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ALARM

ANNUAL LOCAL AUTHORITY ROAD MAINTENANCE (ALARM) SURVEY 2014

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Contents

Chairman's Introduction	2
Key Findings – ALARM Survey 2014	3
Road Maintenance Budgets	4
Structural Maintenance Budget	4
Level of Spending	5
Reactive Maintenance	5
Weather Events and Unforeseen Costs	6
Longer Term Funding	7
Budget Shortfall	8
Addressing the Shortfall	8
Maintenance Backlog	9
Road Condition	9
Current Structural Road Condition	10
Potholes	10
Road Surfacing Frequency	11
Utility Company Road Openings	11
Road User Compensation Claims	12
About the ALARM Survey	13

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Chairman's Introduction

Times they are a-changing



Since last year's ALARM Survey the government has announced a welcome increased investment in the country's road infrastructure that will be available from April 2015. This should return local road maintenance budgets to where they were before the 2010 spending round provided, of course, that inflation does not erode the benefit.

This is good news and one of a number of signs indicating that the appalling state of our local road network is at long last being addressed. Increasing numbers of local authorities are participating in the Highway Maintenance Efficiency Programme (HMEP), a DfT initiative to encourage the sector to work together and share best practice to achieve better roads. The asphalt industry is closely involved in this programme and helping wherever it can.

In addition, this year's ALARM Survey shows that the gap between the funds that local authority highways departments say they need annually to keep their roads in adequate condition, and the amount they actually received, has reduced significantly. There are many reasons for this, not least the improved knowledge sharing and best practice referred to above, but also the growing number of authorities (60% in England) which now have highway asset management plans (HAMPs). A HAMP means never having to say sorry... the need for more funding can always be substantiated. And it seems to have worked.

Many respondents to this year's survey report that there has been a greater concentration of effort to improve road condition over the last year, and using their HAMP to make the case to their elected members has won them additional funding that has reduced their shortfall.

Let's not forget, also, the additional central government funding that has been made available in recognition of poor road condition both generally and, more recently, to help cover the additional costs of damage caused by this winter's incessant rain. The March 2014 budget announcement of an additional potholes challenge

fund of £200 million is also very helpful. All of this is welcome and will make a difference. The point has to be made, though, that investment up front, rather than after damage has been incurred, remains a much more efficient use of funds and has the added benefit of allowing highways departments to plan ahead.

On that note, a less welcome figure highlighted by this year's survey is the unexpected increase in the one-off "catch-up" cost which benchmarks how far away the local road network is from being in reasonable condition. Last year this estimated cost was £10.5 billion; this year it has risen to the highest ever, at £12 billion. This is particularly galling when everyone is working so hard to make squeezed resources work efficiently and it reinforces the pertinence of our mantra "invest now to save later".

The handful of highway maintenance PFI projects in place across the country clearly prove the benefit of this approach. The London Borough of Hounslow, which started its 25-year programme in January 2013, has reported an improvement in overall network condition of 40% within the first year. Something most highways departments can only dream about.

We know that PFIs-for-all is not a realistic approach, but longer term funding for better planned and more efficient programmes is not unrealistic. The sector has invested resources in HMEP principles to improve efficiency, and we believe that it is in better shape to make best use of the increased funding to come in 2015. To do so it is critical that highways departments receive every penny earmarked to help them implement good asset management and improve the local road network.

Our earnest hope is that the intention to enact legislation to protect the planned increased funding before the next General Election indeed becomes a reality.

So times, they are definitely a-changing: we are all working very hard to make sure that they are, and better communication between suppliers, customers and decision-makers is helping that process. Long may it continue.

A handwritten signature in blue ink that reads "Alan Mackenzie". The signature is fluid and cursive, with a long horizontal stroke at the end.

Alan Mackenzie
Chairman, Asphalt Industry Alliance



Key Findings – ALARM Survey 2014

	England (<i>exc. London</i>)	London	Wales
Percentage of authorities responding	75%	75%	68%
Shortfall in annual road structural budget	£587m	£64m	£62.7m
Average annual budget shortfall per authority	£5.1m	£2m	£2.85m
Percentage of budget used on reactive maintenance	24%	34%	35%
Estimated time to clear carriageway maintenance backlog ¹	12 years	14 years	12 years
Estimated one-time catch-up cost per authority	£90m	£36m	£20m
Percentage of authorities reporting unforeseen additional costs	65%	29%	80%
Average additional cost per authority (where figures available)	£1.6m	£905k	£337k
Frequency of road surfacing (all road classes)	68 years	32 years	68 years
Number of potholes filled over past year	1,747,425	115,264	148,060
Average number filled per authority last year	15,195	3,602	6,730
Average cost to fill one pothole	£52	£70	£52
Total spent filling potholes in past year	£90.9m	£8.1m	£7.7m
Amount paid in road user compensation claims	£11.1m	£4.4m	£1.1m
Staff costs spent on claims (per year) average per authority	£88k	£76k	£112k
Average no utility trenches over past year per authority	13,690	7,890	4,980

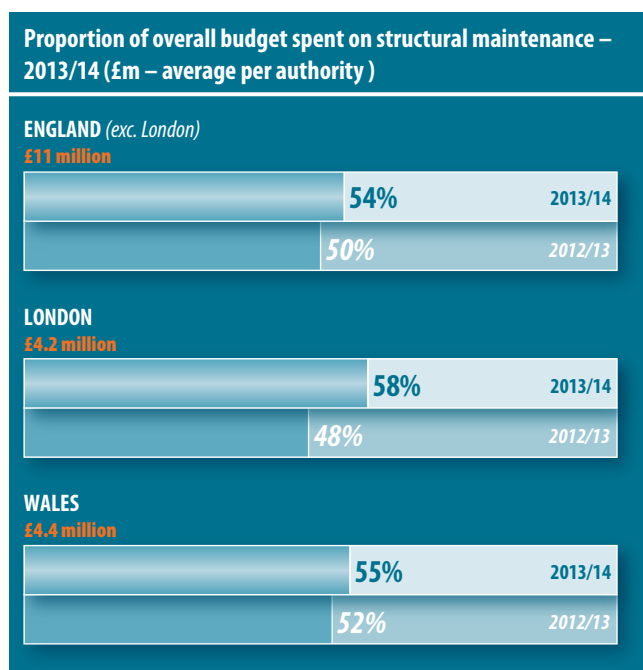
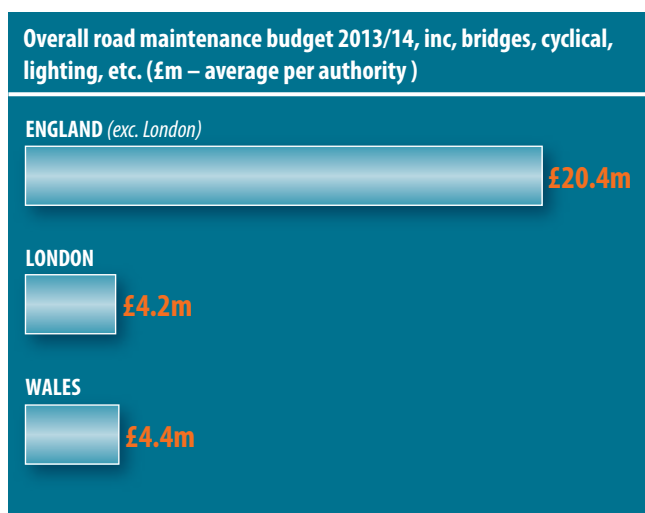
¹ Based on current budgets

Data in the ALARM Survey is supplied by 74% of the local authorities in England and Wales responsible for roads. Responses were received during January and February 2014.



Road Maintenance Budgets

Structural Maintenance Budget



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

The budget allocated for maintenance of the carriageway itself and its structure is just one part of this total maintenance budget. It is funded from both central and local 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 budget for highway maintenance in England (excluding London) for 2013/14 remained very close to that of the previous year (£20.1 million). Budgets in London have reduced significantly over the previous financial year which included the 2012 Olympics and saw an increase of 30 per cent, which allowed significant work to be carried out on London streets prior to the games. In Wales, the average budget per authority has also dropped significantly from the 2012/13 level which was unusually high due to a one-time borrowing facility being made available for road maintenance by the Welsh Government.

Despite these significant changes in funding for councils in London and Wales from the previous year, the total maintenance budget across England and Wales remained similar to the previous financial year, at approximately £2.8 billion.

More than half of the total highway maintenance budget was spent on structural maintenance, ie the carriageway itself, indicating a total expenditure across England and Wales in 2012/13 approaching £1.6 billion, compared to the estimate of £1.45 billion the previous year.

Feedback from authorities indicates that many have used additional funding wisely to help repair severe weather damage and that there has been an increased focus on catching up on repairs over the last year.

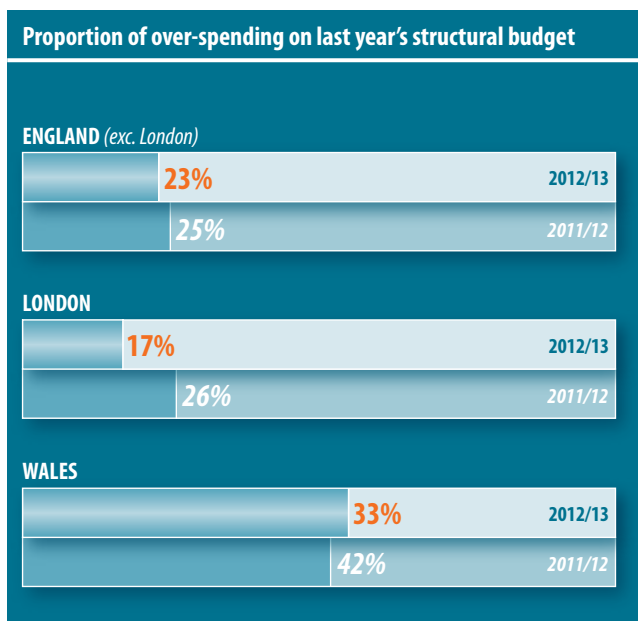
Local authority highway engineers say:

“the extra DfT money that we’ve used to target preventative maintenance has had a very pronounced effect”

“more money needs to be ring fenced by Central Government – they find money in an emergency but it would be better to have it beforehand so the emergencies might not be as extreme”



Level of Spending



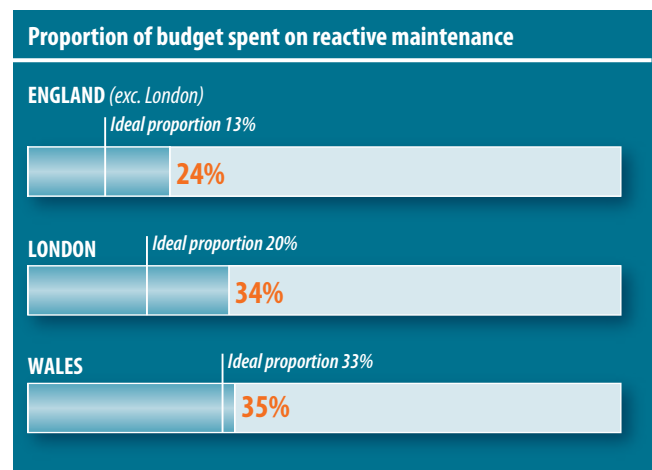
Some highways departments are able to carry their maintenance budgets over into the following year. The proportion of authorities over-spending their annual maintenance budget has decreased to 23% (from 25%) in England but, more dramatically, the number of authorities over-spending in London and Wales reduced by 9% in both regions.

This could be a result of the increased work carried out in London to meet the demands of the 2012 Olympics and, in Wales be due to the benefit of the additional borrowing made available by the Welsh Government.

Local authority highway engineers say:

“our asset management strategy is to invest over the next 2 years an additional £20 million”

Reactive Maintenance



While the average proportion of the road maintenance budget spent on reactive maintenance varies across England and Wales, it is generally agreed that around 15% could be considered the “ideal”. In the real world, where unforeseen natural circumstances might create an overwhelming need for reactive maintenance in order to keep roads safe and serviceable, it is extremely difficult to predict the percentage of budget that should be required for this kind of work. The level of reactive maintenance required is, though, a good general indicator of overall road condition.

Local authority highway engineers say:

“if you cost a resurfacing scheme by the square metre, you get a lot more for your money than you do for (filling) a pothole”

“better planned maintenance leads to less reactive maintenance – simple”



Weather Events and Unforeseen Costs

Severe weather conditions are becoming an increasingly common factor in adding to the unforeseen costs that local authorities have to bear to keep their roads in reasonable condition.

The record rainfall during the winter of 2013/2014 is a case in point and is predicted widely to have caused considerable damage to road structure, particularly in areas which were extensively flooded.

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

At the time this year's ALARM Survey questionnaires were completed it was not possible to gather a complete picture of the estimated costs of repairing damage caused by this exceptionally high rainfall.

However, the majority of authorities in England and Wales reported that they had to cope with unforeseen costs and these were primarily due to wet weather. In England 65% of authorities and in Wales 80% of authorities reported unanticipated costs, while only 29% of local authorities in London had to cope with these.

Information on how much these costs were expected to amount to was only available from about a third of the authorities who

responded to this question. An overall estimate is therefore difficult to quantify; some authorities were unable to provide an estimate as flood water had not fully receded from their roads at the time of completing the survey. The average estimated amount of damage incurred by each authority in England was £1.6 million, although with some of the worst hit areas still unable (at the time of survey) to estimate the extent of their damage, this average is likely to increase.

Local authority highway engineers say:

“our network is increasingly fragile and more susceptible to the [wet weather] damage”

“all of our roads, are so susceptible to the slightest bit of anything because they're waterlogged ...they're very fragile”

“we've got immense issues ...where just the pure volume of water... has literally washed away the edges of the road”





Longer Term Funding

Traditionally, local authority highway maintenance programmes are managed against budget figures set annually. It has long been recognised that this hinders efficient planning of maintenance work, in particular, planned preventative maintenance which is at least 20 times less expensive than reactive work, such as patching and mending potholes.

The government’s increased road funding programme, that starts in Spring 2015, will see its contribution to road maintenance funding allocated across the following six years. This should pave the way for clarity and consistent longer term funding from then onwards.

Nearly all authorities, 99 per cent, stated in this year’s survey that they believed longer term funding would help efficiency and provide a more durable road network.

When asked what they believed to be the optimum term that funding should be set for, to aid forward planning, the majority said five years, with a further significant percentage believing 10 or more years to be ideal.

Ideal term of funding

	England	London	Wales
3 years	8%	9%	13%
5 years	53%	52%	47%
10 years	38%	26%	33%
Longer than 10 years	2%	13%	7%

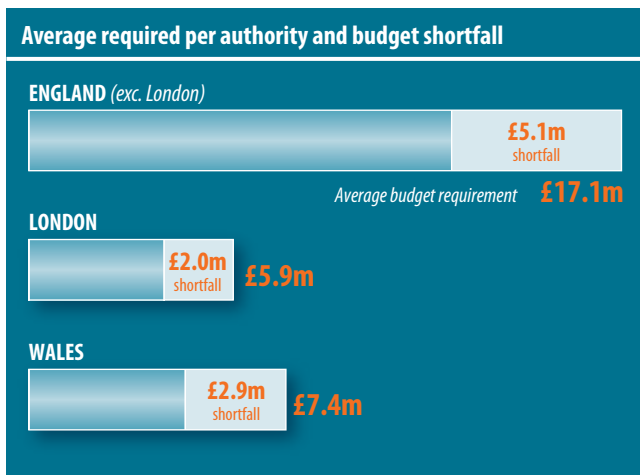
Local authority highway engineers say:
“It would be nice to see much longer than 5 years....but, they have given us budget certainty on the capital side for 6 years, so that’s not bad”

“forward planning is essential for efficiency”





Budget Shortfall



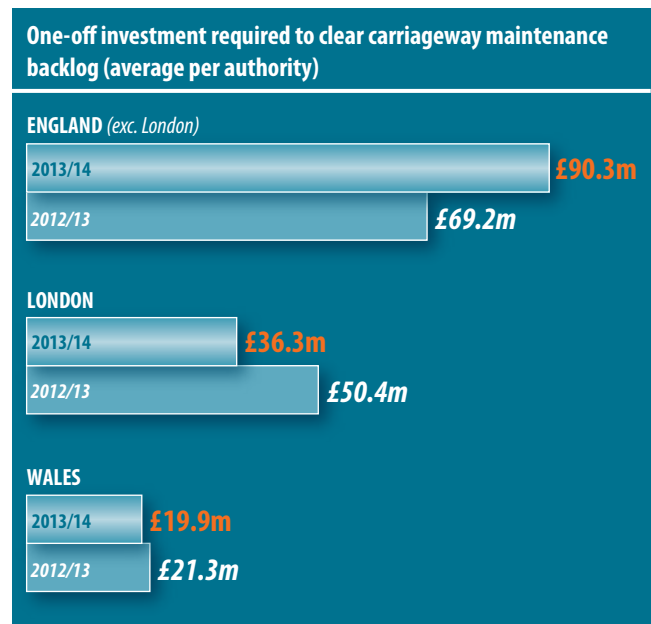
While the reported shortfall in annual maintenance budgets remains significant, the amounts reported by English authorities have reduced markedly from the previous year. The shortfall is described as the difference between the annual budget that highways departments calculate they require to keep their road networks in reasonable order and the actual budget they receive.

As more authorities succeed in putting their highway asset management plans in place, they are able to more accurately state the value of their roads and calculate the investment required in them to maintain them to an adequate level. In England, 60% of authorities now have their HAMPs in place.

Local authority highway engineers say:

“the DFT have been really, very good at the moment and have given us lots of assistance, which we’re genuinely very grateful for”

Addressing the Shortfall



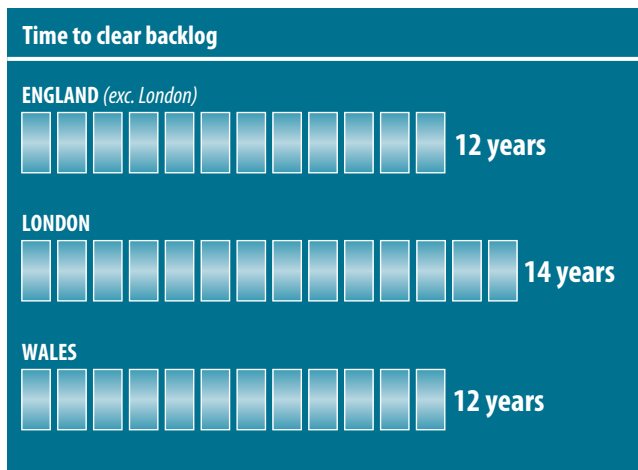
Highways departments were asked to estimate how much it would cost to bring their road networks up to scratch (assuming that they had the resources in place to make it practical to do so as a one-off project). This would be the condition from which longer term and cost effective, planned preventative maintenance programmes could be put into place, reducing the future cost of more extensive repairs.

Despite the significant reduction in reported annual budget shortfall, the estimate for this one-time “catch-up” cost has increased substantially from £10.5 billion last year to £12 billion this year.



Road Condition

Maintenance Backlog



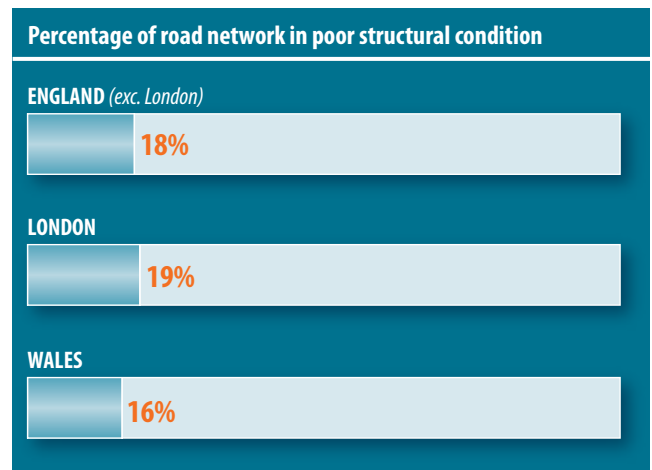
Even if adequate funding and resources were in place to get roads back into reasonable condition, highways departments reported that the estimated amount of time required to carry out such work in England (excluding London) would be 12 years. This is the same estimate as authorities provided last year.

In London, authorities estimate that the time to get roads back into reasonable condition has increased from last year's 11-year estimate to 14 years now. In Wales the estimated time has reduced by two years.

Local authority highway engineers say:
“authorities are getting their heads around asset management and now understand how much is needed to clear the backlog”

“backlog has decreased in our authority but only due to injection of cash”

Current Structural Road Condition



There is a small reduction this year in the percentage of local authority roads reported as being in poor condition, although the figures in England and London are still very close to 20% or one in five. “Poor condition” is defined as the road having less than five years of life remaining life.

The lack of preventative maintenance combined with increased rainfall over recent years has led to increasing concern over the condition of the road structure. While road surfaces may not indicate any such reason for concern to the inexperienced eye, there is evidence in many places around the country of damage to the underlying layers of local roads. This kind of damage is considerably more expensive to repair and requires the road to be closed during extensive works.

Authorities in England report that 48% of their network is in good condition, ie they have 15 years or more residual life, while in London the percentage is 44% and in Wales, 54%.



Potholes

Average cost of filling one pothole

ENGLAND (exc. London)



LONDON



WALES



Potholes filled per year – average per authority

ENGLAND (exc. London)



LONDON



WALES



The guideline depth for definition of a pothole is a 40mm and the majority of authorities responding to the survey: 65% in England outside London; 53% in London; and 53% in Wales, use this to categorise potholes on their network. The effect of a pothole can vary dramatically dependent 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 repair.

Some authorities use shallower or deeper measurements to define a pothole, with more than a quarter (26%) of London authorities reporting that they define potholes as being shallower than 40mm.

Local authority highway engineers say:

“Pothole Review helped to give councillors information and helped back up the need for funding”

“all this money we’re spending on filling potholes is money we should really be spending on preventing potholes”

Number of potholes

2013 saw a 31 per cent increase on the previous year over the number of potholes filled during the course of the year. This year there is a small reduction from the number reported last year, but the overall number remains high at over 2 million.

The average cost of filling a pothole has not changed dramatically and feedback from discussions with local authorities indicate that in some cases costs are being contained by economies of scale.

The total cost of filling potholes across England and Wales is estimated at £107 million, a reduction of around five per cent on the cost reported in 2013.

“we’re going to see some massive numbers [of potholes] in the first 3 or 4 months of this year”

“all this money we’re spending on filling potholes is money we should be spending on preventing potholes”



Road Surfacing Frequency

The recommended frequency of road resurfacing is between 10 and 20 years, dependent upon the lifespan of particular materials, the type of road, and the level and nature of its traffic. Replacing the surface layer at regular intervals is necessary to maintain an appropriate level of grip, vital for road safety, and to maintain a weatherproof seal on the road surface to guard against water ingress and winter freeze/thaw effects.

The length of time between resurfacing of unclassified roads has increased significantly in England, with authorities outside London reporting an average of 101 years.

Principal roads in London are best cared for with the time between resurfacing of principal roads having reduced to 19 years, while in Wales the wait for resurfacing of principal roads is twice as long as recommended.

Rural roads continue to fare worst in this respect: although there is not much difference in the average length of time between resurfacing of urban and rural principal roads, there is more disparity on non-principal roads, and significantly so on unclassified roads.

The average length of time between resurfacing local roads in England, excluding London, across all road classes is reported as 68 years (54 years in 2013).

Average length of time before roads are resurfaced

Class of road	England	London	Wales
Principal	33 yrs	19 yrs	42 yrs
Non-principal	56 yrs	28 yrs	82 yrs
Unclassified	101 yrs	41 yrs	89 yrs
All classes	68 yrs	32 yrs	68 yrs

Utility Company Road Openings

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

ENGLAND (exc. London)



LONDON



WALES



The number of utility openings on local roads over the past year has decreased by around 20%, from a total of nearly 2.4 million last year to an estimated 1.9 million this year.

Opening a road to create a trench reduces its structural life, although by how much is open to debate. Most highways engineers believe the effect of deep trenching reduces road life by at least 30 per cent, and this is borne out by research.

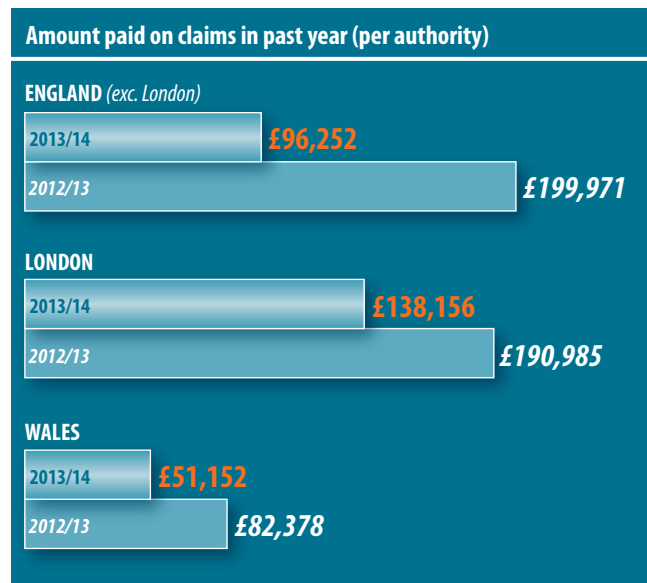
Most utility openings (83%) are completed in accordance with legislation, although it is estimated that on average 14% of maintenance budgets are spent on the premature maintenance they cause. The majority of survey respondents (90%) were in favour of enforcement of legislation to charge companies for these premature costs.

Local authority highway engineers say:

“it is impossible for utility companies to put the road back as good as it was beforehand”



Road User Compensation Claims



The average number of claims received by local authorities for compensation for damage to person or vehicle as a result of poor road condition increased in England by nearly 20%. It remained the same in London but increased substantially in Wales, which last year saw a significant decrease in the number of claims.

Amounts paid out over the last year are lower than the previous year across all regions. It is not possible to identify a clear trend

based solely on the amounts paid out in compensation, as these may relate to claims made in a previous year or years.

The combined cost of payouts and staff time spent processing claims across England and Wales was lower at £31.6 million, with £16.6 million spent on compensation and £15 million on staff costs.

Staff costs spent on claims – per year

	England	London	Wales
Annual amount spent (average per authority)			
2013/14	£88,000	£76,000	£112,000
2012/13	£90,000	£ 52,000	£41,000

Staff time spent on claims – per month

	England	London	Wales
Average number of hours per month (per authority)			
2013/14	216	182	78
2012/13	189	150	73



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, that is the road surface and structure, and only that part of the total highway maintenance budget that covers the carriageway specifically. (The total highway maintenance budget covers other significant areas of expenditure covering work such as structural work to bridges; street lighting; cyclical maintenance

such as grass-cutting, checking of traffic signals and replacement of street furniture, which are excluded from this survey.)

The ALARM Survey 2014 is the 19th annual survey, in which 74 per cent of the authorities responsible for roads in England and Wales participated.

This report summarises its key findings.

The survey was carried out during January and February 2014. Unless otherwise stated, the findings are based on the financial year 2013/14, ending 31 March 2014. References to "last year" relate to 2012/13.

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

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 the Refined Bitumen Association (RBA) 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 asphalts and coated macadam 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, 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 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. It also represents the interests of its asphalt producer and contractor members through 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.



Refined Bitumen Association

Founded in 1968, the RBA is the trade association of the largest UK bitumen suppliers who between them produce nearly all the UK's bitumen. Over 95 per cent of this is used in the construction and maintenance of bituminous, or asphalt roads – these account for 95 per cent of all UK roads.

The RBA 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 Association 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 and is involved in the development of specifications and test methods for bitumen.



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