

REPORT FOR DECISION



DECISION OF:	CABINET
DATE:	12 APRIL 2017
SUBJECT:	HIGHWAY MAINTENANCE STRATEGY
REPORT FROM:	COUNCILLOR SANDRA WALMSLEY COUNCILLOR ALLAN QUINN
CONTACT OFFICER:	STEVE KENYON INTERIM EXECUTIVE DIRECTOR OF RESOURCES & REGULATION
TYPE OF DECISION:	CABINET
FREEDOM OF INFORMATION/STATUS:	This paper is within the public domain
SUMMARY:	Rationale and proposal to invest £10 million into the Highway Network over a three year period; as announced at Budget Council, February 2017
OPTIONS & RECOMMENDED OPTION	<ol style="list-style-type: none"> 1. That no increase is made to the Highways planned maintenance budget. 2. That an additional capital allocation of £10m is made to the Council's Highways planned maintenance budget over the three financial years 17/18, 18/19, 19/20. That this funding is allocated on the basis of a programme of identified works drawn up in accordance with the principles and methodology explained in this report and that existing annual DfT funding be used to undertake cost effective interventions to prevent length of the network from dropping into the red band. <p>That Option 2 is recommended for approval.</p>
IMPLICATIONS:	

Corporate Aims/Policy Framework:	Do the proposals accord with the Policy Framework? Yes
Statement by the S151 Officer: Financial Implications and Risk Considerations:	<p>Borrowing will be drawn down as required over the three year period.</p> <p>Borrowing costs will be covered from reserves for years 1 & 2 (and part year 3)</p> <p>Thereafter, it is intended that borrowing costs will be funded through reduced revenue patching costs, and reduced incidence of insurance claims.</p> <p>All works will be competitively procured, however a sum of £0.5million per annum will be allocated to the in house team, subject to demonstrating value for money, and deployment in line with HAMP principles.</p>
Health and Safety Implications	All works will be subject to relevant health & Safety Assessments.
Statement by Executive Director of Resources	Works will be undertaken in line with HAMP principles, and recognising the wider growth / asset management plans of the Council.
Equality/Diversity implications:	Yes No (see paragraph below)
Considered by Monitoring Officer:	<p>Yes</p> <p>The Council as a Highway Authority must meet its statutory duty under the Highways Act 1980. This report identifies the risk to the Council that it may not meet this duty at some stage in the future as well as the other negative consequences associated with a lack of investment in the highways. It also sets out the process for procuring the work and financing it, all of which appear to be in accordance with the Council's relevant procedure rules.</p>
Wards Affected:	All
Scrutiny Interest:	Overview & Scrutiny

SK

JW

TRACKING/PROCESS**DIRECTOR:**

Chief Strategic Team	Executive/Leadership	Cabinet Member/Chair	Ward Members	Partners
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20 th March 2017	12 th April 2017		
Scrutiny Committee	Cabinet/Committee	Council	

1.0 BACKGROUND

1.1 Introduction

The highway network is the single most valuable asset that the Council owns. Without it, none of the Council's priorities, values and visions can be realised.

Its 660 kilometres of carriageway, 1,200 kilometres footway, 300 kilometres of footpaths, 228 structures, 19,000 street lighting columns, 36,500 road gullies (and their associated many kilometres of drainage), 15 kilometres of guardrail, signs and street furniture total almost £1 billion in replacement value.

As part of Local Authorities move to Whole of Government Accounting, the depreciation in highway networks is calculated annually in accordance with Chartered Institute of Public Finance & Accounting (CIPFA) documentation¹. The depreciation for Bury's carriageways and footways currently stands at around £75 million. In effect, this is the amount of money required to bring the network back to an "as new" condition.

As with all physical assets, the condition of the highway network deteriorates over time. The materials that constitute its makeup all degrade: asphalt becomes brittle, steel rusts, concrete reacts with the atmosphere. This deterioration by natural processes is augmented by both our use of them and changes in environmental conditions such as increased rainfall, higher carbon dioxide levels and severe winters.

Generally, the greater the deterioration of the highway, the quicker the rate of deterioration increases until failure sets in and no further deterioration is possible. Currently, via analysis undertaken by Council Engineers, this deterioration for Bury has been calculated at approximately £5 million per year². Highway funding from the Department for Transport (DfT) is such that the Council spends, on average, only around £1.2 million per annum in planned maintenance leading to an annual shortfall in the region of £4 million.

The outcome of such a level of funding is that the network cannot be maintained in a steady state condition (i.e. no improvement or no decline) and, inevitably, leads to an ever accumulating highway maintenance backlog which increases year-on-year together with an accelerating rate of deterioration.

¹ Code of Practice on Transport Infrastructure Assets (CIPFA)

² Based on life-cycle plans and Whole of Government Accounts (WGA)

Consequently, the only method of stewardship for the network which can be employed with current levels of planned maintenance funding is one of managed decline. However, this can only be accommodated for a limited duration before condition becomes such that pressures on reactive maintenance will rise to unsustainable levels in order to repair the ever increasing number of defects arising that are not tackled through planned maintenance schemes.

The ALARM³ survey published by the Asphalt Industry Alliance indicates that the ideal ratio between spending on planned maintenance versus reactive maintenance is 85:15. Currently, in England, this ratio averages 78:22 but for Bury it stands at nearer to 60:40. The inference is that too much reliance is being placed on reactive maintenance. The size of the current highway revenue budget makes it impossible for highway defects to be attended to within periods of time commensurate with both the Council's own targets and those set out in the courts as being reasonable.

If an insurance claim is made against the Council, as Highway Authority, for an accident on the highway caused by a defect and that defect had been inspected but not repaired within its prescribed intervention period, then it becomes difficult to defend and the claim is much more likely to succeed without impediment.

The measure of the ability of Highway Authorities to successfully defend against these claims is known as the repudiation rate. The Public Risk Management Association⁴ state that the current national average repudiation rate for local highway authorities stands at 78%. It goes on to indicate that the best authorities are achieving a 90% repudiation rate and the worst only managing 50%. Bury's rates for claims related to vehicle damage on the carriageway for the last 3 years are as follows;-

Financial Year	2014/15	2015/16	2016/17
No. of claims	176	340	229
Repudiation rate	40%	24%	35%

1.2 Highway Asset Management

Highway Asset Management is a strategic approach that identifies the optimal allocation of resources for the management, operation, preservation and enhancement of the highway infrastructure to meet the needs of current and future customers.

A Highway Asset Management Plan (HAMP) seeks to achieve the following;-

- Document the activities and processes of the Asset Management Framework.
- Provide detailed information to senior decision makers to support investment decisions and enable longer term planning.
- Allocate resources for asset management.
- Inform all staff involved in asset management about how the highway infrastructure is to be managed and their responsibilities.

³ Annual Local Authority Road Maintenance survey report, 2016 (http://www.asphaltuk.org/wp-content/uploads/ALARM_survey_2016.pdf)

⁴ <http://www.alarm-uk.org/asset.ashx?assetid=b04fba72-4140-4e9b-b3cd-d82baf738a6f>

- Provide information to support the procurement of maintenance activities.
- Facilitate communication with stakeholders.

It is a way of providing information and evidence on how the asset management process is applied in order to meet the wider objectives of the authority over the short, medium and long term. Typically, it sets out the agreed levels of service, performance targets, how these are met through lifecycle planning, and a forward and annual programme of work. It sets out how overall performance is monitored and any lessons learnt that have been captured.

- 1.3 Local Highways Maintenance Capital Funding has traditionally been a “needs-based” allocation from the Department for Transport (DfT) i.e. the level of funding is related to the total length of road, number of bridges, number of street lighting columns etc. that are maintained at the public expense by a Local Highway Authority (LHA).

In December 2014, the Secretary of State for Transport announced that £6 billion will be made available between 2015/16 and 2020/21 of which £578 million has been set aside for an Incentive Fund scheme, to reward councils who demonstrate they're delivering value for money in carrying out cost effective improvements.

Each LHA in England (excluding London) is invited to complete an annual self-assessment questionnaire (SAQ), in order to establish their share of the Incentive fund they will be eligible for between 2015/16 and 2020/21.

Authorities, therefore, have to demonstrate that efficiency measures are being pursued in order to receive their full share of the funding.

The incentive funding awarded to each LHA will be based on their score in this questionnaire, and will be relative to the amount currently received through the needs-based funding formula.

Consequently, there are potentially negative financial implications for the Council: over the 6 year DfT funding period 2015/16 to 2020/21, the difference between Bury being a Band 1 LHA and a Band 3 LHA equates to just over £1m. Bury currently stands at Band 2 in line with its SAQ submission for 2017/18. In order to achieve better scores and progress to higher Bands, a politically endorsed highway asset management strategy which has also been published on our website is a prerequisite.

Cabinet approved the adoption of HAMP principles on 07 September 2016...

“ *It is in the interests of the Council to have an approved Highway Asset Management Policy in place to signal its commitment to adopting the principles of asset management to so ensure that value for money is achieved with respect to highway maintenance and to avoid reduced incentive based Government Capital Allocations in the future.* ”

All planned maintenance undertaken either through this initiative or orthodox annual funding from the DfT must be done in accordance with the principles laid down in the Council's HAMP and best practice as set out by HMEP⁵.

2.0 ISSUES

2.1 Consequences of Underinvestment

The current trajectory of funding for the highway network is such that if nothing is done to address at least the achievement of steady state conditions then its rate of deterioration will continue to increase. This reduces the timeframe in which the Council will arrive at the moment when it can no longer meet its statutory duty under the Highways Act 1980 to maintain the highway in a fit state to accommodate the 'ordinary traffic which passes or maybe expected to pass' along them.

Ultimately, the Council along with its residents, businesses and visitors will all suffer the following consequences of this decline in condition;-

2.1.0 Increased vehicle operating costs

Road surface roughness has an impact on vehicle operating costs. Increasing roughness causes additional wear and tear to vehicle suspensions and tyres and affects vehicle fuel consumption and vehicle depreciation.

2.1.1 Slower journey times

Poor surface condition induces drivers to reduce their speeds. Additionally, route availability will be compromised resulting in disrupted journeys due to diversions being put in place to facilitate road works. There is also the possibility that permanent road closures may be required should the condition of some roads deteriorate to such a level that it is no longer possible to ensure the public safety when using them.

2.1.2 Higher incidence of accidents

Part of the deterioration of carriageway surfacing includes a decline in its skid resistance properties. The aggregate in asphalt that gives it its grip can become worn and polished - this can lead to vehicles experiencing difficulties in braking and manoeuvring, especially in wet conditions.

2.1.3 Reduction in ride quality and footway condition

Journey quality will also decrease with reduced maintenance budgets. Ride quality is diminished as roads increase in roughness and user dissatisfaction is likely to rise. An unchecked deterioration of the footways will, at some point, raise an equality

⁵ Highways Maintenance Efficiency Programme - HMEP is a £6million, Department for Transport funded and sector led transformation programme. (<http://www.highwaysefficiency.org.uk/>)

issue inasmuch as the difficulty in navigating poor surfaces by the elderly, mobility impaired and visually impaired will be far higher than for younger, unimpaired users.

2.1.4 Insurance claims

Insurance claims for slips, trips and falls by pedestrians on footways and carriageways will increase as well as damage to vehicles e.g. tyre and suspension damage. Bury's annual payout on highway related claims is averaging over £1,200,000.

Financial Year	2014/15	2015/16	2016/17*
No. of closed claims	347	340	229
Total Claims £ million	1.22	1.51	0.78

*Part year figures.

The 2013 report by the RAC Foundation, The Economics of Road Maintenance⁶ sets out many of the above considerations in more detail.

2.2 National Highways Transportation Public Satisfaction Survey

The National Highways Transportation (NHT) Survey collects public perspectives on, and satisfaction with, Highway and Transport Services in Local Authority areas. In 2016, 106 local authorities took part, one of which was Bury, which participated for the first time (partly as a consequence of the requirements of the DfT's Incentive Fund). The survey was sent to around 3,300 residents of Bury and 885 were returned. Many different transport related Key Benchmark Indicators (KBI) are covered but in matters relating to the *Condition of Highways* (KBI 23) and *Highway Maintenance* (KBI 24), Bury was ranked 101/106 and 102/106 respectively. Overall, Bury was ranked 100/106 nationally out of all authorities.

3.0 PROPOSAL

This report sets out a proposal to tackle the problem of deteriorating network condition in the Borough by considering a capital investment in the region of £10 million over the next 3 years to treat lengths of carriageway and footway with different methods to optimise the best use of the funding both in the lifetime of the initiative and in future years by attempting to minimise reactive maintenance activities.

3.1 Project Scope

There are enough sections of carriageway and footway in such a poor condition within the Borough that a list of candidate roads and streets totalling £10 million is not a difficult one to compile. However, in order to ensure value for money (VfM) is maximised and HAMP principles followed, consideration must be given as to which candidate roads would give the Authority the greatest return on its investment and what methods should be used to treat them.

⁶ http://www.racfoundation.org/assets/rac_foundation/content/downloadables/economics_of_road_maintenance-gould_et_al-june_2013.pdf

3.2 Developing a prioritisation matrix

The condition data collected for the carriageways and footways is not alone sufficient to develop a methodology to facilitate the ranking of candidates in priority order. Factors other than condition need to be taken into account such as route importance, number of vehicles carried, previous insurance claims history, reactive maintenance history, population density, engineering judgement and political imperatives.

As part of developing its Highway Asset Maintenance Plan, Engineers have been examining the options for implementing just such a prioritisation matrix. It is proposed that this matrix be developed fully and its methodology be put before stakeholders so that a consensus can be arrived at before it is put into use to rank the candidate carriageways and footways. Without some form of independent ranking procedure, it is inevitable that the Council may be criticised for 'manipulating' the results to include certain roads. Hence, an objective, pre-approved decision making procedure will assist in defending such allegations.

3.3 Resourcing

It will not be possible for the Council to attempt to undertake a project of this scale with the existing complement of Engineering staff. Consequently, additional resources will be required during the candidate selection and the implementation stages.

During the candidate selection stage, it is anticipated that there will be a requirement to engage with specialist consultant who can assist with the processing and verification of the vast datasets that need to be analysed. This adds an additional level of independence and checking of the proposals before transitioning into the implementation stage.

The implementation stage will see the physical works on the ground undertaken. A substantial element of the Council's activity at this stage will centre around coordinating the works with that of utility companies and administering the contract - monitoring standards, compliance issues, managing any claims, making payments etc. It is expected that additional resources will be required to undertake Clerk of Works duties.

These additional resources will need to be funded from the £10m.

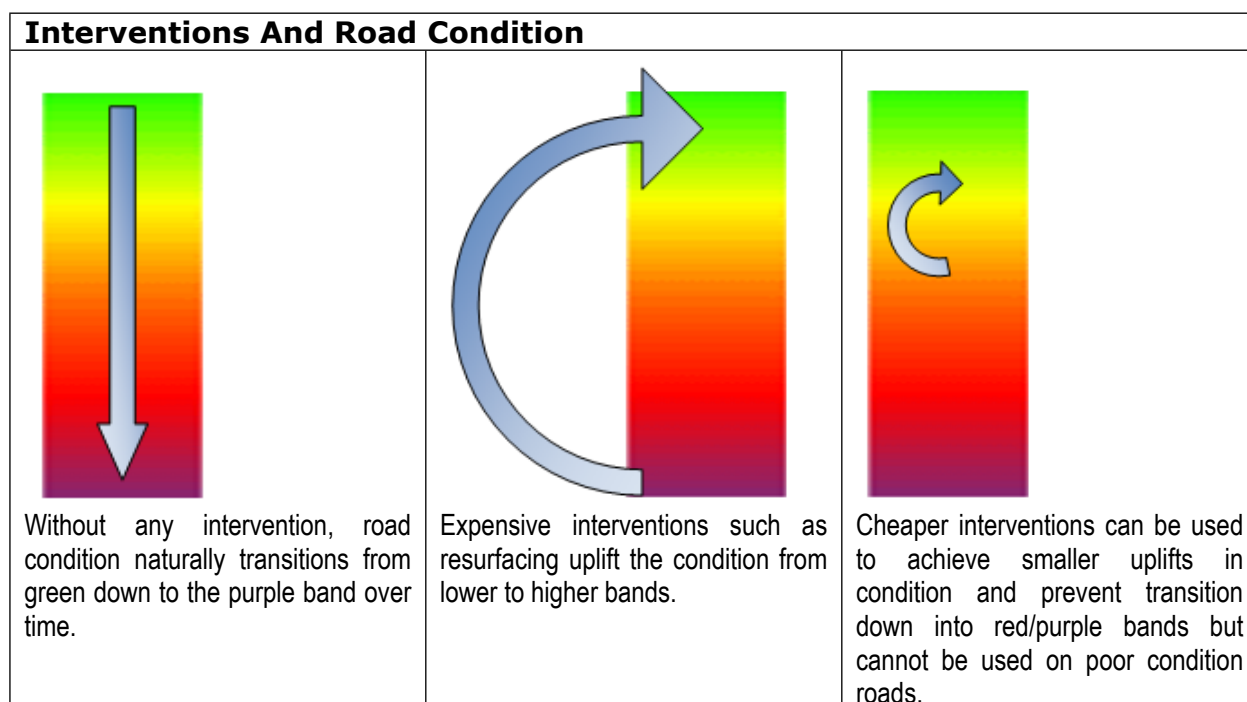
3.4 Palette of treatment options

Planned highway maintenance is not just about resurfacing. There are many different treatments available to the highway engineer depending on the particular condition of the candidate road in question. However, the breadth of the palette of available treatments is dependent on available finances.

Generally, when talking about road surfaces, it is easier to communicate its condition by the use of bands known as purple, red, amber, yellow and green (PRAYG) with the purple band being the worst and green the best.

Good asset management is not just about dealing wholly with assets languishing in the purple band. Whilst purple roads are in need of urgent attention (and will probably require resurfacing works as a minimum) roads in the amber band can

receive much cheaper forms of treatment such as micro asphalt and this philosophy can even be extended further to roads still within the green band but close to amber. The purpose of this approach is to be able to maintain the condition of the road in a high state of repair thereby preventing it from falling into a lower state of repair which would then require more costly works to improve its condition. A useful analogy is to consider treating a scratch in the paintwork of a new car with a touch-up pen costing only a few pounds rather than letting it deteriorate to such a point where rust develops resulting it having to be taken to a body shop for a much more costly repair.



Consequently, a comprehensive highway maintenance strategy should allow for the roads not in the purple/red bands to receive some form of intervention to offset deterioration. To what extent this is possible is directly related to the amount of available funding. For the £10m proposed, it will not be possible to deliver a strategy that would be able to target road conditions in the amber bands (and better) but will have to concentrate on the purple and red bands with the majority of the works undertaken being resurfacing.

However, it is proposed that whilst the £10m is utilised to tackle some of the worst sections of road (based on selection via the priority matrix) that the annual DfT Needs Based and Incentive Fund allocations be targeted at more appropriate interventions to roads in the amber bands. This central government funding currently stands at around £1.2m per annum. This will allow the Council to fully embrace asset management principles as part of this initiative in line with DfT, HMEP and Bury Council's HAMP policies and guidelines for best practice.

3.5 Procurement options

Traditionally, Bury has tendered highway maintenance works by going to the market on a scheme by scheme basis. Whilst this has its advantages in securing a good price based on competition, it is resource intensive on two major facets: the internal

procurement process and the external tendering process. Internal resources have to be used in order to compile bills of quantities (BQs) together with supporting documentation such as drawings, specifications, health & safety forms, forms of contract etc. Furthermore, dealing with enquiries during the tender period as well as the required vetting and evaluation needed once all tenders have been submitted is resource intensive for schemes exceeding £1 million. An equivalent amount of resource has also to be expended by each of the tenderers (of which there may be as many as 30) but only one of them will be successful. This, cumulatively, equates to a lot of wasted resources on the part of prospective contractors.

When dealing with larger value contracts such as tens of millions of pounds, there are also more stringent EU procurement regulations to be adhered to. It is unlikely that the process of Brexit will have been concluded and, therefore, these EU regulations may still be relevant.

Consequently, in order to effectively and efficiently facilitate the large amount of procurement work required as part of a proposed highway maintenance project in the region of £10m, a framework⁷ contract will need to be established. This allows the Council to undertake a one-off procurement exercise at the beginning of the process to engage one or more contractors and then feed work through the contractor(s) on an 'as-and-when' basis and to include for a palette of treatments to give the Council sufficient choice in selecting appropriate interventions.

⁷ A framework agreement is an agreement between one or more businesses or organisations, "the purpose of which is to establish the terms governing contracts to be awarded during a given period, in particular with regard to price and, where appropriate, the quantity envisaged".

4.0 FINANCIAL IMPLICATIONS

4.1 The table below sets out the outline business case for this investment;

	Year 1 2017/18 £'000	Year 2 2018/19 £'000	Year 3 2019/20 £'000	Years 4 - 40 £'000	Total £'000
Capital Investment	3,000	3,000	4,000	0	10,000
	3,000	3,000	4,000	0	10,000
Funded by:					
Borrowing	-3,000	-3,000	-4,000	0	-10,000
	-3,000	-3,000	-4,000	0	-10,000
Revenue Implications					
Annual Borrowing costs:					
Drawdown 1 (£3m)	128	128	128	128	128
Drawdown 2 (£3m)	0	128	128	128	128
Drawdown 3 (£4m)	0	0	171	171	171
	128	256	427	427	427
Revenue Savings	0	0	-200	-427	-427
Call on Reserves	128	256	227	0	611

4.2 Borrowing will be drawn down as required over the three year investment period.

4.3 Borrowing costs are calculated using latest 40 year PWLB rates.

4.4 Borrowing costs will be covered from reserves for years 1 & 2 (and part year 3)

4.5 Thereafter, it is intended that borrowing costs will be funded through reduced revenue patching costs, and reduced incidence of insurance claims.

4.6 All works will be competitively procured, however a sum of £0.5million per annum will be allocated to the in house team, subject to demonstrating value for money, and deployment of funds in line with HAMP principles.

5.0 CONCLUSION

The highway network in Bury can be split into strategic and local. The strategic network consists of the A, B and C road classifications with the local network being

everything else. The ratio between them is 1:4 inasmuch as the local network is 4 times the size of the strategic one.

The strategic network is predominantly responsible for the movement of the greatest amount of traffic and is linked to the economy and prosperity of the Borough.

The local network contains all the housing estate roads and is where the majority of all journeys start and end.

The initial proposal for this initiative is to seek to address the 'purple' sections of carriageway (i.e. those that, to all intents and purposes, have failed or are about to) in the following manner;-

- Strategic £5.7 m
- Local £4.0 m
- Footways £300 k

[the above split to be justified by Asset Management data]

6.0 RECOMMENDATIONS

- 6.1 The Highway network is a crucially important asset with a high value and associated high maintenance requirement.

The consequences of continued underinvestment in this asset will be that the borough, its residents and businesses, suffer both economically and socially. This report proposes that a significant capital investment of £10 million is allocated to the network over the next three years and that the investment is allocated in accordance with adopted highway asset management principles.

- 6.2 Options and recommendations

1. That no increase is made to the Highways planned maintenance budget.
2. That an additional capital allocation of £10m is made to the Council's Highways planned maintenance budget over the three financial years 17/18, 18/19, 19/20. That this funding is allocated on the basis of a programme of identified works drawn up in accordance with the principles and methodology explained in this report and that existing annual DfT funding be used to undertake cost effective interventions to prevent length of the network from dropping into the red band.

That Option 2 is recommended for approval.

List of Background Papers:-

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