REGENERATION, COMMUNITY AND CULTURE OVERVIEW AND SCRUTINY COMMITTEE

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ROAD MAINTENANCE FUNDING

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Summary

This report seeks to provide detailed information on funding for road maintenance – including the integrity of the utility companies reinstatement work.

1. Budget and Policy Framework

1.1 Under section 41 of the Highways Act, the Council has a duty to maintain the highway. As a guideline, Authorities have a general duty of care to users and the community to maintain the highway in a condition fit for its purpose.

1.2 The highway network is graded upon usage and risk (road hierarchy), which results on whether a particular road is inspected yearly or, weekly by a dedicated team of highway inspectors. Most defects highlighted by the inspectors are “safety defects” (trips or potholes) and orders for repairs are raised with the contractor for immediate or 28 day dependent upon locations and severity.

1.3 Medway’s Transport Asset Management Plan sets strategic objectives and includes items relating to improving the condition of carriageways, footway, structures and traffic signals.

1.4 Budgets for highway maintenance are set at the beginning of each financial year. This includes schemes relating to road and pavement resurfacing, repairs / strengthening of structures and improvements to traffic signals.

2. Background

2.1 At a committee meeting on 28 June 2012, Members considered a Council Plan 2011/2012 end of year monitoring report. The Committee agreed that it would “welcome further information into the variable scenarios of road maintenance depending on future weather conditions and budget increase/decreases in order that Members could make ‘smart’ decisions on how best to spend the resources.” Officers advised that this budget also included pathways, structures and signals and that the maintenance of these had to be considered alongside road maintenance.

2.2 This report is in response to the committee's request for further, more detailed information.

2.3 In 2007, the Service Manager for Highways highlighted to the Directorate Management Team and Members that the accumulated backlog associated with Highways maintenance was in the order of £12 million and that the assets were in a state of decline with the existing funding levels.

2.4 Following this, the Council appointed consultant Mouchel to undertake a further study into this area, their report showed an accumulative funding shortfall of £13.95 million and accumulating at around £2.15 million per annum.

2.5 Within this context information is not readily at hand to compare other Local Authorities and their valuation regarding any accumulated backlog in maintenance. However, recent financial reporting requirements for Whole Government Accounting will involve councils reporting annually on their highway assets, both in terms of Gross Replacement Costs (GRC) and also the Depreciated Replacement Costs (DRC), which will identify the gap between a "new" highway network compared with the condition now. Medway's figures are GRC £ 1.40 billion and DRC £1.16 billion.

2.6 The Annual Local Authority Road Maintenance (ALARM) Survey 2012 reports that the total projected shortfall in road maintenance budgets for Local Authorities in England (excludes London and Wales) is £627 million which equates to £5.3 million per Authority.

2.7 National Indicators show a clear decline in the condition of the carriageway network in the UK against the current levels of funding.

2.8 <u>NI 168 – Principal Roads where maintenance should be considered</u>.

The indicator measures the percentage of the local authority's A-road and principal carriageways where maintenance should be considered.

The performance indicator is derived from a survey of the surface condition of the local authority's classified carriageway network, using survey vehicles that are accredited as conforming to the SCANNER (Surface Condition Assessment for the National Network of Roads) specification and processing software that is accredited as conforming to the UKPMS (UK Pavement Management System) standards. Results are reported for 100% of the network surveyed in both directions, where this is not physically possible to survey all parts of the network, grossed-up figures from shorter surveys (at least 90% of the total requirement) will be permitted.

2.9 The reported results for NI 168 utilising the RAG system (Red, Amber, Green) are:

<u>2009/10</u>

Red: Plan maintenance soon	3.42 miles	4.1%
Amber: Plan investigation soon	14.86 miles	17.9%
Green: Generally good condition	64.96 miles	78.0%

2010/11

Red: Plan maintenance soon	4.12 miles	5.3%
Amber: Plan investigation soon	14.29 miles	18.3%
Green: Generally good condition	59.72 miles	76.4%

2011/12

Red: Plan maintenance soon	4.09 miles	5.8%
Amber: Plan investigation soon	14.85 miles	20.9%
Green: Generally good condition	51.98 miles	73.3%

Indicating a year on year increase of the principal road network that should be considered for maintenance.

2.10 NI 169 – Non-Principal classified roads where maintenance should be considered.

The indicator measures the percentage of the local authority's B-road and C-road carriageways where maintenance should be considered. The performance indicator is derived from a survey of the surface condition of the local authority's classified carriageway network, using survey vehicles that are accredited as conforming to the SCANNER (Surface Condition Assessment for the National Network of Roads) specification and processing software that is accredited as conforming to the UKPMS (UK Pavement Management System) standards. Results reported are a combination of (a) 100% of the B-class network surveyed in both directions; and (b) 100% of the C-class network surveyed in one direction, where this is not physically possible to survey all parts of the network, grossed-up figures from shorter surveys (at least 90% of the total B-road requirement and 80% of the C-road requirement) will be permitted.

2.11 The reported results for NI 169 are:

2009/10

B class Roads:

Red: Plan maintenance soon	2.35 miles	7.1%
Amber: Plan investigation soon	8.72 miles	26.3%
Green: Generally good condition	22.09 miles	66.6%

C class Roads:

Red: Plan maintenance soon	7.67 miles	12.4%
Amber: Plan investigation soon	19.99 miles	32.2%
Green: Generally good condition	34.43 miles	55.5%

2010/11

B class Roads:

Red: Plan maintenance soon	3.03 miles	9.9%
Amber: Plan investigation soon	9.10 miles	29.7%
Green: Generally good condition	18.56 miles	60.5%

C class Roads:

Red: Plan maintenance soon	7.38 miles	12.9%
Amber: Plan investigation soon	18.21 miles	31.7%
Green: Generally good condition	31.84 miles	55.4%

2011/12

B class Roads:

Red: Plan maintenance soon	3.25 miles	10.1%
Amber: Plan investigation soon	9.87 miles	30.8%
Green: Generally good condition	18.95 miles	59.1%

C class Roads:

Red: Plan maintenance soon	5.57 miles	13.8%
Amber: Plan investigation soon	13.63 miles	33.8%
Green: Generally good condition	21.11 miles	52.4%

Indicating a year on year increase of the Non Principal road network that should be considered for maintenance.

2.12 Comparison Tables

Principal Road NI 168 – South East Local Authorities in percent of all highways

Local Authority	**2009/10 (%)**	**2010/11 (%)**
Medway Council	4	5
Portsmouth	4	4
Reading	14	14
Slough	10	6
East Sussex	10	10
Kent	6	* (not reported)

2.13 Comparison Tables

Principal Road NI 169 – South East Local Authorities in percent of all similar highways

Local Authority	**2009/10 (%)**	**2010/11 (%)**
Medway Council	11	12
Portsmouth	5	3
Reading	8	8
Slough	8	9
East Sussex	10	10
Kent	14	* (not reported)

3. Financial Investment in the Highway Network

3.1 Recent investment of £4 million of Prudential Borrowing was spent on resurfacing and the Council has to pay back £500,000 a year for 10 years, this investment has helped in slowing the decline by dealing with around 10% of the backlog which continues to grow year on year.

3.2 The Thames Gateway investment in Chatham roads together with the other highway improvement schemes listed below; totalling £24.545 million of additional investment will delay them falling into the Amber or Red category for a good number of years.

3.3 Capital Projects Highways Improvements:

	£m
Medway Strategic Bus Corridor Improvements	12.457
Chatham Centre Waterfront: Road Improvements	3.610
Corporation Street	0.299
Highways Schemes	8.179
Total	£24.545 million

3.4 The current maintenance investment in road resurfacing for 2012/13 is £1.275 million; the consequence of which, according to the National Performance Indicators will result in a further decline in the network of approximately 1% this year and if new resources are not identified we would expect a year or year decline to continue.

3.5 An additional investment of £1 million - £1.275 million per annum would arrest this decline and prevent the National Indicators worsening and would through proper targeting start to show a reduction over a ten year plan in the number of roads requiring maintenance.

3.6 Targets need to be challenging but realistic in comparison to investment and the newly approved NI 168 target of 6% and NI 169 of 13% are rational with a 0.25% decrease for both performance indicators in 2013/14.

3.7 One of the greatest risks to the long-term condition to the highway is water penetration and reduction in structural integrity, which shortens the life of the road considerably. Members will be aware that Utilities have a statutory right to excavate the highway to install and maintain their services. Some of the Utility companies are under Regulator direction to improve their mains, others like the gas suppliers must replace old cast iron mains within a reasonable period to minimise risk to life and property. As a result these companies regularly dig up the roads and it is imperative that the Highway Authority controls the management of this operation. Medway has an Inspector to check a proportion of the reinstatements and a programme of coring or radar surveying of others is also carried out. If a reinstatement fails to comply with the required standard, the cost of the survey is

recovered from the utility, together with a small penalty. If the reinstatement complies with the required specification, no income is generated. The way in which this is done is regulated nationally. However, legislation is very much biased in the favour of the Utility companies with very little power for the highway authority and limited income.

3.8 There are three stages to routine inspections these are classified as Category A, Category B and Category C.

A Undertaken during the progress of the works

B Undertaken within the six months following interim or permanent reinstatement

C Undertaken within the three months preceding the end of the guarantee period.

3.9 Medway receives funding from each of the statutory undertakers for carrying out 10% sample inspections. The annual charge is determined from the average over the previous three financial years for each undertaker.

3.10 Additional Inspections also take place that are not part of the sample inspections, these are not chargeable unless there are defects found at Category B and C.

3.11 The breakdown of inspections notices and defects, for the latest full year period is shown below.

Table 1

Road openings in Medway
1 April 2011 to 31 March 2012

A	**NOTIFICATIONS** – Type	AMOUNTS
1	Major Works	738
2	Standard Works	1850
3	Minor Works	12596
4	Immediate Urgent	1530
5	Immediate Emergency	661
6	Bar Holes (minor openings for tracing gas leaks)	264
7	Others	2
8	**TOTAL OPENINGS**	**17641**
9	Subsequently Withdrawn	4509
10	Lapsed Works	0
11	**TOTAL NOTIFICATIONS**	**22150**
12	ACTUAL INSPECTION UNITS	15665

B	**INSPECTIONS** - Type	
1	Sample	4818
2	Routine	944
3	Third Party Reports	41
5	**TOTAL INSPECTIONS**	**5803**
C	**DEFECTS** - Inspection Type	
1	Sample	108
2	Routine	293
3	Third Party Reports	35
4	Investigatory	0
5	**TOTAL DEFECTS**	**436**
6	Defect rate (sample inspections)	2.2%
7	Defect rate (total inspections)	7.5%

3.12 At present, the council has two full-time street works posts, plus an additional equivalent 1.5 posts that have been taken on to deal with the workload.

3.13 Any requirement to increase the levels of inspection would be at Medway Council's cost, estimated at 8.5 additional staff to undertake 100% inspections. Part of this outlay would be recovered initially from the increased defect charges, however in the longer term as defects diminish so will the additional income. It is also worth noting that there are estimated future savings due to the potential longer life and increased structural integrity of both the carriageway and footway. In October, to assist the inspection data and assess the quality of reinstatements, Medway will recommence with its reinstatement/coring programme, in this process a sample core is drilled into the reinstatement and sent off for analysis.

3.14 Medway will also be employing ground-penetrating radar to assess the depths of reinstatements to ensure compliance with the required specification.

3.15 Responsive Highway Maintenance

Table 2

Statistics for Highway Inspectorate			
	Number of defects repaired with Viafix*	Numbers of orders raised with Volker Highways for minor repairs	Percentage of orders meeting Response Times
August 2011	25	411	100.00
September	82	468	100.00
October	14	438	99.93
November	25	406	99.89
December	21	407	99.30
January 2012	51	609	99.77
February	54	359	99.73
March	52	448	99.71
April	27	399	99.73
May	108	598	99.78
June	82	456	99.41
July	102	352	99.62
	643	5,351	

* Viafix is a cold applied material, which offers an immediate repair solution to any pothole or similar defect giving a lasting repair.

3.16 The spreadsheet indicates figures for Viafix repairs and orders for minor works. These figures have been extracted from Covalent and relate to the Highway Inspectorate only.

3.17 The Viafix column in Table 2 indicates the actual number of defects repaired, using the product whereas the order figures are the number of orders raised. Each order may contain several separate locations, therefore the 5,351 figure is the minimal number of defects repaired.

3.18 Locations with defects requiring immediate response are attended within one hour of notification and made safe until a permanent repair is completed.

3.19 Locations where defects are present but no immediate danger to users of the network but requires repair – orders are raised on either 24 hour, 7 day or 28 working day turnaround (depending on how the defect is assessed). The completion of works orders on time is a Key Performance Indicator for the contract and the percentage of orders that have met the specified completion date are recorded in the matrix. The completed percentage figure represents all planned and responsive orders placed with the contractor.

3.20 Spray Paint Markings on roads – Defined Users

White Paint	Medway Highways *Defects for repair are marked in white paint to indicate to Volker Highways the exact location and extent of the repair required*
Blue Paint	Water Supply Undertaker
Yellow Paint	South Eastern Region of British Gas
Red or Black Paint	Electricity Generating Boards
Green or Silver Paint	Telecommunications

4. Advice and analysis

4.1 Highways have invested in a system called J-CAM, (Jacobs Carriageway Asset Management) which takes the UK Pavement management System (UKPMS) data in CONFIRM (highways Asset management system) and enters that data into a model of the councils network, from this model we can predict what resources we need over the coming “x” years to either maintain the network to a predetermined condition or conversely if we specify what resources will be spent on the asset, the model will predict the condition the network will be in over “x” years, so that reliable informed decision making can take place.

4.2 CONFIRM is a modular software solution for the maintenance and management of public infrastructure assets and services including Highways, Lights, Structures, Street Works, Property Maintenance, Grounds, Trees, Cleansing and Waste and provides an audit trail for works and service enquiries.

4.3 Enabling Highways to record all its highway assets and associated values, as well as run the Term Maintenance and Street Lighting Contract through it, which includes the ordering and payment of works, the recording of highway inspections and defects and the incorporation of the National Street Gazetteer.

4.4 Asset management information provided through this Gateway enables informed decision-making in the allocating of funding required to meet maintenance predictions.

4.5 The prediction and optimisation module of J-CAM provides forward predicting modelling and investment optimisation for the highway network. Thereby generating schemes that are likely to represent a programme of works spanning a number of years linked to the level of investment required and the impact on the network.

4.6 Optimisation is achieved by predicting when a scheme deteriorates sufficiently to require a more expensive treatment and programming treatment in the correct year to avoid this. The optimised programme of works produced enables the level of investment to be calculated.

4.7 There are three models available to use in the system:

Budget Model – highlights the carriageway condition for fixed funding over time. Funding can be allocated per road class over a user-selected period of time. When allocating a specific budget over a selected number of years, the change in National Indicators highlights the percentage of network at risk.

Target Model – calculates the funding needs to achieve required National Indicators over time using various treatments.

Backlog Model – allows officers/member to set target reductions in treatments in the remaining programme of work (backlog) over a specified time period for A and B & C class roads separately. Showing the funding needs to achieve set backlog targets over time.

4.8 Each Model shows the following outputs at the end of the optimisation run:

i) Overall funding profile necessary to achieve desired outcome
ii) The mix (including length and costs) of treatment required achieving a desired outcome
iii) Revised treatment summary table at the end of the specified time period.

4.9 This system (JCAM) is currently being calibrated and populated with Medway data and over the coming year will be trialled in Medway to ensure that in future years officers and in turn members will be able to see the condition of all roads/pavements in Medway and will be able to take informed decisions based on technical condition data.

5. Risk management

Risk	Description	Action to avoid or mitigate risk
Highway condition	The highway condition is depreciating with current level of funding, if current funding levels are maintained the risk would be ranked as a C2, which is a Significant Likelihood of the road condition worsening with an impact on the network as Critical, as in years to come the roads will eventually fail. **Likelihood** A Very high B High C Significant D Low E Very low F Almost impossible **Impact:** 1 Catastrophic (Showstopper) 2 Critical 3 Marginal 4 Negligible	Details of a plan are contained in the Medium Term Financial Plan for the following three years and also this report highlights to members the current situation. Members should be aware that this service is not going to fail this or next year, but decision on actions and funding taken now will affect the road network in say 10 years time. Highways maintenance is a long term strategy.

6. Financial and legal implications

6.1 The financial risks and potential pressures associated with the condition of the highways are detailed within the report.

6.2 The financial costs associated with the development and operation of JCAM is all contained within the existing highway maintenance budget.

6.3 There is no recommendation in this report, other than for members to note the facts contained within this briefing paper. However members may note that the financial planning process (Medium Term Financial Plan) has identified an additional resource requirement but this is in the context of an associated budget deficit of £12.3 million for the Council.

6.4 The Council has a number of duties under the highways legislation, primarily under section 41 of the Highways Act 1980 to maintain adopted highway.

7. Recommendations

7.1 Members are asked to note the comments contained with this briefing paper.

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Background papers

Mouchel Study 2007