



All Party Parliamentary Group
on Highway Maintenance

www.highwaysmaintenance.org

Managing a valuable asset: improving local road condition



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Foreword

This report is the result of several discussions between members of our Group and various experts, industry representatives and local politicians. The refrain is always “something must be done”, but no one seems to be able to agree on what must be done!

I hope that this report, which would not have been possible without the generous support of our sponsors, will be useful in providing a way forward to a solution and in generating political and public support for action.



Christopher Chope OBE MP
Highway Maintenance All Party Parliamentary Group Chairman



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the Asphalt Industry Alliance www.asphaltuk.org and
the Institute of Highway Engineers www.theihe.org

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Introduction

The All Party Parliamentary Group (APPG) on Highway Maintenance fosters understanding and awareness of the fundamental importance of the highway network, and the safety, environmental, economic, and social cases for a properly maintained sustainable network in the UK.

The APPG is publishing this report because it considers that urgent action is needed to counteract the obvious deterioration of the local roads, that are vital to everyone's daily existence and which account for more than 95 per cent of the country's network.

Having heard numerous expert presentations at its meetings, the Group has a good understanding of how this situation has arisen and what can be done to rectify it. Responsibility for a safe and efficient local road network lies with councils, whose service is funded both centrally and locally. While highway maintenance funding supports all aspects of road maintenance, including structures, street lighting, cleaning, signage, footways and more, this report focuses specifically on the condition of the road itself.

A number of studies and reports have been published recently which document the economic and social importance of highways maintenance and the concerning degree to which England's local road network has fallen into disrepair. Two of the most important are:

- The Audit Commission's *Going the Distance: Achieving better value for money in road maintenance (2011)*, which emphasised the extent to which "worst first" maintenance strategies are inefficient, and provided a clear set of recommendations in its final report.
- The Highways Maintenance Efficiency Programme (HMEP)'s *Prevention and a Better Cure: Potholes Review (2012)* and its follow-up report (2013).

This led the Department for Transport (DfT) to decide to publish detailed guidance on the economic benefits of highway maintenance, which is scheduled to appear in January 2014.

This APPG report does not seek to replicate these studies, nor to pre-empt the DfT guidance.

The several existing reports have strong and well-constructed insights and policy recommendations. Some are being acted on effectively but overall there is not widespread implementation among local authorities.

When taken together with evidence presented to this APPG at its own meetings, and considered with empirical findings in other Organisation for Economic Co-operation & Development (OECD) states, it becomes clear that further action must be taken quickly. Otherwise, the expense of not doing so will continue to rise as roads require more serious structural repair work or, worse, complete replacement or even closure.

The Group is conscious of the current financial climate and recognises that funding is a key issue. One thing on which all of these reports agree is that "prevention is the best cure". The sooner that roads reach a "satisfactory steady state", making planned, preventative maintenance possible over the long term, the better. This type of maintenance is clearly far more cost effective and provides better value for money for the taxpayer and greater economic, social and environmental benefits for us all.

As recommended in the Audit Commission's *Going the Distance* report (2011), this will require both more funding and more secure funding for periodic and structural maintenance, along with more efficient use of funding through asset management principles.

Current state of roads

The Institution of Civil Engineers described the physical state of the road network as “a cause for concern” in its 2013 *State of the Nation* report. It said that around one third of roads under local authority responsibility are in urgent need of attention or expected soon to be. The local road network is in a state of decline, requiring an estimated investment of approximately £10.5 billion across England and Wales to rectify. Yet, road maintenance is under-funded by an average £6.2m per authority per year in England (outside London).¹

The local and regional road network is the most valuable asset for all local authorities throughout Britain, and the trend of investment or disinvestment in asset condition is a fundamental lever for the state of future prosperity.

However, estimates based on trends are themselves incomplete. In a 2012 “think piece” for the RAC Foundation, former director David Bayliss OBE pointed out that “changes in the way road conditions are measured ... mean that it is very difficult to track long-term road condition trends.”² At the time of writing, the DfT’s Road Condition Index has been temporarily withdrawn due to an error, making comparison even more difficult.

An AA poll in 2008 showed that two thirds of UK motorists believed that road surface conditions had declined over the previous 10 years. Of the most experienced drivers, 90% agreed there had been no improvement in road quality over the same time frame.³ The 2013 ALARM Survey states that “one in five local authority roads across England is reported to be in poor condition - defined as the road having less than five years’ remaining life”.⁴

Causes of the current state

Road surfaces deteriorate during use and due to weathering. The UK climate is varied and is now experiencing greater extremes of weather such as persistently high monthly rainfall, longer periods of heavy snow or frost and severe flooding in summer months, all of which accelerate deterioration in road condition.

Highways need regular routine and periodic maintenance to perform at expected levels. Failure to undertake routine maintenance has been proved to lead to more rapid decline of a road surface, as cracks can allow water to penetrate the road (which can freeze in winter and exacerbate the original deterioration through expansion, now commonly known as the “freeze thaw effect”). Heavy traffic or flooding then has a greater effect on these weakened structures and can harm the lower layers of the road, leading to the need for more expensive serious repair or reconstruction. Small and temporary or emergency interventions - such as filling a pothole - can also quickly fail in these conditions.

¹ Asphalt Industry Alliance (AIA) (2013). *Annual Local Authority Maintenance Survey (ALARM) 2013*, p. 7.

² Bayliss, D. (2012). *Local Road Maintenance: Recent trends and prospects*, p. 3.

³ http://www.theaa.com/public_affairs/aa-populus-panel/potholes.html

⁴ AIA (2013), p. 8.

To illustrate: road resurfacing is considered a periodic maintenance with an optimal frequency of every 10-20 years, depending upon the nature and volume of traffic. In England (outside London), the average number of years between resurfacing, across all classes of roads, is currently estimated (by local authorities) at 54 years.⁵

Decades of under investment in planned routine road maintenance has initiated a vicious cycle, whereby serious damage like potholes must undergo "reactive maintenance", which is at least 20 times as expensive, per square metre, as resurfacing. Even worse, these reactive repairs are often only temporary and will themselves need further maintenance and remediation, making a poor value comparison with resurfacing which is only required every 10-20 years. These expensive repairs draw already insufficient funds away from routine maintenance, guaranteeing further deterioration of road surfaces and inefficient use of funding. Many, if not most, authorities are obliged to deal with the "worst first", remediating short term problems but perpetuating this cycle of disrepair.⁶

The situation is only expected to get worse. Mr Bayliss's report drew on DfT data from before the major flooding in 2011/12 and much of the data was gathered before the severe winter of 2009/10. Defra's *UK Climate Change Risk Assessment* warns that climate change is expected to increase the frequency and severity of these kinds of events, citing "flooding, unusually cold and severe winters and warmer than average summers, including heatwaves".

Impact of poor road condition

The wider economic impacts of poor road condition are not yet fully understood by research institutions, but this is changing. One difficulty in considering the value of road maintenance is that its benefits are often compared with a "do nothing" scenario, in which an asset (the road) deteriorates, diminishing the flow of benefits it can impart in optimal condition even though doing nothing appears cheap in the short term. It is tempting for decision-makers to invest in new projects, which provide more obvious new benefits, rather than to maintain existing assets and their ongoing benefits. Further, many of the benefits of a well-maintained road (e.g. amenity value of noise reduction) are difficult to quantify and even more difficult to include in the balance sheets. So there are both "push" and "pull" reasons for not doing enough to maintain what we have.⁷

Recent studies from TRL, ADEPT and the RAC Foundation have sought to account for the broad costs and benefits of reduced road maintenance spending scenarios in Scotland, England and Wales. They have found considerable negative impacts associated with reduced funding.⁸

However, many elements required further research and thus were not properly quantified, making it difficult to ascertain the true cost of poor road conditions and the value of investment in road maintenance. For Scotland, even with the most conservative attempt to quantify the impacts of changes in road maintenance funding, the report found that, for a 40% maintenance reduction scenario, every £1 of reduction led to £1.50 in quantifiable costs, making reductions in funding uneconomic.

Despite a lack of integrated studies, there is considerable ad hoc qualitative and quantitative evidence of the negative impacts of poor road condition.

⁵ Asphalt Industry Alliance (AIA) (2013). *Annual Local Authority Maintenance Survey (ALARM) 2013*, p. 10.

⁶ Audit Commission (2011).

⁷ Parkman, C., Abell, R., Bradbury, T. & Peeling, D. (2012). *Economic, Environmental and Social Impacts of Changes in Maintenance Spend on Roads in Scotland*. Transport Scotland; Gould, E., Parkman, C. & Buckland, T. (2013). *The Economics of Road Maintenance*. RAC Foundation.

⁸ *ibid.*

Current state of roads continued



Economic impacts

A recent YouGov survey⁹ showed that poor condition local roads were costing Small and Medium-sized Enterprises (SMEs) in England and Wales approximately £5bn each year through operational inefficiencies, production delays, raw material and end product delivery delays, and vehicle repair costs, among other factors. The Confederation of British Industry (CBI) found that "94 per cent of business leaders surveyed cited road surface quality as a key concern".¹⁰

Accidents and injuries

Approximately 15% of the legal claims the Cyclists' Touring Club (CTC) handles for its members stems from road defects.¹¹ The amount paid in road user compensation claims for damage to vehicles or personal injury associated with road defects totalled £23.8m in 2012 for England (outside London).¹²

⁹ AIA (2013). *Businesses count the £5bn cost of broken roads*.

¹⁰ CBI (2013).

¹¹ <http://www.ctc.org.uk/campaign/fix-hole>

¹² AIA (2013).

Increased fuel consumption and emissions

In addition to these claims, poor road surfaces contribute to increased maintenance costs and fuel consumption.¹³ This impacts motorists directly by increasing the cost of driving, but it also has broader implications. Increased fuel consumption means increased emissions, both in terms of localised emissions, such as oxides of nitrogen (NOx) and particulate matter (PM), heightened levels of which are associated with negative health impacts such as asthma, and carbon dioxide (CO₂), which contributes to climate change.

Congestion and travel time

Further, poor road conditions lead to slower speeds and increased congestion. Congestion also increases fuel consumption and therefore emissions, in addition to the negative effects of operating a vehicle on poorer road surfaces.¹⁴

These impacts can also be amplified by an increase in unplanned roadworks. While the TRL/RAC/ADEPT studies took into consideration the effect of fewer planned roadworks due to reduced funding, they did not quantify the likely increase in unplanned roadworks caused by increased road deterioration.¹⁵ Routine and periodic maintenance can be scheduled to minimise interference with normal road use, but unplanned and emergency maintenance do not offer the same opportunity for mitigation of impacts.¹⁶

Public perception

Road users expect travel that is safe, reliable and comfortable. The RAC Foundation conducted extensive polling during the 2010 General Election and found that people's top transport priority for the incoming government was "condition of roads and pavements".¹⁷ So this is about the wider public realm and communities' satisfaction with their environment, which often features in politicians' postbags, and not just about the physical usability of the infrastructure.

This corroborates the findings of the 2008 *Place Survey* cited by the Audit Commission's report on road maintenance, which asked what services local residents think "need improving". This found that "road and pavement repairs" ranked second, "ahead of crime, at number four, and health services at number fourteen".

Professor Stephen Glaister, in *The Economics of Road Maintenance: An RAC Foundation View*, also cites the 2012 *National Highways & Transport Survey*, which found that 61% of residents in England were dissatisfied with the condition of local roads.

¹³ Parkman et al (2012); Du Plessis, H.W., Visser, A.T., & Curtayne, P.C. (1990), Fuel consumption of vehicles as affected by road-surface characteristics. *Surface characteristics of roadways: International research and technologies, ASTM STP, 1301*, 480-498.

¹⁴ De Vlieger, I., De Keukeleere, D., & Kretzschmar, J. G. (2000). Environmental effects of driving behaviour and congestion related to passenger cars. *Atmospheric Environment*, 34 (27), 4649-4655.

¹⁵ Parkman et al (2012).

¹⁶ Harvey, M.O. (2013). *Optimising Road Maintenance*. OECD International Transport Forum Discussion Paper 12.

¹⁷ Glaister, S. (2013). *The Economics of Road Maintenance: An RAC Foundation View*.

Case for investment in local road network

This report has reviewed the best information available with respect to the economics and policy of the maintenance of local roads in England. The evidence is unequivocal: every major investigation into this topic agrees that the deterioration of the local road network is damaging to road safety, economic performance, social welfare, and the environment, and that continued underinvestment will prove devastating.

The United Kingdom's roads are currently ranked 24th in the World Economic Forum's Global Competitiveness report, falling far behind European competitors like France and Germany for investment. The Confederation of British Industry (CBI) lays out the importance of this: "there is no question that the performance of our road network is crucial to making the UK an attractive place to invest."¹⁸

Uniquely, the issue of underfunded and deteriorating roads – and the call to rectify this situation – unites almost every major transport stakeholder group, many of whom frequently oppose one another.

Even the most conservative estimates show that underinvestment in road maintenance is a false economy. In terms of upkeep alone, deferred maintenance makes future maintenance more expensive and reduces the residual life of the asset. Underfunding roads now is effectively borrowing on the future with a very high interest rate. In fact, estimates of this equivalent interest rate are several times as much as commonly accepted discount rates (3.5%) used in cost-benefit analysis, given the fact that resurfacing is so many times cheaper than reactive maintenance. This is before any other direct or indirect costs are considered, including those to the environment and the wider economy. Preventative maintenance is simply a prudent and efficient use of funds, making responsible use of limited resources.

The OECD agrees, citing "public infrastructure, especially for transport" as a key priority for economic growth in its *Going for Growth 2013* report: "Low investment in public infrastructure has contributed to congestion, hampering productivity."

While the government's recent commitment to investment in new transport infrastructure is welcome, we must rectify the deterioration of the existing system and maintain the quality of roads into the future. Doing so will help the broader economy, not only by improving the speed and reliability of essential transport infrastructure, but also by providing an injection of funds into associated industry and creating jobs.

Asset management plans implemented by local authorities have led to proven successes and central government is now offering support to their creation and implementation. It should continue to do so through the Highways Maintenance Efficiency Programme (HMEP). However, the level of implementation has varied among authorities and it is time to make the asset management approach mandatory for central government maintenance funding.

¹⁸ Confederation of British Industry (CBI). *Bold thinking: A model to fund our future roads* (2013).

How to achieve better outcomes

What is required to return to a satisfactory steady state?

A steady state of road surface maintenance is one which minimises unexpected or emergency repair work through well-planned regular (routine and periodic) maintenance. This maximises the life of the asset and minimises lifecycle costs. Put simply, the maintenance cycle should be guided by intelligent understanding of the long term priorities and balanced by responsiveness to public priorities.¹⁹

The 2013 ALARM Survey stated that “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 bring their road networks up to scratch] ... would be 12 years in England, outside London. In total, it is estimated that this would cost approximately £10.5bn across England and Wales.”

Following the 2013 Spending Round, the Government announced that nearly £6bn will be made available from central funds for repairs to the local road network over the six years between 2015 and 2021.²⁰ Legislation is being introduced to secure this funding, which will give councils and industry the confidence to invest in the plant, equipment and skills needed to deliver the additional materials and work.

Compared against figures from the 2010 Comprehensive Spending Review for the current five-year period, this investment is an average increase of £193.4m per year, without adjusting for inflation. The estimated annual funding shortfall in 2012 was over £800m. This leaves a potential deficit of over £600m per annum in 2015/2016.²¹ Had the increase in funding been available immediately, it would have enabled authorities to avoid the continued deterioration of roads and provide the greatest returns in terms of economic, environmental, and social benefits.

Building on the unique perspective afforded the APPG on Highway Maintenance, avenues for delivering better results are explored in the following sections.

Asset management

Asset management is a business-like approach to road maintenance. It encourages efficient use of limited funds and is estimated by the Chartered Institute of Public Finance and Accountancy (CIPFA) to provide 5% savings over the long term for full implementation. Other sectors which have implemented asset management, such as utilities, have reported savings of up to 15%.²³

Leeds City Council

In 2003, Leeds City Council decided to break out of the cycle of reactive maintenance and pursued an asset management approach. Although able to secure £15.4m in prudential borrowing, the council had identified a £60m funding shortfall. An additional £67m in capital was secured, partly funded by the sale of the Leeds-Bradford Airport. The decision to invest up front in road maintenance has worked. As of 2010, the benefits were:²²

- A 30% reduction in insurance claims from 2004-2009, decreasing the budget allocation for claims by £300k per annum, with a repudiation success rate in court of over 90%.
- A drop from 39.4% to 16% in road condition performance shortfall over the 2,248 mile-long network.
- A 10% reduction over two years in public perception that roads are getting worse.

¹⁹ Crist, P., Kauppila, J., Vassallo, J., & Wlaschin, B. (2013). *Asset Management for Sustainable Road Funding*. OECD International Transport Forum Discussion Paper 13.

²⁰ Department for Transport (DfT) (2013). *Action for Roads: A network for the 21st century*.

²¹ AIA (2013).

²² Presentation to the APPG on Highway Maintenance, 15 January, 2010.

²³ HMEP (2013). *Highways - Maintaining a Vital Asset: What Should Councillors Know About Asset Management?*

How to achieve better outcomes continued

Despite this, the ALARM Survey 2013 returns indicate that 39% of the surveyed authorities has not completed a highway asset management plan (HAMP).²⁴ The Audit Commission's 2011 report also highlights that some councils "see such plans as no more than a bureaucratic exercise" and cite a council officer who says that they "ticked [the asset management plan] off and now it just sits on my shelf".

This is not due to a lack of effort from central government to encourage data-based asset management. In 2008, the DfT introduced Element 2 funding, which was a way of supporting local authorities in the implementation of asset management systems. Fourteen local authority-led projects were awarded £7.5m in funding, and many of those projects have provided insights and systems that have underpinned further applications for finance.²⁵

The OECD identifies the main question for road decision makers: "What is the mix and timing of strategies, including maintenance, operation and new construction, needed to guarantee optimal service levels on the network over the lifespan of its individual component assets?"²⁶

Asset management allows decision-makers to answer that question. HMEP offers the following interpretation of asset management: "A systematic approach to meeting the strategic need for the management and maintenance of highway infrastructure assets through long term planning and optimal allocation of resources in order to manage risk and meet the performance requirements of the authority in the most efficient and sustainable manner."²⁷

Putting a value on the local road network

It is widely believed that the roads network is the most valuable asset for local authorities. However, that value is very difficult to calculate for a variety of reasons. Asset management offers the opportunity to obtain a more accurate valuation of the local road network for local and national accounting.

The DfT recently stated the value of the local road network was in excess of £400bn,²⁸ compared to an estimate of £100bn for the Highways Agency's network.²⁹ If road maintenance is neglected, the asset replacement (to the deteriorated condition) cost is depreciated. This will affect local authorities' accounts, which may in turn affect future funding decisions.³⁰

Proving the maintenance case

One of the main benefits of the asset management approach is that it leverages increased data about the road network for optimising expenditure, and this knowledge can be used, once valuation guidance is available from the DfT, to make the case for further funding.

Funding & financing

Funding for road maintenance is best optimised over the entire life of the asset. In order to minimise lifecycle costs through preventative maintenance, roads must initially be in a good state, which indicates a need to front-load any funding initiatives for maintenance to deliver the best return on investment.

The Institute of Highway Engineers indicated³¹ "there is still a shortage of experience and knowledge in this [asset management] field that will aid us in ensuring that we make the most effective use of resources" and agreed with the *Potholes Review* that rectifying this situation "requires a greater degree of medium and long term financial planning".

²⁴ AIA (2013), unpublished.

²⁵ HMEP (2013), *Element 2*, <http://www.dft.gov.uk/hmep/good-practice/element2.php>

²⁶ OECD (2013a).

²⁷ HMEP (2012).

²⁸ Department for Transport (DfT) (2013). *Action for Roads: A network for the 21st century*.

²⁹ Highways Agency (2011), *Annual Report 2010-2011*.

³⁰ HMEP (2012).

³¹ The Institute of Highway Engineers (IHE) (2012), *Potholes Review - Prevention and a Better Cure*, DfT. Response from Institute of Highway Engineers.' <http://theihe.org/knowledge-network/uploads/PotholesApril2012.pdf>

A recent discussion paper at the OECD³² explained that it is best to think of the cost of deferred maintenance in terms of “equivalent interest rate for deferred maintenance” (EIRDM). It argues that “deferring maintenance can be seen as a form of borrowing. Funds are saved in the short term at the expense of higher outlays in the future.” This corroborates LB Hounslow’s statement to the APPG and bolsters the argument to front-load investment.

The OECD paper points to a case study in Queensland, Australia, where an Accelerated Road Rehabilitation Study showed that governments are likely to be “better off borrowing to maintain roads compared with the alternative of deferring maintenance”.

Department of Transport and Main Roads Queensland, Australia

Between 2006 and 2011, the Queensland Department of Transport and Main Roads (TMR) in Australia undertook a study to determine the likely benefit and impacts associated with “accelerating road and bridge rehabilitation to optimise the timing of interventions and ... to achieve economies of scale.” They called this the Accelerated Road Rehabilitation Programme (ARRP).

They found that they were able to achieve a 17% capital cost saving due to economies of scale by delivering multiple works at once. On this basis, they project to achieve net economic benefits of \$AUS7.3m (£4.27m) over a 30-year period and an agency cost saving of \$AUS5.7m (£3.34m).³³ This is due to the lower investment costs over the life of the asset and because economic benefits from the infrastructure improvement are brought forward.³⁴

Government funding: central/local; capital/revenue

All road maintenance funding falls into two categories: capital and revenue. Capital is used for new infrastructure projects and improvements or changes to existing infrastructure. This can include major maintenance work including structural maintenance and resurfacing. Revenue is spent on day-to-day expenditures like routine maintenance - e.g. sweeping, gulley clearing, repairing and cleaning signs, accident repairs, etc - and reactive maintenance, such as filling potholes.

Just over one third of transport spending by local authorities is capital, and the majority of this (over 60%) is provided by central government. This comes in the form of block grants and bid-based competitions. The bid-based funding is ringfenced to be used on the projects for which it is awarded, while the formula grants are completely unrestricted.

Revenue funding, on the other hand, is largely financed by local government from their own resources, though about a third of DfT funding for local authorities in 2010-11 was in the form of an £804m formula grant for highways maintenance. This grant is also not restricted for purpose, meaning local authorities can spend the funds at their discretion. Formula grants from the Department for Communities and Local Government are also distributed to local authorities, who may use these funds for transport but are not required to do so.³⁵

Overall, the core pressures pull in different directions: spending cuts versus better service levels. Economic growth requires better quality, more connectivity and capacity. Affordability requires more efficient delivery of services and understanding of quantified benefits. The two are not incompatible - more efficient use of resources has been addressed by HMEP (see below) - but any case for higher expenditure (for example on a managed, front-loaded basis to tackle the worst shortfalls) can really only be validated once an asset management system is in place and taken seriously.

³² Harvey, M.O. (2013). *Optimising Road Maintenance*. OECD International Transport Forum Discussion Paper 12.

³³ Conversion at \$1.00 = £0.59 as of 5 September, 2013.

³⁴ Naudé C. and Toole T. 2012, ‘Evaluation of the accelerated road rehabilitation program (ARRP)’, 25th ARRB Conference, Perth, Australia. Cited in Harvey (2013).

³⁵ NAO (2012).

How to achieve better outcomes continued

Blackpool Council

Facing continued deterioration of their roads and increasing need for reactive maintenance, Blackpool Council made the bold move of seeking prudential borrowing to invest in its road network, an asset worth nearly half a billion pounds.

In order to do this, Blackpool CC needed to make a clear and robust business case, which it was able to do thanks to its asset management programme. The council explained in an update to its Element 2 funded asset management system project that this was a "significant outcome" of the asset management approach, indicating that without it, the funding could not have been secured.³⁶

The council was able to secure £30m of funding to be repaid over 25 years, and has already seen positive results:

- Economies of scale are being achieved and collaborative working between contractors is offering cost efficiencies.
- The investment is helping to improve the local economy beyond the benefits associated with improved road maintenance as all partners have agreed to local labour policies.

Blackpool's programme of proactive investment is expected to save the authority £100m over the next 25 years, generating over three times the initial investment in savings.

Financing routes

Addressing the APPG, the Chairman of the Association for Consultancy and Engineering (ACE) Roads Sector Interest Group said that, in order to drive progress, it is essential that we identify new models and sources of funding and financing, and remove the blocks to private sector investment.³⁷

Private Finance Initiative

Certainly one of the most heralded financing routes has been the Private Finance Initiative (PFI).

Since the first PFI for highway maintenance was set up in Portsmouth in 2004, Sheffield, Hounslow, Isle of Wight, and Birmingham have all introduced PFI schemes. These are a type of public private partnership (PPP) in which a private sector company becomes responsible for the delivery of a public service. A contract is agreed, and the private sector organisation creates a special purpose vehicle (SPV), which subcontracts work to the private company.

PFI's are particularly well suited to maintenance projects. The main benefit to the authority is predictability in cost for a reliable service level, allowing for long term planning as opposed to tenuous year-to-year budgets. There is typically a core investment period', during which time the asset is brought up to a good level and then the remainder of the contract period is spent maintaining this level of service. The Portsmouth initiative has won numerous awards, including the 4Ps Excellence Award and the IHT Effective Partnership Award. All risk was transferred from the council to the contractor, and they are already seeing benefits of over £350,000 saved per annum in road user compensation claims.³⁸

Prudential borrowing

Another recently popular financing route has been through prudential borrowing, as previously described. This was introduced in the Local Government Act 2003 and gives local authorities the power to borrow to invest in assets in line with the Prudential Code, endorsed by CIPFA. This funding mechanism has been utilised for road maintenance by Blackpool Council, which successfully borrowed £30m. It has also been the model for the Welsh LGFI, which is a programme in which the Welsh Government will grant £240m of funding over a 22-year period to support the prudential borrowing of £172m over three years.³⁹

³⁶ Blackpool Council (2012). *Highways asset management - Element 2 Funding Update report February 2012*.

³⁷ Presentation to the APPG on Highway Maintenance, 27 November, 2012.

³⁸ Presentation to the APPG on Highway Maintenance, 8 May, 2013.

³⁹ Newport City Council: Welsh Local Government Borrowing Initiative for Highway Infrastructure. <http://www.newport.gov.uk/stellent/groups/public/documents/report/cont656934.pdf>

London Borough of Hounslow

In 2012, London Borough of Hounslow announced an £800m, 25-year Private Finance Initiative (PFI) agreement with Vinci-Ringway, forming Hounslow Highways. This will see Hounslow Highways embark on an intensive investment period to begin the scheme, bringing roads up to a good level of repair and then maintaining them for the remainder of the contract.

The Project Director, Highways Maintenance PFI at London Borough of Hounslow told the APPG that one of the essentials for long term contracts is to “be very clear about what state the assets are in now, in minute detail” and “what state you want the assets to be in when returned to the council, or at contractual break points”.⁴⁰

This knowledge is predicated on an asset management approach, and LB Hounslow identifies the Highway Asset Management Plan (HAMP) they developed in 2005 as the source of an objective basis for their decision to pursue a PFI. As new funding forms like PF2 (private finance version two), the asset management approach will continue to provide the knowledge needed to make the best investment decisions.

Delivering “more for less”

DfT’s Highways Maintenance Efficiency Programme

In the current economic climate, it is imperative that all resources are given maximum leverage. Recognising this, the government commissioned the Highway Maintenance Efficiency Programme, a “sector-led transformation programme designed to maximise returns from highways investment and deliver efficient and effective services”.

This initiative, funded by the Department for Transport with a £6m grant that will support it until 2015, runs

until 2018 and responds to the need expressed by many local authorities for assistance in implementing efficiency programmes like asset management plans. It also provides a hub for sharing knowledge and best practice. HMEP’s role is as a facilitator, providing tools and opportunities, as opposed to central direction.

Matthew Lugg, then Director of Transport and Environment at Leicestershire County Council and Special Adviser on secondment to HMEP, told the APPG that there was a potential to reduce costs by up to 20% on three to four years’ managed change, though this would vary by authority. There has been increased production and use of highways asset management plans (HAMPs) since the publication of the *Potholes Review*, and successes in efficiency have been outlined in the follow-up report to that document.⁴¹ However, as mentioned above, many local authorities have yet to complete their HAMPs. The Audit Commission cited around half as having not completed theirs in 2011. So, while there have been successes, they are slow to come. Better knowledge of the whole asset base value and condition is a critical step forward.

Local authority initiatives, e.g. regional partnerships

Mr Lugg also emphasised the need for collaboration between authorities. He told the APPG that there are opportunities for economies of scale in back office staff, buying powers and sharing of best practice, pointing to the Midlands Highway Alliance (MHA) and Transport for London as successful examples. The MHA consists of 18 local authorities working collaboratively across central England.⁴²

Another example of an effective regional partnership is the South East 7 Partnership, which stretches from Hampshire to Kent. The government highlighted this partnership in the *Action for Roads* proposal, stating that it “has brought down costs through uniting for procurement purposes and by sharing expertise”.⁴³

⁴⁰ Presentation to the APPG on Highway Maintenance, 5 July, 2011.

⁴¹ Presentation to the APPG on Highways Maintenance, 16 May, 2012.

⁴² *ib id.*

⁴³ DfT (2013).

How to achieve better outcomes continued



Welsh Local Government Borrowing Initiative

Taking inspiration from the Newport City Council Project 21 prudential borrowing initiative, in which Newport CC funded £21m of accelerated road maintenance work through prudential borrowing, the Welsh Local Government Borrowing Initiative was set up to encourage councils in Wales to pursue prudential borrowing to fund road maintenance.

The programme:⁴⁴

- Encourages accelerated road maintenance by providing grants to local authorities for loan repayment.
- Requires submission of Highway Asset Management Plans (HAMPs) in the application process.
- Will support £172m in prudential borrowing by local Welsh authorities over three years.

These kinds of partnerships can help overcome other obstacles as well. For example, in an HMEP survey of local authority specifiers, hundreds of different asphalt mixtures were identified on individual supply units for use in road repairs, primarily due to local specification demands by individual authorities. It is likely that many of these were insignificantly different to each other in composition and performance, but are called up on a locally proprietary basis (e.g. Local Authority A Mix X could be practically identical to Local Authority B Mix Y). Collaborative working would encourage increasing standardisation of specification, yielding economies of scale.⁴⁵

⁴⁴ Welsh Government (2012). *Guidance Document for Local Authorities: Local Government Borrowing Initiative*.

⁴⁵ Presentation to the APPG on Highways Maintenance, 16 May, 2012.

Recommendations

Reach the 'steady state' as soon as possible

All agree, including the HMEP, Audit Commission and OECD, that prevention is the best cure for road maintenance. To implement planned, preventative maintenance programmes for roads, they first need to be in a satisfactory steady state. This will prevent the need for continued poor use of annual funds on reactive, temporary maintenance such as the filling of potholes, dictated by the need to protect road user safety. Once a steady state is achieved, long term and more cost effective preventative programmes become viable.

While the recent announcement of guaranteed funding allows local authorities to plan into the future for road maintenance, it does not address the need to prevent further deterioration in the meantime.

- Local governments should be able to borrow now on the £6bn of guaranteed future funding to maximise its efficacy.
- The Local Government Borrowing Initiative, pioneered by Newport and the Welsh government, should be a model for prudential borrowing.
- Where possible, PFIs should be pursued to encourage partnerships with the private sector to deliver similar long-term funding arrangements, like Portsmouth CC's award-winning programme.

Make asset management plans mandatory

While local choices are important, they can only be made with the best known calculation methods. Given that so many authorities have not yet completed their HAMPs, and others admit to not using the ones they have created, there is concern that their most valuable asset - their road networks - will be maintained inefficiently even under optimal funding conditions.

- National government should support local authorities in creating and utilising HAMPs, but
- Asset management plans should become mandatory in return for access to central government funds for highway maintenance.

Encourage further devolution of highways funding decisions

There is increasing evidence that maintenance of public infrastructure has similar macroeconomic benefits to capital infrastructure investment. The Spending Round 13 provides extensive highways funding for local authorities, but largely ringfences it for capital outlay, which restricts local decision-making.

- Pending the release of DfT guidance on valuation of road maintenance and disrepair, local authorities should be given more freedom to decide on the best use of their highways funds.
- If the marginal cost benefit ratio (MCBR) of maintenance is higher than the MCBR of a new project, authorities should be free to make best use of their resources for the benefit of local economic and social development and the environment.

Optimise maintenance across the local and national strategic road networks

The road system is interlinked: no one authority is disentangled from other local road networks or the national strategic network.

- Systems for calculating optimal road maintenance schedules and patterns for minimal social costs have been identified in the academic literature and are implemented in other OECD countries⁴⁶ and should be organised on a national level to minimise disruptions to road users and the associated costs.
- While local decision making is essential, there are opportunities in this area to optimise partnerships between local and national authorities to mutual benefit.

⁴⁶Harvey (2013).

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