The Case for an Effective Long Term Funding Plan

for the LBB Highway Infrastructure Network

Why Invest in Highway Maintenance ?

Draft July 2014

Why invest in highway maintenance?

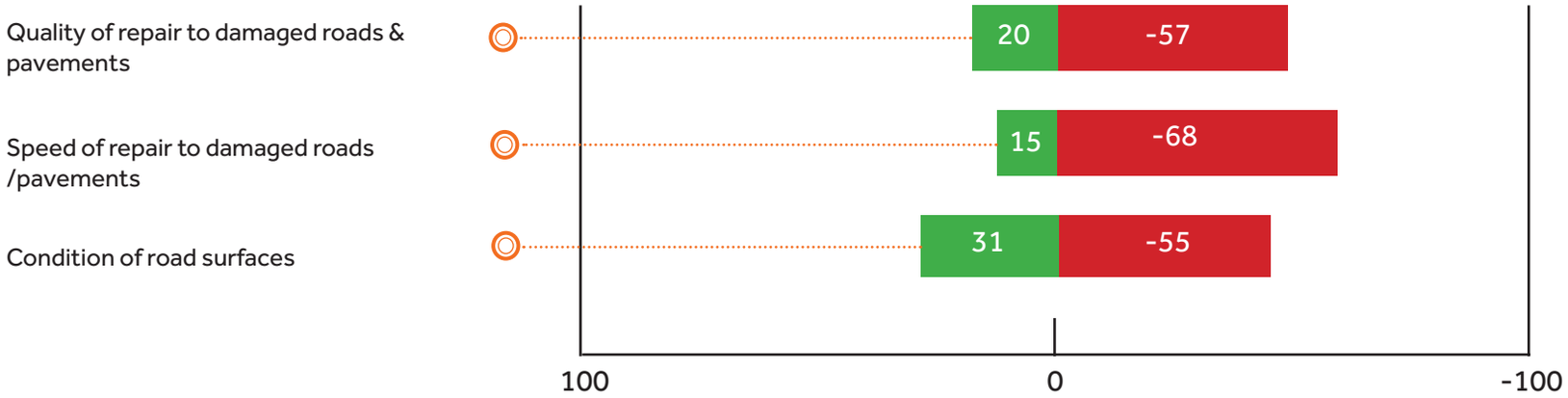
Highways are their council's most valuable asset. They are vital to the economic, social and environmental well being of Borough as well as general image and perceptions. They provide access for business and communities, as well as contribute to the area's local character and the electorate's quality of life. Highways really do matter to people. Public opinion surveys continually highlight dissatisfaction with the condition of local roads and the way they are managed.

The London Borough of Barnet highway network is valued at £1.3billion.

The current tough economic climate poses big challenges to councils to make the best use of limited resources in providing an acceptable highway service to the public, yet critically to maintain the integrity of our highways for future generations and the asset valuation. Public pressure can result in just short-term fixes, to potholes for example, rather than properly planned and implemented longer-term solutions. Short-term repairs provide poor value for money and often undermine the structural integrity of the asset.

Patching is typically 3 to 4 times more expensive per square metre

Managing our highways is now a critical challenge for all local councils, who have to manage an ageing network with high public expectations for safe, reliable and comfortable travel.



Net Satisfaction Chart

What is The Challenge?

Current capital funding allows the resurfacing of approximately 50,000 square metres of carriageway and 25,000 square metres of footways each year;

at this rate of resurfacing we can expect roads to be resurfaced every 100 years and footways every 140 years.

Highways that are old (more than 20 years) and beyond their design life are increasingly fragile and less resilient to damage from wear and tear from increasing car and HGV traffic and also more prevalent severe rainfall and sub zero winter weather.

The evidence is defects like potholes and subsidence in the roads and damaged pavements. There is also less obvious damage to underground highway drainage pipe-work systems. These defects are seen and felt by all, including the electorate, and often put the council in a negative media spotlight and result in the Highways service being at the top of the concerns or the area of service for the council to prioritise.

Continually maintaining highways in this old condition is also very expensive with largely inefficient premium costs for repairs compared to well planned and managed large scale and regular annual planned maintenance programmes.

It is a situation analogous to only making the minimum payment each month on your credit card bill...which carries a financial health warning.

It is clear that something must be done if our highways (both roads and pavements) are going to continue to provide the service for which they were built. They are after all used by virtually everyone and are the most valuable asset.

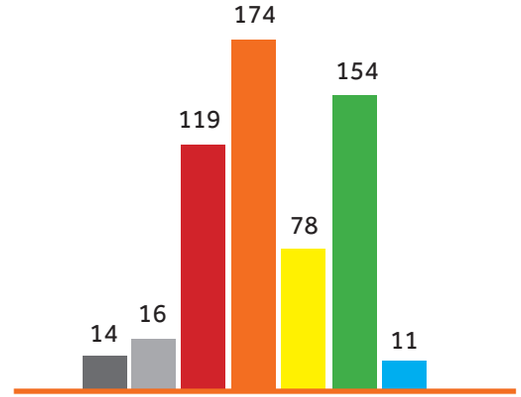
The approach to highway maintenance needs to change to make the best possible use of available funding. A key part in the change is strong leadership and commitment from elected councillors and their chief officers to maintain the highway network by ensuring best use of available funds and demonstrating need for investment.

The injection of £4million in 2013-2014 was evidence of such commitment but a long term commitment to at least this annual value is required.

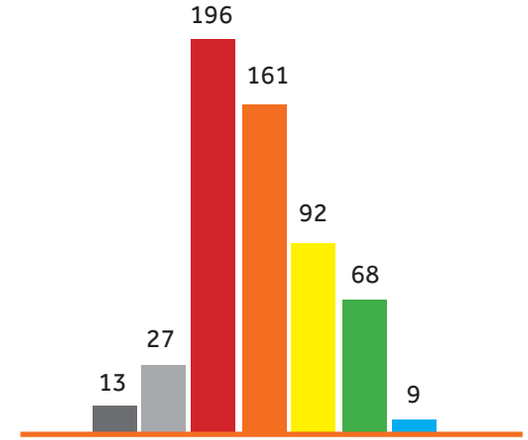
What Do Users and Stakeholders Want ?

The condition of many aspects of the highway network is important to road users. In particular, there are generally high expectations and strong views about the surfaces on which the public moves and an expectation that roads, footways and cycleways can be used without actually noticing the surface they are travelling on.

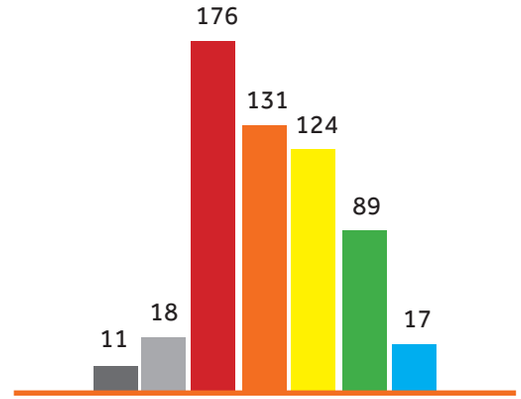
A number of different public opinion surveys demonstrate that overall satisfaction with local highways is low. To improve satisfaction, good information is required at a local level about what is important and how it is perceived. Public perceptions of road and footway surface condition are influenced by the type of user. The vulnerable, including the elderly, whether pedestrians, motorists or passengers, notice surfaces more than any others and they are at a higher risk of being affected by defect hazards and poor quality repairs.



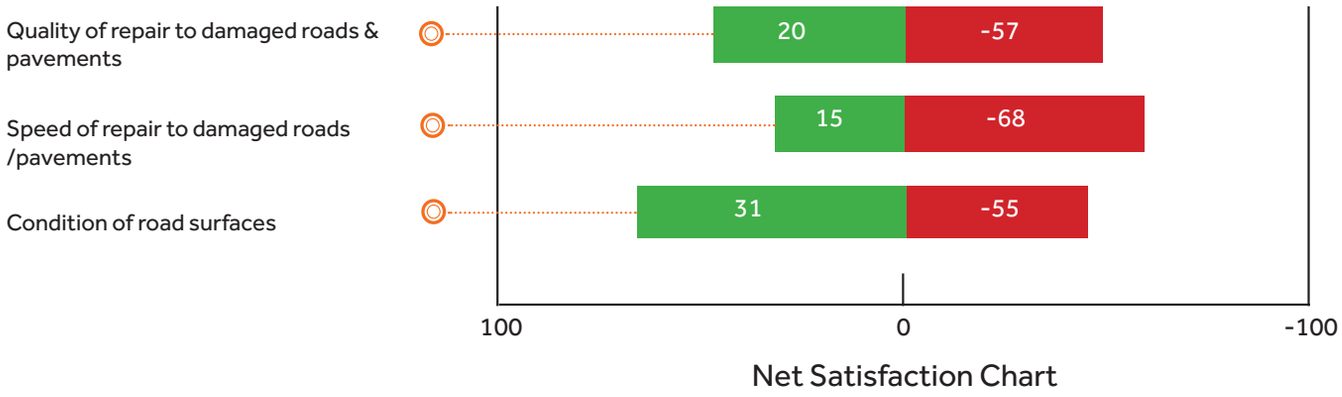
Condition of road surfaces



Speed of repair to damaged roads /pavements



Quality of repair to damaged roads & pavements



Net Satisfaction Chart

What is good practice in asset management?

The Highway Infrastructure Asset Management Guidance, published in 2013 by the UK Roads Liaison Group (UKRLG), with the support of the Highways Maintenance Efficiency Programme (HMEP), provides comprehensive advice to enable the successful implementation of good asset management practices.

The Guidance includes 14 recommendations (see Appendix 1) that should be adopted if councils are to achieve the full benefits of asset management and make better use of their scarce resources. It also introduces a flexible framework that is designed to support councils in developing an approach to highway maintenance that matches their strategic priorities and meets efficiency requirements and stakeholder expectations.

How can asset management help to improve highway maintenance?

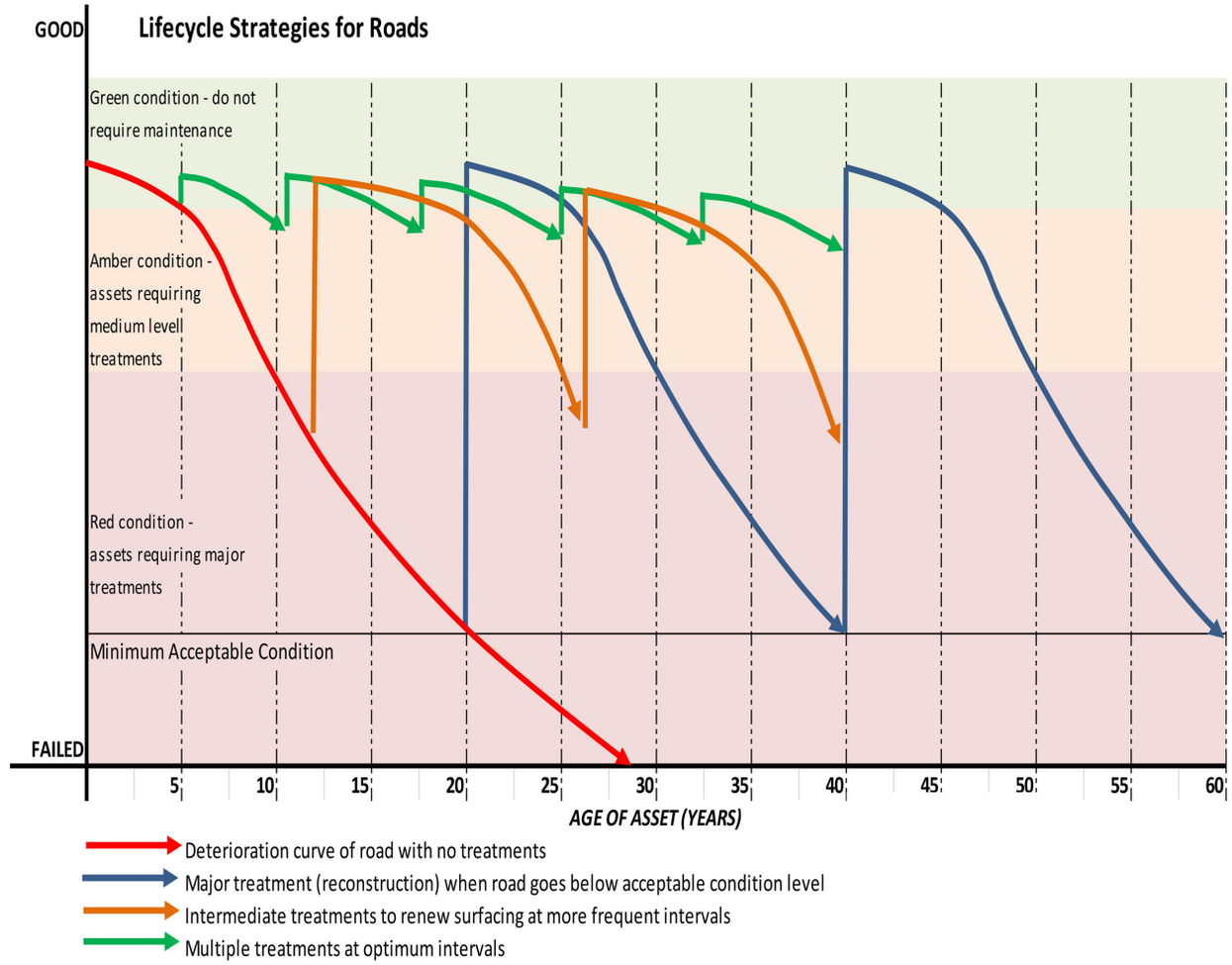
Asset management promotes a business-like way to highway maintenance. It makes better use of limited resources and delivers efficient and effective highway maintenance. It takes a long term view of how highways may be managed, focusing on outcomes by ensuring that funds are spent on activities that prevent expensive short-term repairs. This makes the best use of public money whilst minimising the risk involved in investing in highway maintenance.

The chart below illustrates the importance of intervening at the right time i.e. resurfacing before the road surface/foundation deteriorates.

But good asset management is not just about making best use of existing funds. It also provides a clear evidence base to justify the need for investment in highway maintenance, for example through prudential borrowing.

Many councils understand the potential benefits to them of good asset management, but often cite a lack of resource as the main reason for not adopting good practice, resulting in a short term, reactive approach being used. This is inefficient, allows more defects to develop and is more costly in the longer term. Research has shown that reactive repairs are four times more costly than preventative treatments.

Highway infrastructure asset management is an established and widely recommended approach both in the UK and internationally. Where it has been adopted for highways, savings of at least 5% on budget have been reported. It also supports decision-makers in reconciling short-term problems with long-term priorities. In other public services sectors such as the water industry, asset management has been well established for some years, and has produced savings of up to 15%.



The LBB Network Asset Management Facts and Figures

What is the Asset Value of the LBB Highway Infrastructure Network ?

The LBB Highway Infrastructure network is valued at £1.3 billion using the nationally accredited Whole of Government Accounting WGA System. Most networks have not achieved steady state so have a backlog to address(see below) and a annual maintenance/ replacement spend of at least 1% of asset valuation would be a reasonable target i.e. £13million per annum.

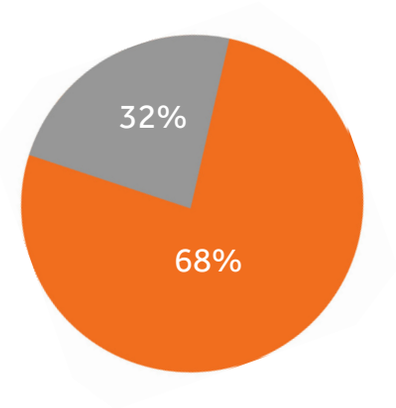
What is the Size of the Network ?

5 million square metres of road carriageway and 3.5 million square metres of pedestrian footways
[this excludes the part of the principal network maintained by Transport for London]

How Much is LBB Spending Each Year on Highway Infrastructure ?

We have a Managed Budget of £1.4million for 2014-2015 to apply to Reactive Maintenance covering the delivery of the LBB Safety Defect Policy and other cyclic/routine maintenance.

We typically have a baseline annual capital budget of £3 million to apply to the Planned Maintenance Programme. Therefore the Planned/Reactive split is close to 68%-32%. Effective Asset Management would require 80%/20% Periodic one-off injections of additional capital funding have been made in the past including an additional £4m in 2013-2014



What is the Current Backlog of Maintenance Works ?

The backlog is valued at £97.3m

The current annual level of planned maintenance expenditure does not match the level needed to match the natural rate of deterioration so the backlog is increasing year on year. In addition the level of reactive maintenance, at £1.5 - £2m/annum also remains unnecessarily high in order to be compliant with the LBB Safety Defect Policy which underpins the Section 58 Claim defence.

How Long Should Carriageway and Footway Assets Last before being resurfaced ?

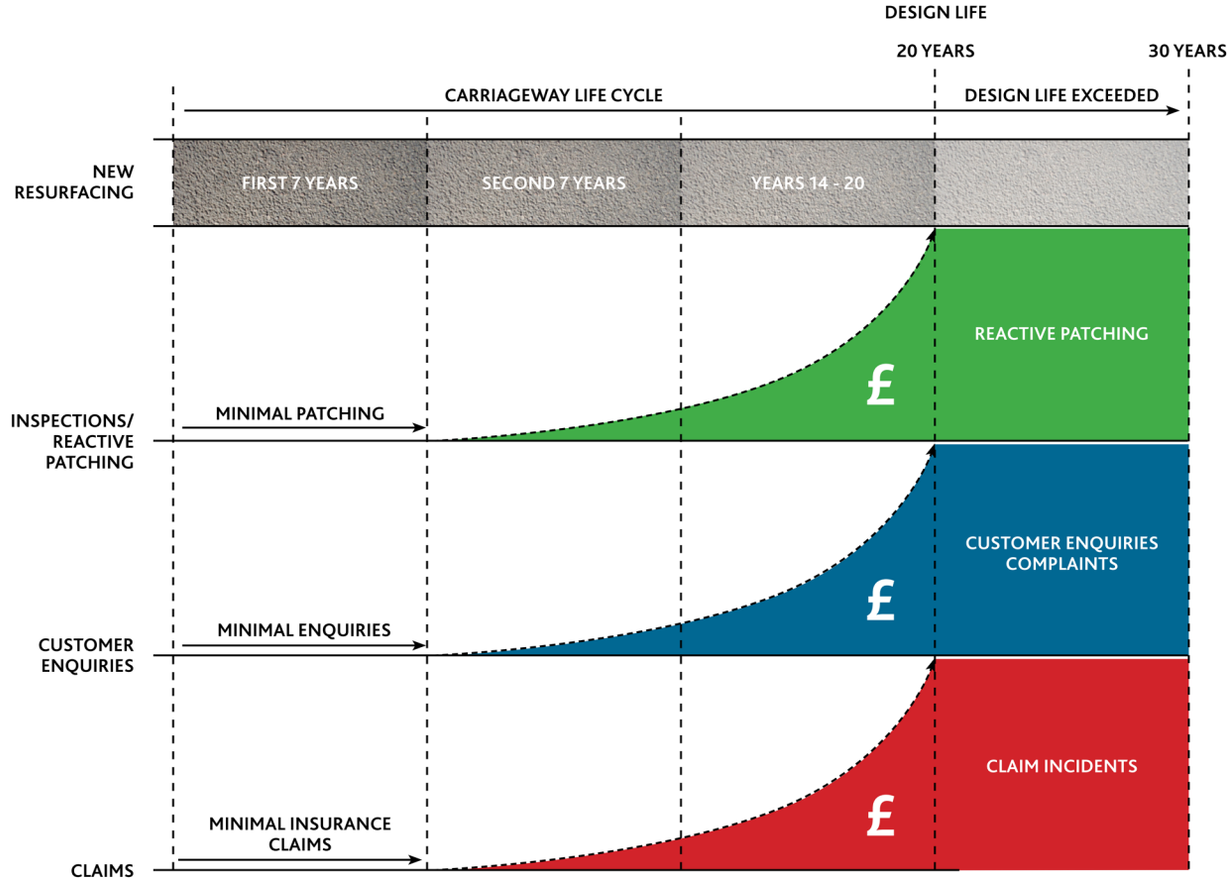
This illustration demonstrates a typical asset management life-cycle for a tarmac carriageway with a design life of circa 20 years. It emphasises that as the carriageway gets older the costs of maintaining it and also dealing with inspections, service requests and insurance claims steadily increases. It highlights the period beyond the 20 year design life until such time as resurfacing can be undertaken. On average authorities will not be able to resurface for 40 years plus. So are faced with a 20 year period of reactive patching, high frequencies of requests for service, poor customer satisfaction and high probability of third party claims to be defended.

Technical design lives based on realistic levels of deterioration:-

- Carriageway surfacing replaced every 20 years (with some periodic reconstructions)
- Footways replaced every 33 years

This does not mean that during these periods no maintenance will be required.

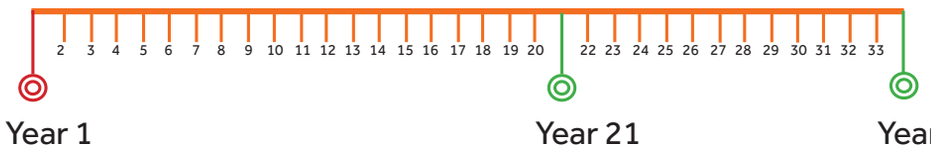
Using this approach there is an expectation that in years 1-7 following resurfacing there would be a minimal requirement for patching repairs. Years 8 -14 an increased requirement circa 10-15% by area overall and in years 15-20 reactive repairs would necessary equivalent to around 30%+ by area. Beyond the 20 year design life levels of ongoing reactive patching equating to 50% would not be uncommon.



How Long Should Carriageway and Footway Assets Last before being resurfaced ?

To prevent this situation of ineffective public expenditure the Asset Management Plan requires an annual programme of works that resurfaces carriageways every 20 years (5% of the total carriageway area) and re-slabs/resurfaces footways every 33 years (3% of the total footway area).

This level of annual resurfacing treatment is required each and every year in perpetuity.



To achieve this Plan requires an annual planned maintenance programme/budget of :-

Category	Total Area	% Treated each year	Unit Costs	Budget
Roads	5million sq m	5% 250,000m2	£26/m2	£6,500,000
Pavements	3.5million sq m	3% 105,000m2	£65/m2	£6,825,000
				£13,325,000/ annum

In addition to this financial requirement the service must also have a budget line for:-

Ongoing reactive repairs	£1.5m per annum
Drainage Assets	£0.5m per annum
Structures Assets	£0.3m per annum

Appendix 1

Recommendation 1:- Asset Management Framework
An Asset Management Framework should be developed and endorsed by senior decision makers. All activities outlined in the Framework should be documented.

Recommendation 2: Communications
Relevant information associated with asset management should be actively communicated through engagement with relevant stakeholders in setting requirements, making decisions and reporting performance.

Recommendation 3: Asset Management Policy and Strategy
An asset management policy and a strategy should be developed and published. These should align with the corporate vision and demonstrate the contribution asset management makes towards achieving this vision.

Recommendation 4: Performance Management Framework
A performance management framework should be developed that is clear and accessible to stakeholders as appropriate and supports the asset management strategy.

Recommendation 5: Asset Data Management
The quality, currency, appropriateness and completeness of all data supporting asset management should be regularly reviewed. An asset register should be maintained that stores, manages and reports all relevant asset data.

Recommendation 6: Lifecycle Plans
Lifecycle planning principles should be used to review the level of funding, support investment decisions and substantiate the need for appropriate and sustainable long term investment.

Recommendation 7: Works Programming
A prioritised forward works programme for a rolling period of three to five years should be developed and updated regularly.

Recommendation 8: Leadership and Commitment
Senior decision makers should demonstrate leadership and commitment to enable the implementation of asset management.

Recommendation 9: Making the Case for Asset Management
The case for implementing the Asset Management Framework should be made by clearly explaining the funding required and the wider benefits to be achieved.

Recommendation 10: Competencies and Training
The appropriate competency required for asset management should be identified, and training should be provided where necessary.

Recommendation 11: Risk Management
The management of current and future risks associated with assets should be embedded within the approach to asset management. Strategic, tactical and operational risks should be included as should appropriate mitigation measures.

Recommendation 12: Asset Management Systems
Asset management systems should be sustainable and able to support the information required to enable asset management. Systems should be accessible to relevant staff and, where appropriate, support the provision of information for stakeholders.

Recommendation 13: Performance Monitoring
The performance of the Asset Management Framework should be monitored and reported. It should be reviewed regularly by senior decision makers and when appropriate, improvement actions should be taken.

Recommendation 14: Benchmarking
Local and national benchmarking should be used to compare performance of the Asset Management Framework and to share information that supports continuous improvement.

Appendix 2

Prevention and a Better Cure Document

The recommendations are grouped into three themes as shown below. Within each theme the recommendations are listed in priority order rather than the order in which they appear in the Review.

THEME: PREVENTION IS BETTER THAN CURE

Recommendation 4: Economic Benefits of Highway Maintenance

To evaluate and justify the need for investment in maintenance of the local highway network, the Department for Transport should work in conjunction with local highway authorities to develop advice on determining economic costs and benefits.

Recommendation 5: Commitment of Highway Maintenance Budgets

The Government should commit to establishing budgets for highway maintenance for the full four years of Comprehensive Spending Review periods. This will provide greater budget certainty for the highway sector. *Local highway authorities should ensure their funding for highways maintenance is aligned to this time period.*

Recommendation 6 : Prevention is Better than Cure

Local highway authorities should adopt the principle that 'prevention is better than cure' in determining the balance between structural, preventative and reactive maintenance activities in order to improve the resilience of the highway network and minimise the occurrence of potholes in the future.

Recommendation 7: Informed Choices

Local highway authorities should ensure that appropriate competencies are available to make the right choices when designing and specifying techniques and materials for the maintenance and repair of highways. These competencies can be secured through training, collaboration with neighbouring authorities or external advice.

Recommendation 8: Guidance on Materials

Comprehensive guidance should be made available in the design, specification and installation of materials for the maintenance and repair of highways, to ensure the use of appropriate materials for the right site. This guidance should be produced by the sector for the sector.

Recommendation 15: Co-ordinating Street Works

All parties undertaking works on the highway should share and co-ordinate short and long term programmes of work for up to four years in advance, based on good asset management practice.

Recommendation 16: Minimising Highway Openings

All parties involved in reinstatements must consider the need to minimise long term damage from the installation, renewal, maintenance and repair of utility and highway apparatus through alternative and innovative ways of working. Trenchless technology should be considered as part of this decision making process.

THEME: RIGHT FIRST TIME

Recommendation 14: Quality of Repairs and Reinstatements

To drive up standards, a quality scheme similar to a National Highway Sector Scheme should be developed by the sector to cover all aspects of manual surfacing operations, including pothole repairs and reinstatements, and its use specified by local highway authorities and utility companies.

Recommendation 13: Guidance on Repair Techniques

Local highway authorities should consider the guidance provided in the ADEPT report Potholes and Repair Techniques for Local Highways and adopt as appropriate to their local circumstances.

Recommendation 11: Inspection and Training

Local highway authorities should utilise inspection manuals to support implementation of their inspection policies. They should also ensure that highway inspectors are trained, qualified and competent in the identification and assessment of defects, including potholes, through a scheme accredited by the Highway Inspectors Board.

Recommendation 12: Technology

Local highway authorities should consider using proven technology and systems for the effective identification and management of potholes.

Appendix 2

Recommendation 17: Research and Innovation

The sector will benefit from supporting, co-ordinating, contributing and disseminating research on all aspects of pothole operations. Innovation from such research may continue to provide opportunities for improvement of pothole management and operations

THEME: CLARITY

Recommendation 3: Public Communications

Local highway authorities should have an effective public communications process that provides clarity and transparency in their policy and approach to repairing potholes. This should include a published policy and details of its implementation, including the prevention, identification, reporting, tracking and repair of potholes.

Recommendation 2: Public Opinion Surveys

Local highway authorities should monitor public satisfaction with road, footway and cycleway condition and repair annually through the National Highways and Transport Public Satisfaction Survey or their own surveys. The findings can be used to benchmark performance and taken into consideration in local highway maintenance policies.

Recommendation 10: Permanent Repairs Policy

Local highway authorities should adopt permanent repairs as the first choice. Temporary repairs should only be used where safety cannot be managed using alternative approaches and in emergency circumstances.

Recommendation 9: Definition of Potholes

To provide clarity, local highway authorities should adopt dimensional definitions for potholes based on best practice as part of their maintenance policy. Response times and treatment of potholes should be based on local needs, consideration of all highway users, and an assessment of risk.
Strengthen Well-maintained Highways Recommendation 1

Well-maintained Highways should be revised and strengthened to include all recommendations of this Review which are relevant to local highway authorities.

Road conditions top public priority poll

Tom Bridge
02 July 2014
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Road and pavement conditions have been revealed as the top public priority for local improvement in a national poll.

A report from Zurich Municipal and Ipsos MORI found 41% of respondents said the quality of highways and walking routes topped their list of concerns, getting more votes than categories including housing affordability and levels of crime.

Findings from *A new world of risk* also suggest the fifth highest public priority for improvement is traffic congestion (24%).

Interviews with almost 1,000 adults in Great Britain suggested public transport was the tenth highest public priority for regional enhancement, with the quality of the local environment at 18th with 7% of the vote.

Over 60% of people interviewed said they had not noticed any difference to their council services despite almost all councils introducing major changes in response to budget cuts.

Paul Tombs, head of public services at Zurich Municipal, said: 'Local government has undoubtedly faced a testing few years and councils can be proud that few people have noticed any impact on services, suggesting they are performing well in a challenging environment.

'Given that communities appear to be pretty sympathetic to the challenges facing local government, they have an opportunity to build on this success and reassure people how they will continue to meet budget requirements whilst maintaining high quality services.

'That means demonstrating they are managing the risks ahead and adopting long-term plans to ensure the continuing viability of public services.'