Highway Maintenance Plan

Carriageways and Footways

Routine and Reactive Maintenance

Planned Maintenance

September 2013

www.enfield.gov.uk
Highway Services
Environment
London Borough of Enfield
Contents:

Introduction 2

Enfield’s Highway Management 2

Sustainability 2

Safety Inspections 2

Condition surveys 3
  Principal and Classified Roads 3
  Borough Roads 3

Customer Satisfaction surveys 3

Routine and Reactive Maintenance 4
  Reactive Maintenance - Intervention Levels 4
  Reactive Maintenance - Response Times 4
  Routine Maintenance 5
  Treatments (Routine and Reactive Maintenance) 5

Planned Maintenance 6
  Scheme Prioritisation 6
  Carriageway Treatments 7
  Footway Treatments 8
  Footway Crossings 9
  Programme Approval and Forward Plan 9

Asset Depreciation, Asset Improvement and Whole of Government Accounts Reporting 9

Contacting Enfield Council 10
Introduction

This Highway Maintenance Plan (HMP) contains the key elements of the Council’s highway maintenance practices in relation to reactive, routine and planned capital maintenance. It describes the current processes and procedures that are utilised to maintain carriageway and footways.

Enfield’s Highway Management

Enfield is continuously developing its asset management framework. All information and data relating to carriageway and footway maintenance is held within the Exor Highways Management System and other local data bases. Through on going work to fully utilize the Exor Highways Management System, information held in local data basis will be brought into the Exor system.

Sustainability

The practices contained in this Highway Maintenance Plan are based, as far as is reasonably practicable, on the most sustainable whole life approach to design, specification of materials and construction methods. Such examples include the specification of durable materials and designs, recycling and re-using materials where possible, prioritising repairs and maintenance, undertaking treatments in a timely manner and using innovative techniques often developed through early contractor involvement. A sustained approach to maintaining Enfield’s roads and pavements will assist in reducing whole life costs and ensure continued levels of serviceability of the highway network.

Safety Inspections

Inspector’s reports will feed into reactive maintenance responses in accordance with current intervention levels and into the prioritisation model for planned maintenance of both carriageways and footways.

The frequency of carriageway safety inspections is as follows: -

<table>
<thead>
<tr>
<th>Road Category</th>
<th>Frequency of safety Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Roads</td>
<td>Monthly</td>
</tr>
<tr>
<td>Busy and higher risk locations such as outside schools and old people’s homes.</td>
<td>Monthly</td>
</tr>
<tr>
<td>Local Roads</td>
<td>6 Monthly</td>
</tr>
</tbody>
</table>
The frequency of footway safety inspections is as follows:

<table>
<thead>
<tr>
<th>Footway Category</th>
<th>Frequency of safety Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Footways adjacent to Principal roads and other footways around shops, schools and old people’s homes</td>
<td>Monthly</td>
</tr>
<tr>
<td>All other footways</td>
<td>6 Monthly</td>
</tr>
</tbody>
</table>

**Condition Surveys**

**Principal and Classified Roads Condition Surveys:**

Enfield continues to support pan London Scanner and DVI surveys of Principal and Classified Road carriageways and Scrim surveys of its Principal Roads. These surveys are undertaken through the London Borough of Hammersmith and Fulham.

**Borough Roads Condition Surveys:**

A full DVI survey of all (public adopted) carriageways and footways was completed in September 2013 and loaded onto the UKPMS module within Exor. This will set the basis for future maintenance prioritisation, depreciation modelling and WGA submissions.

**Customer Satisfaction Surveys**

Results and trends from residents’ surveys are analysed to enable Highway Services to understand customers’ concerns and identify where strategies have positive feedback. From these findings, alongside other existing forms of intelligence, such as performance and condition, an action plan has been created that will endeavour to improve customer satisfaction. Many of the outcomes of this action plan have been incorporated into this Highway Maintenance Plan.
Routine and Reactive Maintenance

Reactive Maintenance - Intervention Levels

Enfield’s intervention levels for response under reactive maintenance are as follows:

Within the carriageway –

- a step \( \geq 40 \text{ mm} \) in the carriageway generally
- a step \( \geq 25 \text{ mm} \) at pedestrian crossings
- a step \( \geq 25 \text{ mm} \) at any natural pedestrian crossing point where due to circumstances of the road layout pedestrians might be “channelled” across the carriageway

Within the footway –

- a step \( \geq 25 \text{ mm} \)

Highway Officers will make an on-site professional judgement on the degree of risk, taking into account a number of site specific parameters when they decide whether a defect requires treatment and how quickly it needs to be rectified. These parameters include the following:

- the depth, surface area or other extent of the defect;
- the location of a defect relative to other features, such as junctions or bends;
- the location of the defect relative to vulnerable users.

Reactive Maintenance - Response Times

The response time for rectifying a defect will depend on the defect categorisation which will be ascertained at the time of inspection and be dependant on the risk the defect poses to road users.

Enfield classes highway defects into three categories as follows:

- **Category 1** – defects that will require urgent attention i.e. within 24 hours;
- **Category 3** – defects where, following a risk assessment, are deemed not to represent an immediate or imminent hazard or risk of short term structural deterioration. Such defects may have safety implications, although of a far lesser significance than Category 1 defects, but are more likely to have serviceability or sustainability implications i.e. within 7 days;
Category 2 – defects where, based on an assessment of the risks involved taking into account the nature and location, a longer response time would be acceptable i.e. within 28 days.

Routine Maintenance

Routine maintenance generally applies to the cyclic maintenance of other aspects of the highway infrastructure. A high proportion of routine work applicable to carriageways and footways will be determined from category 2 defects reported during safety inspections resulting in minor works and patching.

Treatments (Routine and Reactive Maintenance)

Carriageways:

Standard carriageway defect treatment (typically potholes) – defect treatments in carriageways will consist of cutting back the defect to sound construction and infilling with 10mm bituminous macadam.

Patching – Where a number of potholes exist within a small area or the area includes other surfacing defects, larger patch repairs may be considered.

Quick Fix – following a period of adverse weather, which results in higher than normal carriageway defects, a strategy of quick fix operations may be instructed under which ‘find and fix’ teams will operate across the borough in which potholes are made safe by infilling with a quick fix repair compound. This is to ensure the network is in a safe condition and to be able to deal with the increased number of reactive repairs within reasonable timescales. This will only be continued as long as is necessary to make the network safe and standard maintenance practices will be resumed as soon as possible.

Footways:

Bituminous Macadam - treatments in bituminous macadam footways will consist of cutting back the defect to sound construction and infilling with 6mm or 10mm bituminous macadam.

Paving – broken artificial stone paving (asp) that exceeds the intervention criteria will be taken up and disposed of and new asp laid to match existing.
Planned Maintenance

Scheme Prioritisation

Schemes for inclusion within the capital carriageway and footway renewal programme will be prepared using information from the following sources:

- Condition survey data;
- Visual condition assessments from the highway inspectors and engineers, based on local knowledge; and
- Complaints and requests from residents and Members.

Condition (surface and structure), future life expectancy and network importance will be the key factors in prioritising both carriageways and footways for treatment.

Planned maintenance priorities need to ensure the most effective use of budgets and the most cost effective treatment at the right time for whole life asset management and improved customer satisfaction. Planned intervention can lead to savings in the long term by treating deterioration early. Enfield’s road network has generally not deteriorated due to a sustained capital investment over the last six years, but it still has a number of carriageways which are life expired and in need of treatment. Therefore until such backlog can be treated, the principle of worst first will form a significant element of the Council’s scheme prioritisation.

Adverse winter weather can result in some roads deteriorating to a greater extent than others and therefore it may be necessary to substitute these roads into the programme throughout the year.

In addition to identified full carriageway schemes, partial resurfacing of carriageways will also be undertaken in order to treat specific areas of carriageway, where treatment of the whole length of a longer road cannot be justified.

Footways will be assessed and treated on an individual section basis, not a whole road basis, in order to maximise the value from limited funding by targeting section of footways which are in the worst condition.

The continued high level of statutory utility works within Enfield can affect the programme of works. In particular, on going extensive water mains and service renewal works by Thames Water Utilities.
Carriageway Treatments

Reconstruction:

Full depth reconstruction is expensive and because of the duration of the work can have network management implications. A significant number of Enfield’s unclassified roads require reconstruction with modern bound material to replace original fill material and water bound aggregates previously used as a sub base. This however, would have a significant cost implication and would concentrate the capital programme on a small number of roads to the detriment of maintaining the wider network. Reconstruction will therefore only be undertaken where serious foundation issues exist and on the greater trafficked roads.

Resurfacing:

The depth of resurfacing will depend on the condition and substructure of the road. Where possible plane off and resurface to 40mm will be undertaken, but because of the generally poor base layers on Enfield’s borough road network, 100mm is the norm.

Thin Surfacing:

Proprietary thin surfacing systems laid up to 40mm thick will be considered where their use achieves greater strength and the need to reduce surfacing thickness is required. However, on many local roads, due to poor base material, its use has not proved durable.

Surface Applied Road Surfacing Systems:

Slurry sealing / micro-asphalt treatments will be considered where failure is identified early and this form of intervention (assessed within the prioritisation model) is appropriate.

Materials:

The use of Stone Mastic Asphalt (SMA) on some local roads, particularly where base layers are poor, has not proved to be durable and there has been early failure of some material in some instances. Following a successful switch to Hot Rolled Asphalt (HRA) in the 2011/12 programme, this will be continued in future programmes, where appropriate.

Strategy for Dealing with Tar:

Coal tar was widely used as a binder in carriageway construction up until the mid 1980s and exists within the lower layers of some of Enfield’s roads. Tar is
classified as carcinogenic due to its concentration of Polycyclic Aromatic Hydrocarbons and where it is found in high concentrations its removal and disposal has a significant environmental impact and is consequently expensive to undertake.

A review was undertaken into treatment methods for deep resurfacing and reconstruction. Following successful use in the 2011/12 programme, a system of partial reconstruction by recycling and strengthening the existing sub base will continue to be used rotavating the lower carriageway layers in situ and reusing it as carriageway sub base. This method will also be considered for reconstruction schemes even where tar is not present and it is a cheaper and more sustainable option to traditional reconstruction methods.

A programme of core testing potentially affected roads will continue to be undertaken to determine tar presence and concentration and inform decisions on action to be taken, including design of cement additives for the in-situ reconstruction treatment.

Joint Maintenance:

A programme of joint repairs to concrete roads will be continued in order to maintain and reduce the rate of further deterioration of the extensive network of concrete roads in residential areas.

Footway Treatments

Footway renewal treatment needs to recognise the need for greater efficiencies in material choices and ensure appropriate materials are used, given the vulnerability to vehicle damage in many areas.

Bituminous footways will generally be used in rural locations, residential streets and footways susceptible to vehicle overrun.

Artificial stone paving will generally be used in high profile locations and shopping parades. Paving will be laid on appropriate foundations designed to meet the requirements of individual schemes. Fibre reinforced slabs will be used in appropriate locations.

Where artificial stone paving is used in areas where vehicle overrun is anticipated, consideration will be given to an appropriate kerb edge treatment.

Specific lengths of footway requiring renewal will be treated rather than adopting a whole street approach. If it is unlikely that further sections will be renewed then treatment will match existing finishes.

Opportunity will also be taken to explore improvements to the footway and streetscape when undertaking such works, such as incorporation of grass verges and tree planting.
Footway Crossings

Opportunity will continue to be taken during footway schemes to invite applications for the construction of footway crossings at a discounted construction cost as part of a borough wide programme to deal with situations where residents drive across the footway illegally. In order to protect new footway schemes from damage, bollards may be erected where footway crossovers are not installed, are of insufficient width or front boundary treatments are insufficient to constrain vehicle movements to the footway crossover.

Programme Approval and Forward Plan

The programme of planned maintenance schemes is presented to the Cabinet Member for Environment in March / April each year following approval of the capital allocation by Full Council.

Work on the programme will generally commence in May, subject to s58 notices and any other notice and coordination issues.

Asset Depreciation, Asset Improvement and Whole of Government Accounts Reporting

The treatments and the revised life expectancy of each asset treated will be included against deterioration modelling and asset valuation for the Whole of Government Accounts (WGA) returns.
Contacting Enfield Council

For further information regarding Enfield’s highway maintenance policies and strategies, or for further copies of this plan, or if you would like this document in another format, please contact Highway Services.

highway.services@enfield.gov.uk

You can now report a highway defect on line at -

www.enfield.gov.uk

Information can also be found on the Council’s web site for information about road works, crossover applications, skips and scaffolding licences etc

To report a defect or other highway information please phone: -

0208 379 1000

This is also a 24 hour emergency number to report dangerous occurrences or emergencies on the highway.

To report a fault with a street light (including illuminated signs) please phone the Council’s contractor direct: -

0800 0326788

If you prefer to write, please write to the following address: -

Highway Services
PO Box 50
Civic Centre
Silver Street
Enfield
EN1 3XA