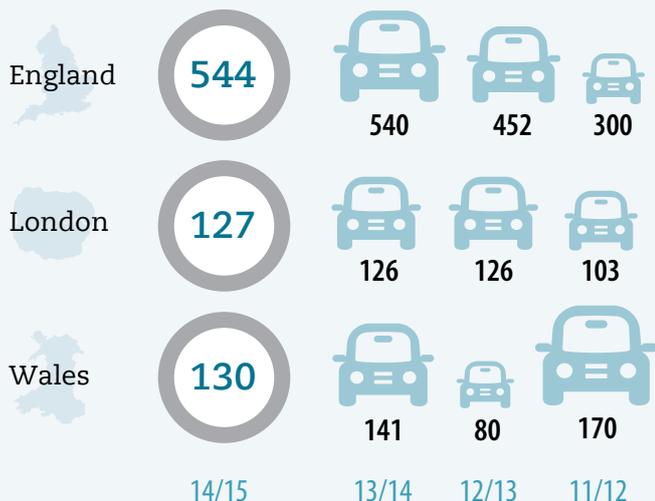
### Average length of time before roads are resurfaced

Class of road	England	London	Wales
Principal	36 yrs	21 yrs	42 yrs
Non-principal	51 yrs	31 yrs	58 yrs
Unclassified	101 yrs	45 yrs	90 yrs
All classes	64 yrs	31 yrs	59 yrs

## Road user compensation claims

### ROAD USER COMPENSATION CLAIMS

Number of claims in past year (average per authority)



### AMOUNT PAID ON CLAIMS

Average paid in past year (per authority)



#### Road user compensation claims

The average number of claims received by local authorities for compensation for damage to persons or vehicles as a result of poor road condition has remained largely stable, with English authorities averaging 544 (540 in 2014); London 127 (126 in 2014); and Wales 130 (141 in 2014).

The amount paid out in compensation

over the last year, by contrast, has seen a huge leap in England – from £11.1 million last year to £20.2 million – while Wales and London have both reported a significant decline for the second successive year.

It is not possible to identify a clear reason for this as the amounts paid out in compensation may also relate to multiple claims made in a previous year or years.

The associated staff costs spent processing claims was higher for all regions giving a total estimated cost for road user compensation claims of £40.8 million (up 29% from £31.6 million last year), broken down as £23 million on compensation and £17.8 million on staff costs.

#### Annual amount spent (average per authority)

	England	London	Wales
2014/15	£103,873	£87,546	£137,775
2013/14	£88,000	£76,000	£112,000

#### Average number of hours per month (per authority)

	England	London	Wales
2014/15	225	132	88
2013/14	216	182	78

# About the AIA



## Asphalt Industry Alliance

The Asphalt Industry Alliance (AIA) is an alliance 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 draw 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 for airport runways, sports arenas, and parking areas, among others.



## 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, formerly the Refined Bitumen Association (RBA), 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.

The organisation 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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