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ALARM

ANNUAL LOCAL AUTHORITY ROAD MAINTENANCE (ALARM) SURVEY 2013

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For further information on the ALARM Survey contact:

AIA Press & Information Office
HMPR Limited
Buckingham Court
Buckingham Gate
London SW1E 6PE

tel.: 020 7222 0136
fax: 020 7222 2324
email: info@asphaltuk.org
www.asphaltuk.org

Chairman's Introduction

Because it's worth it...



The local road network might not immediately spring to mind as a significant asset. It is, though, much more than the local residential street, or indeed the street that leads to the local school or the local hospital. As well as providing the vital links that local communities depend upon, the local network provides the backbone to the country's

infrastructure. The vast majority of the country's roads – over 95 per cent of them – are part of the local road network, the very core of our transport service without which the country would literally grind to a standstill.

So it's perhaps surprising that this absolutely indispensable asset has only recently started to be recognised as such. With the gradual introduction of asset management as a recognised practice, and now one that is essential for local authority budget planning, the worth of the local road network in monetary terms is finally coming to light. In terms of the highway itself, current estimates show the local network value to be at least £300 billion. Even disregarding the country's economic status, can we afford to neglect such a valuable asset?

Sadly, this year's ALARM Survey, which 75 per cent of all local authorities responsible for roads in England and Wales participated in and hence reports the most robust results ever, shows that this is exactly what is happening. The number of potholes filled on the network over the last year again breaks the two million mark, while the overall budget for highway maintenance from central to local government over the current four-year spending period amounts to a meagre one per cent of the network's worth.

The need to tighten purse strings is clear, but the government is keen to boost the economy. What better way of doing so than by encouraging much-needed work on the local road network? This work can be started almost immediately and not only will create jobs on the road itself but will also give local economies a valuable boost.

Recent research by YouGov among SMEs showed that businesses in England and Wales are suffering from poor road

condition to the tune of a cumulative £5 billion a year. That far outweighs the maintenance spend. So a quick win on investing to bring our network back up to scratch would be more than worthwhile, both to eliminate the £5 billion annual loss to businesses and to boost jobs and the local economy. Add to that the saving to be gained from preventing roads from falling further into disrepair and the case is watertight, which is more than can be said for our roads.

This year's survey responses again highlight that one in five of our roads is in poor condition, which means they have less than five years of life remaining.

The AIA is, as ever, keen to help the highways industry and the Department for Transport in all efforts to promote efficiency within the highways service. One efficiency that would have immediate and lasting impact would be to invest in highway maintenance up front, rather than waiting for bad weather to damage roads further and then provide reactive funding.

The additional £215 million over the next two years announced in 2012's Autumn Statement was welcome, but was clearly not enough. Last year's extreme rainfall created an estimated £338 million of damage, to be covered by a service already struggling with an annual shortfall of over £800 million.

The majority of authorities responding to this survey wanted to be able to plan their maintenance programmes for at least five years. With ever-decreasing annual funding from central government, longer term planning has to stay on the wish-list. An investment of £6 million in the Highway Maintenance Efficiency Programme was certainly timely, but now that the Potholes Review has been published and efficiency guidelines are being followed, perhaps a focus on how funding can be improved to facilitate that much needed longer-term planning would make sense? At an estimated asset value of £300 billion, the local road network has to be worth it.

Alan Mackenzie
Chairman, Asphalt Industry Alliance



Key Findings – ALARM Survey 2013

	England (exc. London)	London	Wales
Percentage of authorities responding	77%	73%	64%
Shortfall in annual road structural budget	£741m	£88m	£2m
Average annual budget shortfall per authority	£6.2m	£2.7m	£0.1m
Percentage of budget used on reactive maintenance	25%	33%	30%
Frequency of road surfacing (all road classes)	54 years	34 years	107 years
Estimated time to clear carriageway maintenance backlog ¹	12 years	11 years	14 years
Estimated one-time catch-up cost per authority	£69m	£50m	£21m
Number of potholes filled over past year	1,909,000	102,000	156,000
Average number filled per authority last year	16,041	3,102	7,082
Average cost to fill one pothole	£52	£62	£47
Total spent filling potholes in past year	£99.0m	£6.3m	£7.4m
Amount paid in road user compensation claims	£23.8m	£6.3m	£1.8m
Staff time working on claims (per year)	38,560 days	8,500 days	2,750 days
Average number of utility trenches over past year per authority	15,106	11,198	5,020
Percentage of authorities with roads badly affected by flooding in 2012	65%	33%	71%
Additional costs of 2012 flood damage (average per authority affected)	£3.9m	£0.7m	£2.1m
Total cost of additional flood damage incurred 2012	£297m	£8m	£33m

¹ Based on current budgets

Data in the ALARM Survey is supplied by 75% of the local authorities in England and Wales responsible for roads. Responses were received during January and February 2013.



Road Maintenance Budgets

Overall road maintenance budget 2012/13 (inc. bridges, cyclical, lighting, etc)

ENGLAND (exc. London)



LONDON



WALES



Average per authority

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) shows a 10 per cent rise on last year, following an 11 per cent fall the previous year. Budgets in London during the year of the Olympics increased by 30 per cent, and in Wales by 22 per cent. Across England and Wales, the total overall road maintenance budgets allocated increased by 15 per cent compared with the previous year, to around £2.9 billion.

Central government funding from 2010/11 to 2014/15 has been reduced year-on-year, meaning a cumulative reduction in annual funding of £442 million, without adjusting for inflation.

Local authority highway experts say:

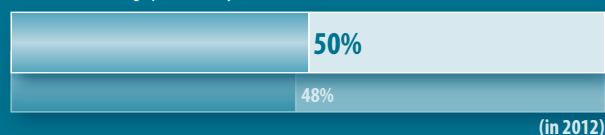
“we’ve got shovel-ready jobs that could dig us out of the recession”

Structural Maintenance Budget

Proportion of overall budget spent on structural maintenance – 2011/12

ENGLAND (exc. London)

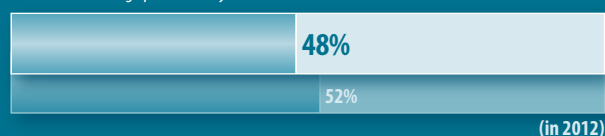
£10.1 million average per authority



(in 2012)

LONDON

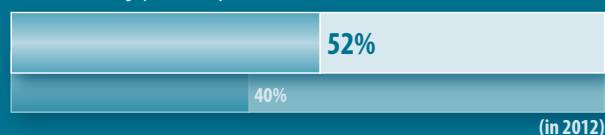
£3.4 million average per authority



(in 2012)

WALES

£5.8 million average per authority



(in 2012)

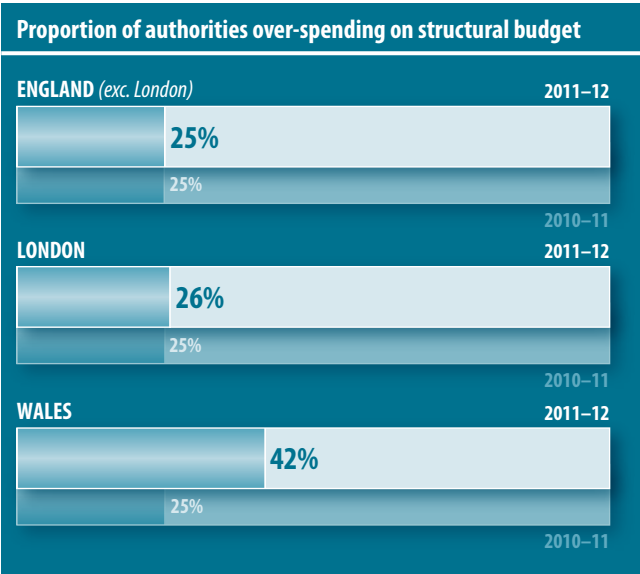
Of the total highway maintenance budget, around 50 per cent was spent on structural maintenance, ie the carriageway itself, indicating a total expenditure across England and Wales in 2011/12 of around £1.45 billion. This is an increase of about £240 million compared with the previous year. In Wales, the proportion of the budget spent on structural maintenance has increased significantly over the past two years, from 32 per cent in 2011, to 40 per cent in 2012 and in 2011/12 to 52 per cent. This appears to be largely due to a one-time borrowing facility available from the Welsh Government.

The 15 per cent increase in overall road budgets is supported by the increase in the proportion spent on carriageway repairs. A larger share of a larger pot has resulted in the average local authority carriageway repair budget increasing by just over £1.2 million. However, during ALARM focus groups, local authorities highlighted rising costs as an issue.

“the structural condition of our roads is a ticking time bomb”



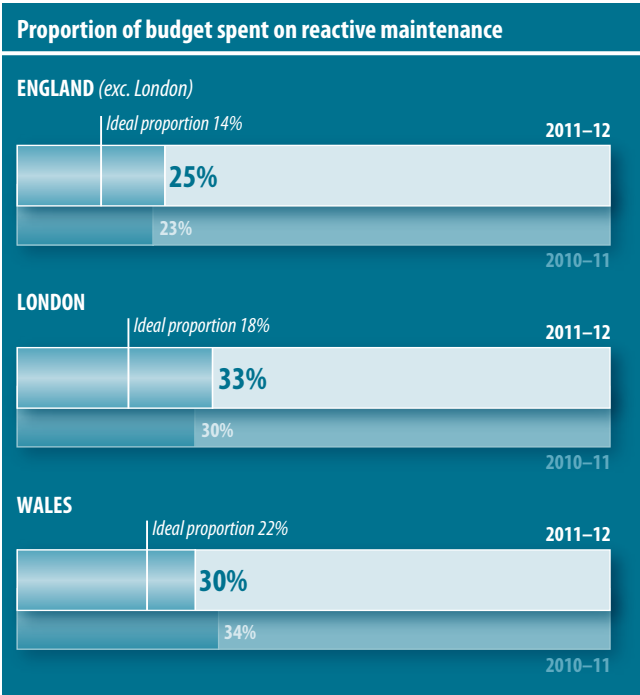
Level of Spending



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 increased significantly in Wales (probably due to the borrowing facilitated by the Welsh Government), and remained unchanged elsewhere.



Reactive Maintenance



“Reactive maintenance” is described as maintenance not planned for at the beginning of the year, and includes such work as repairing potholes, whether reported by the public or identified by the highways service itself. It also includes any remedial work required on utility trench reinstatement beyond the two-year guarantee period.

The level of reactive maintenance required is a good indicator of the overall state of the roads.

This year’s survey reveals a higher proportion of budget was spent on reactive maintenance in Wales. It also identifies variations in what each authority describes as being the ideal proportion of the budget that should be factored in for reactive repairs, although overall it is about 15 per cent.

Filling a pothole is, square metre for square metre, at least 20 times more expensive than resurfacing.

Local authority highway experts say:

“reactive maintenance will increase as roads deteriorate”



2012 Flooding and Government Funding

During 2012, England experienced what weather experts described as “extreme rainfall”. The effect of this in many areas was serious flooding which wreaked havoc, not least to the road network. 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.

Of the respondents to this year’s survey, 59 per cent said that some part of the fabric of their road network had been badly affected by 2012’s extreme rainfall. In England (excluding London), the cost of the damage caused was estimated at an average of £3.9 million per authority, or £297 million across those authorities responding to this question. In Wales, 71 per cent of authorities reported that their roads had been affected, to the tune of an average cost of £2.1 million per authority or a total of £33 million across those authorities who responded. For the third of London authorities affected, the cost of the resulting damage amounted to an average of £0.7 million, equating to a total of £8 million across the capital for those authorities affected.

2012 Extreme Rainfall damage = £338 million

2012 Autumn Statement additional local road maintenance funding = £215 million

In addition to those costs, nearly a third of all authorities reported that they had had to cope with other unforeseen additional costs, primarily caused by weather extremes including drought as well as snow or freezing conditions. Some London authorities also cited consequences of the city’s hosting of the Olympics as presenting unforeseen costs. These average just over £1.2 million for each authority reporting such costs, amounting to an additional £65 million of costs not covered by the annual budget.

In its 2012 Autumn Statement, the Government promised additional funding for road maintenance, £215 million of which has been allocated to the road network. This falls 57 per cent short of covering even the additional costs of damage caused to the network by last year’s flooding. It will be made available in two tranches, in 2013/14 and 2014/15.

Longer Term Funding

Most 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. Nearly all authorities, 98 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 (53 per cent) said five years. A significant percentage, 32 per cent, said that it should be for 10 years or longer.

Ideal term of funding

2 years	2%
3 years	13%
5 years	53%
10 years	28%
Longer than 10 years	4%

Local authority highway experts say:

“fixed funding for minimum of 5 yrs essential to break the cycle”

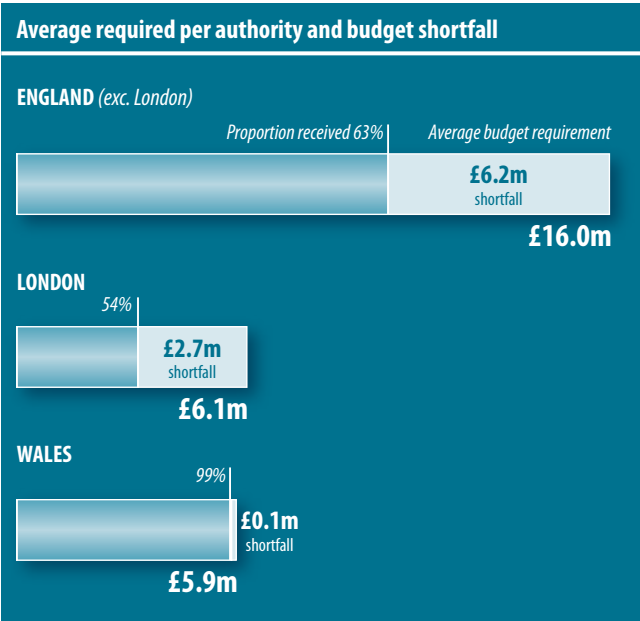
“steady stream of funding for 10–15yrs to make any in-roads”

“the longer the time, the greater the benefit that can be built into planning lifecycle”

“5 yrs absolute minimum for us to plan and for our supply chains to offer best service”



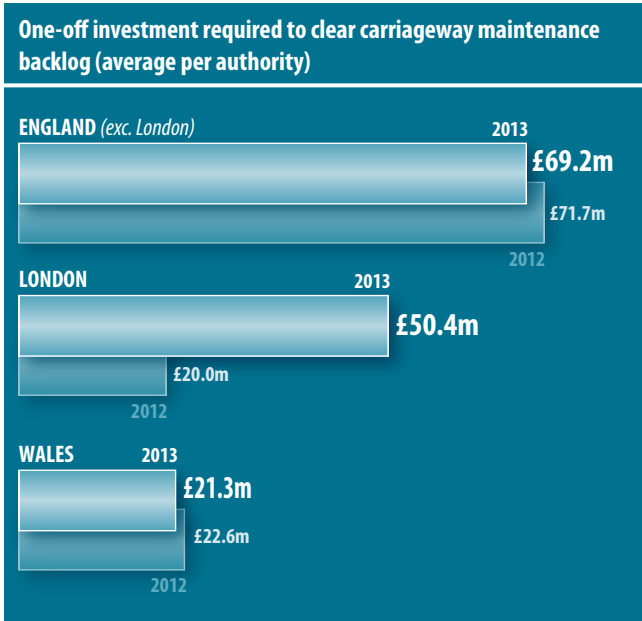
Budget Shortfall



Consistent with reports from previous years, the shortfall in annual maintenance budgets remains significant. 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.

Among authorities in England, outside London, the average shortfall per authority has increased over last year, although in Wales the situation has improved dramatically, due to a number of authorities benefitting from the Welsh Government facilitating longer term borrowing.

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). From there, longer term and cost effective, planned preventative maintenance programmes could be put into place, reducing the future cost of more extensive repairs.

Despite additional government funding of £200 million in 2011 to help cope with road damage caused by severe weather, there has been no significant fall in the overall amount authorities consider they would require to achieve this. In London the amount has increased significantly. The overall average per authority is now £60 million (up from £56 million last year), amounting to over £10.5 billion across England and Wales.





Road Condition

Maintenance Backlog



Even if adequate funding and resources were in place to clear the current backlog of maintenance work, 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 an increase over the 11 years reported last year. In London, the estimated “catch-up” time is 11 years, compared to nine years in 2012, and in Wales there has been a reduction from 17 to 14 years. Five per cent of authorities reported that they do not have a maintenance backlog.

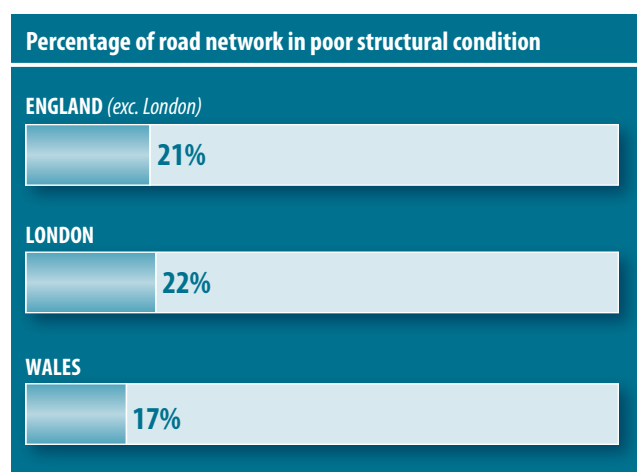
During focus groups held to preview the results of this year’s ALARM Survey, more concern was expressed by highways engineers about the need for emergency road closures in order to effect repairs, and more permanent closures, such as allowing some rural roads to revert to “green roads” or cart tracks.

Local authority highway experts say:

“roads are running out of life from the foundations upwards”

“every time it rains again...there is new damage”

Current Structural Road Condition



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.

One in five local authority roads across England is reported to be in poor condition. This is defined as the road having less than five years’ remaining life. This is slightly lower in Wales, where on average, 17 per cent of roads are in poor condition.

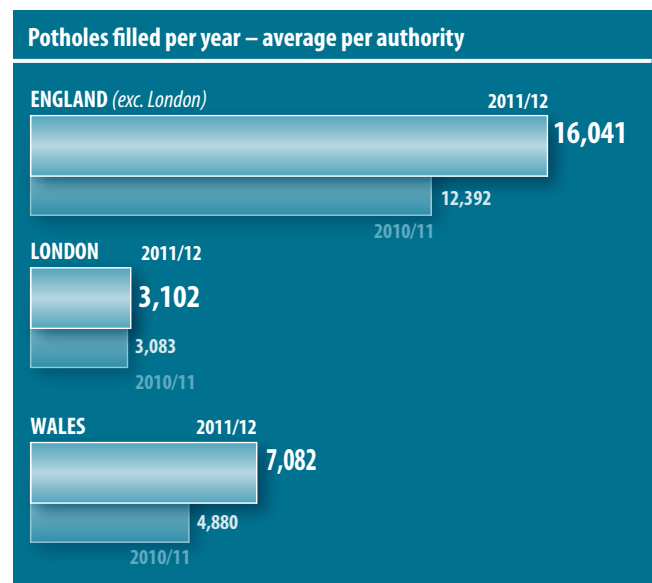
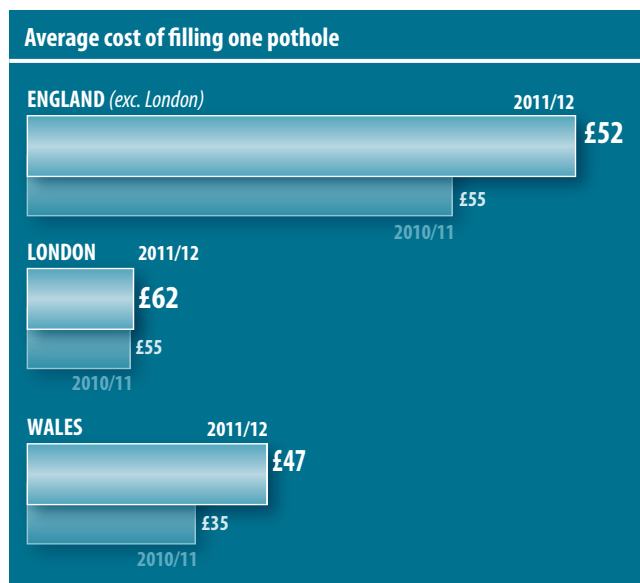
Across England and Wales, 44 per cent of roads are reported to be in good condition, ie they have 15 years or more residual life, while 36 per cent are in adequate condition, with between five and 15 years of residual life.

“the foundation layers are saturated and freezing”

“we all think our networks are deteriorating”



Potholes



The guideline depth for definition of a pothole is 40mm and the majority of authorities responding to the survey, over 60 per cent, 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. Some authorities use shallower or deeper measurements to define a pothole, with a greater number in London reporting that they define potholes shallower than 40mm than in Wales, where more authorities use a depth of 50mm or more as their definition.

Number of potholes

Following a decline in the number of potholes reported in 2012, the average number of potholes filled by authorities in England and Wales represents a 31 per cent increase compared with the number reported last year. Rural local authorities are the worst affected, and increasingly so.

Despite economies of scale, across England and Wales, the average cost of filling a pothole has risen slightly to £58 to fill one hole. The total amount spent in filling potholes across England and Wales has also risen, from £90 million last year to £114 million.

Local authority highway experts say:

“overall condition is deteriorating... potholes appear after a few months of bad weather”

“if we were allowed to do our job right (funded right) there would be no potholes”





Road Surfacing Frequency

The ideal frequency of road resurfacing is between 10 and 20 years, taking into account 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.

Only roads in London came close to this frequency of re-surfacing, while the wait for rural roads to be resurfaced has increased significantly. The average, across all classes of roads, is 54 years.

Local authority highway experts say:

“in reality most engineers will only see a principal road resurfaced once in their career”

“unclassified network is getting worse and worse...significant investment required”

“we’re talking about not mending them and turning them into green roads”

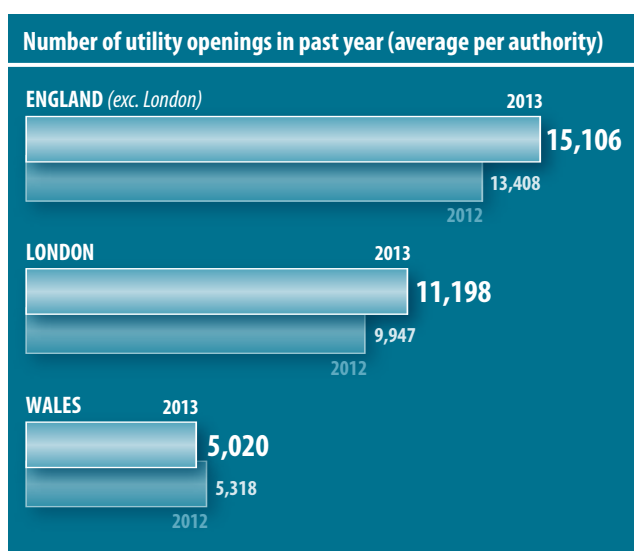
“we are closing roads”

“we’ve had to turn two back into local access roads”

Average length of time before roads are resurfaced

Class of road	England	London	Wales	Urban	Rural
Principal roads	33 yrs	24 yrs	91 yrs	24 yrs	23 yrs
Non-principal roads	58 yrs	27 yrs	123 yrs	32 yrs	53 yrs
Unclassified roads	89 yrs	42 yrs	126 yrs	48 yrs	109 yrs
All road classes	54 yrs	34 yrs	107 yrs	33 yrs	60 yrs

Utility Company Road Openings



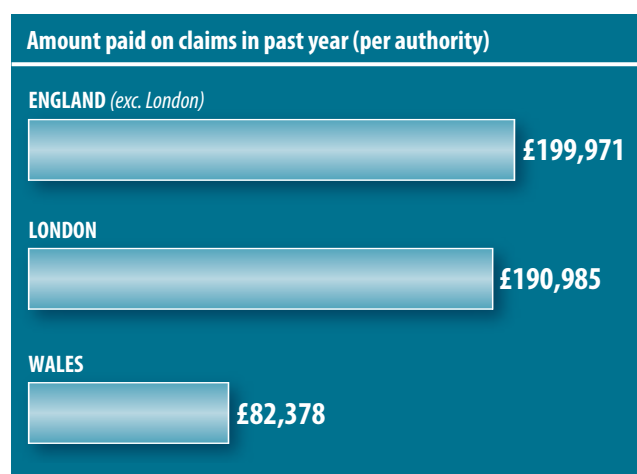
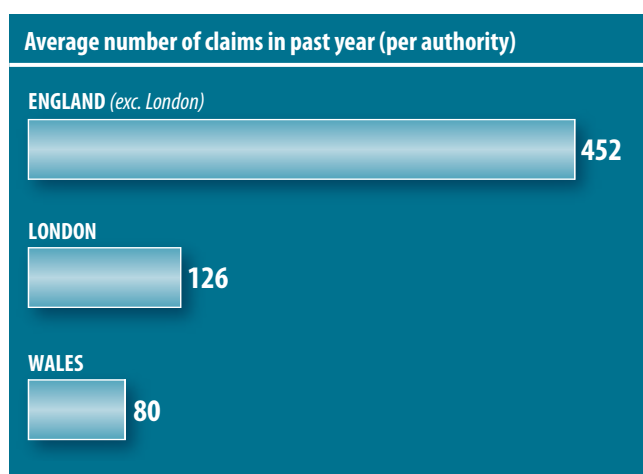
Except in Wales, the average number of utility openings has increased somewhat year on year: by 14 per cent overall, following a seven per cent decrease last year. The projected total number of utility openings across England and Wales during the past year is estimated at nearly 2.4 million.

Utility openings reduce the structural life of a road, 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.

On average 80 per cent of utility openings are completed in accordance with legislation, although 20 per cent are not completed to specification. It is estimated that 15 per cent of the carriageway maintenance budget is spent on premature maintenance due to reinstatement of utility openings.



Road User Compensation Claims



The number of claims received by local authorities for compensation for damage to person or vehicle as a result of poor road condition has increased very substantially in the past year, from an average of 251 claims per authority reported in 2012 to 363. However, the average number in Wales has decreased from 170 claims a year to 80.

By the nature of the claims there can be significant differences in the amounts paid out, even within one authority. Claims for significant amounts can take some time to settle, so the amounts reported to have been paid out in any one year are not necessarily an indication of significant changes in road condition.

The lowest amounts paid out were in England (outside London), where the average claim is about £440, compared with £1,500 in London and £1,000 in Wales. Authorities outside London and Wales still receive a much higher number of claims: an average of 452, compared with 300 for the last year reported.

The average number of hours of local authority staff time spent on processing these claims continues to rise across England, although it has reduced in Wales.

Authority expenditure on processing these claims has also increased from last year across all regions.

Taking the amounts paid out and the estimated costs of processing claims, across England and Wales, road user compensation claims have cost an estimated total of £45.2 million.

Staff time spent on claims – per month

	England	London	Wales
Average number of hours per month (per authority)			
2010/11	183	125	99
2011/12	189	150	73

Staff costs spent on claims – per year

	England	London	Wales
Annual amount spent (average per authority)			
2010/11	£87,000	£53,000	£38,000
2011/12	£90,000	£52,000	£41,000

Local authority highway experts say:

“roads may have over-performed but we are now paying for the legacy of years of underinvestment”



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, survey questions related to funding, the type of maintenance carried out, and the issues affecting maintenance service levels, are asked to 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, including 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 2013 is the 18th annual survey, in which 75 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 2013. Unless otherwise stated, the findings are based on the financial year 2012/13, ending 31 March 2013. References to "last year" relate to 2011/12.

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 (plant mix and precast), 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.



AIA Press & Information Office
HMPR Limited
Buckingham Court
Buckingham Gate
London SW1E 6PE
tel.: 020 7222 0136
fax.: 020 7222 2324
email: info@asphaltuk.org
www.asphaltuk.org