

Decision Maker: Environment Portfolio Holder

For Pre-Decision Scrutiny by the Environment PDS Committee on:

Date: 2nd February 2016

Decision Type: Non-Urgent Executive Key

Title: **HIGHWAYS PLANNED MAINTENANCE PROGRAMME
INCLUDING SURFACE TREATMENT OPTIONS**

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Chief Officer: Nigel Davies, Executive Director of Environment & Community Services

Ward: All

1. Reason for report

This report recommends future programmes of planned carriageway and footway maintenance. The report also includes information in respect of the Council's annual bid made to Transport for London for bridge assessment and strengthening and information regarding carriageway treatment options.

2. **RECOMMENDATIONS**

That the Environment Portfolio Holder:

- i) **agrees that additional schemes listed in Appendix 'A' be completed during 2015/16 with those in Appendix 'B' forming the basis of the Council's programme of planned highway maintenance for 2016/17;**
- ii) **agrees the proposed TfL funded programme of principal road maintenance works for 2016/17 as set out in Appendix 'D', together with the bid to Transport for London for bridge strengthening and assessment as Appendix 'E'; and**
- iii) **agrees for authority to be delegated to the Executive Director of Environment and Community Services, in consultation with the Portfolio Holder, to implement any changes to the proposed programmes in line with service needs.**

Corporate Policy

1. Policy Status: Existing Policy
 2. BBB Priority: Quality Environment
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Financial

1. Cost of proposal: £505k for 2015/16 and £3.579m for 2016/17
 2. Ongoing costs: Recurring Cost £3.579m
 3. Budget head/performance centre: Highways, DfT and TfL Funding
 4. Total current budget for this head: £2.378m, £505k and £1.201m
 5. Source of funding: Existing revenue 2016/17, DfT funding and TfL LIP funding
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Staff

1. Number of staff (current and additional):4
 2. If from existing staff resources, number of staff hours: 4 fte
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Legal

1. Legal Requirement: Statutory Requirement
 2. Call-in: Applicable
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Customer Impact

1. Estimated number of users/beneficiaries (current and projected):Borough wide
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Ward Councillor Views

1. Have Ward Councillors been asked for comments? Yes
2. Summary of Ward Councillors comments: Responses to be received at the Committee meeting.

3. COMMENTARY

Background

- 3.1 Bromley's highway assets include carriageways and footways of length 547 miles (880Km) and 885 miles (1,425 Km) respectively. It is a highly visible asset used by most residents and businesses on a daily basis. A well-maintained highway facilitates safe and reliable travel for pedestrians, cyclists and motorists, and contributes to the vitality of the borough and the local economy. The highway network has a gross replacement cost of approximately £1.5 bn. according to the most recent submission to HM Treasury.
- 3.2 Maintaining the highway asset through timely planned maintenance works reduces the demand for reactive maintenance, such as repairing potholes and broken paving. This improves value for money and customer satisfaction, reduces unplanned network disruption, and contributes to reducing third party claims for damages.
- 3.3 The Principal 'A' road network is 42 miles (67Km) in length. Sustained annual investment of between £0.75m and £1.0m p.a. received as part of the LIP settlement from TfL has helped to keep these roads in good condition. Maintenance of the 58 miles (93km) of non-principal 'B' and 'C' roads, and the 447 miles (720 Km) network of unclassified roads are funded from revenue budgets.

Road Condition

- 3.4 Borough-wide carriageway condition data is derived from technical surveys to provide a coarse assessment of network condition based on national guidelines. These are not precise as they are derived from identifying a wide range of highway defects, although they do provide a valuable source of trend data by identifying the percentage of carriageway likely to require maintenance.

Carriageway condition indicators based on the latest (2014/15) borough-wide condition data are set out in the table below;

Network Classification	A (Principal)	B/C (Non-Principal)	Unclassified
Road Condition Value	1%	3%	17%

- 3.5 In order to improve the quality of condition data LBB Engineers have been working with the Transport Research Laboratory (TRL) on a new survey methodology. The surveys have been completed and initial analysis is encouraging, although there has not been sufficient time to produce planned works programmes for the full three years, as in previous years. It is therefore proposed that this report only considers planned footway and carriageway works for the remainder of 2015/16 and 2016/17, with a draft programme for future years.

Proposed Programmes

- 3.5 Roads are identified for planned work using a prioritisation system based on highway condition, but also taking account of factors such as use, location on the network, adjacent services, frequency of reactive maintenance, level of public enquiries, consultation responses, etc. Those roads with the highest overall priority are put forward for planned works programmes in accordance with current budget provision.
- 3.6 In March 2014 the Department for Transport (DfT) allocated £10m to London boroughs and Transport for London to maintain the capital's road network, with LB Bromley receiving

£504,982, which Executive released to accelerate the planned carriageway maintenance programme during 2015/16. The latest survey results have been assessed and it is proposed that the roads shown at Appendix 'A' are included in the 2015/16 programme. Programmes of planned footway and carriageway works for completion during 2016/17 are shown at Appendix 'B', and a draft programme for future years at Appendix 'C'.

- 3.7 Maintenance of the Borough's principal 'A' road network is funded from an allocation made by Transport for London TfL. This funding is intended for carriageway maintenance, although some footway works may be included. Details are shown in Appendix 'D'.

Bridge Strengthening and Assessment

- 3.8 Bridge strengthening and assessment covers strengthening, replacement works, assessment and feasibility studies of highway structures. Officers are requested to submit a bid for structural projects to the London Bridges Engineering Group (LoBEG), which advises TfL on scheme prioritisation. These projects are set out in Appendix 'E' and the Portfolio Holder is asked to endorse this list. The Council will not know how much of the £1.054m bid for 2016/17 has been successful until the funding settlement is announced by TfL.

Carriageway surface treatment options

- 3.9 Bituminous surfacing materials deteriorate through oxidization and weathering, which causes the materials to become brittle and weak, eventually resulting in potholes and more serious defects. The 'stitch in time' principle applies, and if surfaces are treated in a timely manner more expensive maintenance can be avoided. There are a number of treatments available;
- 3.10 Joint sealing – as many of our residential roads are made of concrete with a thin bituminous overlay, the surfacing tends to crack at the joints of the underlying concrete due to movement between adjacent concrete bays. If these are repaired with a suitable flexible sealer this can prevent the ingress of water and further deterioration of the surfacing material. While this treatment can be used to seal any cracks in surfacing, it is usually only applied to cracks and joints that go across the road as the material used is quite slippery. The cost of this treatment varies from £4.50 to £10.00 per m.
- 3.11 Surface Dressing – this treatment can be suitable at an early stage of the deterioration process and is aimed at sealing carriageway cracks, thereby arresting further deterioration, and reinstating the skidding resistance of the road. It involves spraying hot bitumen on the road and rolling in chippings to provide a new running surface. Typical life expectancy is 5-8 years, although this treatment may not be suitable for busy urban or heavily trafficked roads. The cost of this treatment varies from £3.00 to £6.00 per m² depending on the binder and chippings used.
- 3.12 Micro Asphalt – involves overlaying a carriageway with a thin water based bituminous slurry. Some carriageway patching may be required before this treatment is applied but essentially this treatment is applicable where the road surface is still sound. Road needs to be closed for two hours after the works have been completed to allow the material to set. In addition to sealing the carriageway and providing a new running surface this treatment can also restore some of the shape of the road. This treatment is not suitable for heavily trafficked roads. A typical life expectancy of this treatment is 8-10 years, and the cost varies from £5.00 to £8.00 per m²
- 3.13 Slurry Sealing – this is a similar treatment to micro-asphalt for use on existing bituminous footways. It is suitable when deteriorated but still in a structurally sound condition. A typical life expectancy of this treatment is 10 - 15 years, and the cost varies from £3.00 to £6.00 per m²
- 3.13 Carriageway Resurfacing – this usually requires the removal of the existing surface layer before a new bituminous surface is laid, although in roads without kerbs or thresholds an overlay can be applied. The treatment materials vary depending on traffic conditions, and are laid at a depth

of 20 - 40 mm. A typical life expectancy is 15-20 years. The cost of an overlay varies from £5.00 to £11.00 per m² depending on the road type, with resurfacing costs between £6.50 and £12.50 per m²

- 3.14 Partial reconstruction – when deterioration affects the structural layers of the road construction, it may be necessary to replace the base material as well as the surface. As this is more expensive than simple resurfacing, and has a similar life expectancy, its use is restricted to those roads that have badly deteriorated. The cost of this treatment varies from £15.00 to £24.00 per m² depending on the road type.
- 3.15 In recent years maintenance works have comprised of resurfacing and partial reconstruction, as levels of deterioration have prevented the use of simpler treatments. As joint sealing, surface dressing and micro-asphalt are proprietary treatments using specialist equipment, they are not cost effective for individual or small numbers of roads. A programme of surface dressing was successfully completed in 2013 in rural roads within Downe village and Biggin Hill, and this treatment will be considered for similar works in the future.

4. POLICY IMPLICATIONS

- 4.1 The Environment Portfolio Plan 2015-2018 includes the key aim “To continue to invest in a timely and effective manner in our roads and pavements to maintain the value of our highway asset”. The Plan (item 4.4) identifies the Council will “Improve the condition of the of the highway network by completing an approved major programme of road and pavement resurfacing”.

5. FINANCIAL IMPLICATIONS

- 5.1 Appendix A contains a list of roads that will be funded from the one-off sum of £504,982 from the DfT specifically for the permanent repair of potholes or preventing their appearance by resurfacing. This sum must be spent by 31 March 2016.
- 5.2 Planned maintenance works for the Borough roads are funded from the annual revenue highways maintenance budget of £2.38m. Maintenance of the Principal Road Network is funded by TfL and these funds can only be used for maintenance work on classified roads.
- 5.3 A summary of the funding available for 2016/17 is summarised in the table below.

	£'000	£'000
<u>Revenue - Appendix B</u>		
Carriageway maintenance 2016/17	1,247	
Footway maintenance 2016/17	<u>1,131</u>	
		2,378
<u>Capital - Appendix D</u>		
Principal Road Network 2016/17 LIP funding from TfL	946	
TfL LIP funding for resurfacing busy bus routes	120	
TfL LIP funding for roads where accidents have been attributed to skidding	<u>135</u>	
		1,201
Total funding available for 2016/17		<u>3,579</u>

- 5.4 Appendix C sets out the list of projects that make up the proposed bid to TfL for bridge strengthening totalling £1.054m. TfL will notify the Council of the actual settlement in early 2016/17.

6. LEGAL IMPLICATIONS

- 6.1 Under the Highways Act 1980, the Council, as Highway Authority, has duties to ensure the safe passage of highway users and to maintain the highway.

Non-Applicable Sections:	Personnel Implications
Background Documents: (Access via Contact Officer)	

2015/16 Carriageway Resurfacing Schemes Funded from DfT Pothole Fund

ROAD	WARD
Fashoda Rd	Bromley Town
Gilroy Way	Orpington
Golf Rd	Bickley
Gravel Rd	Bromley Common & Keston
Haysleigh Gdns	Crystal Palace
Herbert Rd	Bromley Common & Keston
Logs Hill	Bickley
Thornsett Pl	Clock House
Turpington La	Bromley Common & Keston
Tylney Rd	Bickley
Weighton Rd	Crystal Palace
Woldham Rd	Bromley Town
Yester Rd	Chislehurst

Proposed Carriageway Resurfacing Schemes 2016/17

ROAD	WARD
Augustine Rd	Cray Valley East
Bedford Rd	Orpington
Blandford Rd	Clock House
Bourne Rd	Bromley Town
Bromley Rd	Copers Cope
Castleton Rd	Mottingham & Chislehurst
Cockmannings Rd	Cray Valley East
Cowper Rd	Bromley Common & Keston
Crest Rd	Hayes & Coney Hall
Downsbridge Road	Copers Cope
Durham Av	Shortlands
Eden Park Av	Kelsey & Eden Park
Elwill Way	Shortlands
Grovelands Rd	Kelsey & Eden Park
Havelock Rd	Bromley Town
Homesdale Rd	Bromley Town
Homestead Rd	Chelsfield & Pratts Bottom
Lower Rd	Cray Valley East
Lynton Av	Cray Valley East
Manor Way	Kelsey & Eden Park
Martins Rd	Bromley Town
Melvin Rd	Penge & Cator
Nightingale La	Bickley
Princes Av	Petts Wood & Knoll
Rochester Av	Bromley Town
Samos Rd	Clock House
Sayes Court Rd	Cray Valley West
Shortlands Rd	Shortlands
South View	Bromley Town
Southlands Rd	Bromley Common & Keston
St Georges Rd	Copers Cope
Sylvan Way	Hayes & Coney Hall
Tintage Rd	Orpington
Union Rd	Bromley Common & Keston
West Way	Petts Wood & Knoll
Wynford Gro	Cray Valley West
Yester Rd	Bickley

Proposed Footway Resurfacing Schemes 2016/17

ROAD	WARD
Avenue Road	Clock House
Avondale Road	Plaistow & Sundridge
Barnfield Wood Close	West Wickham
Bedford Road	Orpington
Cloonmore Avenue	Chelsfield & Pratts Bottom
Court Farm Road	Mottingham & Chislehurst North
Eden Way	Kelsey & Eden Park
Farnborough Hill	Chelsfield & Pratts Bottom
Florence Road	Bromley Town
Hillcrest Road	Plaistow & Sundridge
Ickleton Road	Mottingham & Chislehurst North
Kendall Road	Clock House
Langley Road	Kelsey & Eden Park
Lawrie Park Crescent	Crystal Palace
Linslade Road	Chelsfield & Pratts Bottom
Madeira Avenue	Bromley Town
Main Road	Biggin Hill
Oakhill Road	Petts Wood & Knoll
Phoenix Road	Penge & Cator
Ramsden Road	Orpington
School Road	Chislehurst
Stanhope Grove	Kelsey & Eden Park
Station Road	Bromley Town/Plaistow & Sundridge
Summer Hill	Chislehurst
The Avenue	Copers Cope
Thesiger Road	Penge & Cator
Thornsett Road	Clock House
Towncourt Crescent	Petts Wood & Knoll
Waring Drive	Chelsfield & Pratts Bottom
Wickham Way	Shortlands
Woodland Way	Petts Wood & Knoll

Proposed Carriageway Resurfacing Schemes for Future Years

ROAD	WARD
Blakeney Rd	Clock House
Brabourne Rise	Shortlands
Castleton Rd	Mottingham & Chislehurst
Chalk Pit Av	Cray Valley East
Church Hill Wood	Orpington
Crest Rd	Hayes & Coney Hall
Drayton Av	Farnborough & Crofton
Elwill Way	Shortlands
Fairfield Rd	Plaistow & Sundridge
Farleigh Av	Hayes & Coney Hall
Forde Av	Bromley Town
Goddington La	Orpington
Homefield Rd	Bickley
Kedleston Dri	Cray Valley West
Lansdowne Av	Farnborough & Crofton
Link Way	Bromley Common & Keston
Meaford Way	Penge & Cator
Mells Cres	Mottingham & Chislehurst
Mountfield Way	Cray Valley East
Oaklands Rd	Bromley Town
Park Rd	Chislehurst
Plantation Dri	Orpington
Portland Rd	Mottingham & Chislehurst
Quilter Rd	Orpington
Robin Way	Cray Valley West
St.Mary's Av	Shortlands
Stambourne Way	West Wickham
Surrey Rd	West Wickham
Sussex Rd	West Wickham
The Grove	West Wickham
Warren Av	Chelsfield & Pratts Bottom
Windsor Dri	Chelsfield & Pratts Bottom

Proposed Footway Resurfacing Schemes for Future Years

ROAD	WARD
Aberdare Close	West Wickham
Acacia Close	Petts Wood & Knoll
Bargrove Close	Crystal Palace
Belvedere Road	Crystal Palace
Berwick Way	Orpington
Camelot Close	Biggin Hill
Cedars Rd	Clock House
Churchill Way	Biggin Hill
Cumberland Road	Shortlands
Curzon Close	Farnborough & Crofton
Eccleston Close	Farnborough & Crofton
Elmlee Close	Chislehurst
Everglade	Biggin Hill
Faraday Way	Cray Valley East
Foley Road	Biggin Hill
Hamlet Road	Crystal Palace
Hawes Road	Plaistow & Sundridge
Highfield Road	Bickley
Highwood Close	Farnborough & Crofton
Homefield Rise	Orpington
Irene Road	Petts Wood & Knoll
Lebanon Gdns	Biggin Hill
Lubbock Road	Chislehurst
Madeline Road	Crystal Palace
Melody Road	Biggin Hill
Monks Way	Kelsey & Eden Park
Nightingale Close	Biggin Hill
Norheads La	Biggin Hill
Norman Close	Farnborough & Crofton
Oak Grove Road	Penge & Cator
Oakfield Road	Penge & Cator
Oast House Way	Cray Valley East
Palace Road	Crystal Palace
Petten Close	Orpington
Pleydell Av	Crystal Palace
Polesteeple Hill	Biggin Hill
Pound Close	Farnborough & Crofton
Rosecroft Close	Darwin

Proposed Footway Resurfacing Schemes for Future Years (Continued)

ROAD	WARD
Seymour Villas	Crystal Palace
Sheldon Close	Penge & Cator
Sheridan Way	Clock House
Springpark Drive	Copers Cope
Starts Hill Road	Farnborough & Crofton
Stock Hill	Biggin Hill
Sunningvale	Biggin Hill
Swievelands Road	Biggin Hill
The Crescent	West Wickham
The Grove	Biggin Hill
Thirlmere Rise	Plaistow & Sundridge
Thornsett Place	Clock House
Timbertop Road	Biggin Hill
Tintagel Road	Orpington
Tudor Gdns	West Wickham
Valley View	Biggin Hill
Victoria Gdns	Biggin Hill
Wickham Way	Shortlands
William Booth Rd	Crystal Palace
Wilmar Gdns	West Wickham
Wolfe Close	Hayes & Coney Hall
Woodbury Close	Darwin
Wyvern Close	Orpington
Yester Road	Bickley

Proposed TfL Funded Works 2016/17
Carriageway Schemes on Principal Roads

ROAD	WARD
Bromley Road	Chislehurst
Crofton Road	Farnborough And Crofton
Chislehurst Road/High Street Orpington	Orpington
Croydon Road	Kelsey And Eden Park
High Street Beckenham	Copers Cope

Proposed TfL Funded Works 2016/17

Bridge Assessment & Strengthening Bid To TfL 2016/17

BRIDGES AND STRUCTURES BID	FURTHER DETAILS		FUNDING £K		
	LBB STRUCTURE	TREATMENT	2016/17	2017/18	2018/19
Leamington Avenue Bridge	Y	S	20	105	5
Long Meadows Close Retaining Wall	Y	S	20	140	5
Sevenoaks Way Retaining Wall	Y	S	20	100	5
Parapet Strengthening	Y	M	20	15	10
Maintenance Safety	Y	M	15	50	50
Waterproofing	Y	M	60	60	60
Bishops Avenue Culvert	Y	S	20	166	5
Brooklyn Road Culvert	Y	I	2	2	2
Lych Gate Footbridge	Y	I	15	1	0
Kingsway Bridge	Y	M	50	1	0
Aldersmead Road Bridge	Y	M	50	1	0
Crystal Palace Subway Inc Walls	Y	S/M	450	50	0
Bridge Road Bridge (508)	N	A	6	0	0
Bridge Road Bridge (508)	N	A	6	0	0
Crofton Lane Bridge	N	A	44	0	0
Crofton Lane Footbridge	Y	A	30	0	0
Sackville Avenue Bridge	Y	S	5	55	450
Wendover Road Bridge	Y	S	40	150	0
Wendover Road Footbridge	Y	A	30	0	0
Plaistow Lane Bridge	N	I	1	0	0
Beddington Road Rw	Y	I	15	0	0
Marion Crescent	Y	I	15	0	0
Hillingdale Road Rw	Y	I	10	0	0
Glassmill Lane Rw	Y	S	10	30	2
Crab Hill Bridge	N	I/S	100		
Total			1054	926	594

KEY

- S Strengthening
M Maintenance
I Interim Measures
A Assessment