Newcastle City Council

Highway Asset Management

Operational Manual

Document Information

Title	Highway Asset Management Operational Manual
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Description	This document details how we manage and maintain the highway assets

Document History

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1.0	Draft	TBC	P Holmes Principal Engineer	Not applicable

Document Control

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1.0	Final	TBC	Peter Gray, Head of Highways and Local Services

Contents

1. Introduction

1.1 Purpose

This manual records how Newcastle City Council manages and maintains the council's highway assets; specifically how we:

- Record and respond to customer contacts
- Inspect
- Categorise and prioritise reactive repairs
- Assess condition
- Identify and prioritise sites for works
- Choose the materials used
- Prepare works programmes
- Procure and manage works

Separate sections are provided for carriageways, footways, street lighting, structures, traffic management systems, green spaces and street furniture.

1.2 Use

This manual will be used as a reference by those tasked with the management of the road asset. It contains details of important policies and procedures used by the council to maintain and operate the road asset.

1.3 Asset Management Planning Documents

The HAM Operational Manual complements the council's Highway Asset Management Plan (HAMP). The HAMP defines the strategies adopted for each asset group and sets out:

- Predicted future changes in demand and the major issues influencing strategies
- Levels of service required and how they will be measured and reported
- The investment required in the maintenance, renewal and replacement of assets required to meet the levels of service
- Financial projections and prediction of long term costs and impacts
- The risks associated with the plan

This manual is reviewed annually and is a reference when the Annual Status and Options Report is prepared.

1.4 Improvements

This manual deals solely with maintenance. Details of how the council plans for improvements to the network such as road safety schemes and traffic management schemes can be found in the Network Management Plan and associated documents.

2. Service Management

2.1 The Asset

2.1.1Inventory Assets Covered in this manual

The assets that are included in this manual are shown in table 2.1 below.

Table 2.1 – Highway Asset Groupings

Asset Group	Asset Elements
Carriageways	Carriageways, highway drainage including road gullies and road markings
Footways, Cycleways and Hard Verges	Footways, cycleways (dedicated and shared use), hard paved verges, highway drainage including footway gullies
Highway Green Spaces	Grass verges, trees, hedges, flower and shrub beds, and planters located within the highway
Traffic Signals	Signalised junctions, pedestrian crossings, school crossing lights, SCOOT and UTC systems
Signs, Barriers and Street Furniture	Advance direction signs, direction signs, warning signs, information signs, sign posts, street name plates, non-illuminated bollards, seats, council owned bus shelters, highway fences, pedestrian barriers, safety barriers, and other street furniture
Bridges & Other Highway Structures	Bridges, subways, culverts, retaining walls, high mast lighting columns, tunnels, stairs, river walls & revetments

Assets that have been specifically excluded from this manual are:

- Street Lighting - management and maintenance covered by PFI contract
- Winter Maintenance - Services covered in winter maintenance plan
- Public Rights of Way
- Private Roads
- Private Bridges (Although reference is made of their numbers and location)
- Water related infrastructure other than structures that do not form part of the road network

2.2 Works Programme

2.2.1Existing Programmes

Individual Programmes for each asset group are developed each year with different asset groups dealing differently with the forward programming of works as detailed in the relevant section below.

2.2.2Programme Coordination

Each individual programme, including those derived from the LTP process is provided to the Head of Highways and Local Services as a 12 month dedicated scheme programme together with an indicative programme of works for years 2 & 3. All parties are made aware of other programmes and the opportunity is taken to highlight conflicts and opportunities for efficiency savings.

2.3 Customer Expectations

2.3.1Customer Satisfaction Surveys

The Highway Asset Manager agrees and initiates a programme of customer satisfaction surveys to provide information on customer expectations. The latest programme and results are shown in the Annual Status and Options Report.

2.3.2Customer Contact/Relationship Management

NCC use the “ENVIROCALL” Customer Relationship Management (CRM) system. All contacts to the council are registered on the system along with details of the enquiry, the date of enquiry and the date that a response is required.

Where the enquiry is a request for work this is passed on to the highway control assistants who inspect the site and determine whether or not action is required.

The Highway Control Assistant will contact the customer to report on the outcome of the enquiry and will order any necessary works via the “SYMOLOGY” system.

The response date and works ordered will be recorded within “ENVIROCALL” and the Highway Control Assistants arrange for the "ENVIROCALL" system to be updated with details of any actions and dates complete once the works have been completed.

A report is prepared annually on the types and subjects of the customer contacts recorded, which is used to aid in the determination of customer expectations.

2.4 Utility Activity

Co-ordination of utility and authority works is undertaken by the street works team in accordance with the New Roads and Street Works Act. Quarterly co-ordination meetings are attended by all statutory undertakers and the street works team with design/construction officers as and when required.

These are preceded by the issuing of a list of notified works on the highway (Local Authority and Statutory Undertakers) approximately 1 week before the meeting that is updated and returned to the street works team, with the full updated list being made available to all parties at the co-ordination meeting. Any issues arising such as conflicts or opportunities for joint working are discussed at the meeting and a final programme of works for the short, medium and long term, is then agreed.

Short term co-ordination is also undertaken, on a case by case basis, by the street works team where longer notification periods are not available or required by legislation

2.5 Network Availability Considerations

Newcastle City Council has identified a number of traffic sensitive routes with associated working time restrictions in the NMP, where working time restrictions are prescribed, which can affect the cost of carrying out works on the asset.

In order to minimise disruption to traffic officers take account of these routes and restrictions when planning and programming works on the highway and consult with other bodies as necessary to avoid conflict with other events that may involve traffic management that could impact on construction works.

2.6 Construction/Asset Acquisition

New assets are typically acquired from either adoption or from taking over improvement works completed by contractors on behalf of the council. This is normally managed by the development control team using Section 38, 278 or 106 legal agreements. Newly constructed 'adoptable' streets are only adopted once they meet current council specifications.

Where new assets are commissioned from within the authority, the schemes will only be introduced into the Capital Programme following their approval by the Council.

The long term costs of new works are assessed and the on-going maintenance liability is included within the design calculations or added to the service plan. The Council is now investigating the possibility of requiring delegated sums from the developers for the on-going maintenance of new infrastructure.

Records of all adoptions are provided to the Streetworks and Highway Asset Management team with information added to the Street Gazetteer, and the Symology database this in turn updates the list of streets to be inspected.

Where internal works entail a change to the existing infrastructure, as built records are provided to the Highway Asset Management team for inclusion within the Symology database and Street Gazeteer.

2.7 Risk

Newcastle City Council have adopted a risk based approach to inform the allocation of maintenance funding and the prioritisation of individual schemes.

2.8 Performance Measurement

Highways and Local Services have developed a suite of key performance indicators, National and Local to monitor and report upon the traffic management and maintenance activities of the directorate, details of which can be found in the annual status and options report.

All National and Local Performance Indicators are reported on an annual basis, with information being supplied by the responsible Principal Engineer to the Principal Engineer responsible for Highway Asset Manager where they are reviewed and identified for improvement actions where necessary.

3. Asset Management

3.1 Asset Register

Details of the asset register for each asset is contained in the Data Management Plan and Life Cycle Plans.

3.1.1Local Street Gazetteer

The Local Street Gazetteer (LSG) holds details of all roads within the Newcastle City Council boundary and identifies whether the road is local authority or privately owned.

Updates to the LSG are undertaken by the Highway Asset Management Team who receive notification of road construction consents from the Development Control Section.

LSG updates are passed to the National Street Gazetteer (NSG) monthly who update street name and numbering details in the NSG.

3.2 Inspection and Assessment Regime

3.2.1Reasons for Inspection and Assessment

NCC inspect the highway in order to provide the information needed for managing:

- Network Safety
- Network Serviceability
- Network Sustainability

And for developing the maintenance programme as part of the Highway Asset Management Plan.

Inspections need to be systematic and consistent, especially where there are implications for safety and legal proceedings. Under the Freedom of Information Act records may have to be made available for public inspection and reference.

3.2.2Types of Inspection and Assessment and Their Frequencies

Details of the types and frequencies of the various inspections and assessments are detailed in the individual Life Cycle Plans for each of the assets.

3.3 Reactive Maintenance

Reactive maintenance is initiated by the Highway Inspectors / Highway Control Assistants following their safety/service inspections using the prioritisation system detailed above.

Each defect is noted separately and photographed using a hand held electronic recording device. Following completion of the day's inspections the records held in the hand held device are downloaded into SYMOLOGY where work tickets are generated automatically then forwarded to the Operations teams.

The work tickets are automatically logged onto the works system including the dates by which the works should be undertaken. All works undertaken against the tickets are logged and following completion the records are closed off.

3.3.1Prioritisation and Categorisation of Repairs

The prioritisation and categorisation of repairs are set out in the Life Cycle plans for each of the assets.

3.4 Cyclic Maintenance

Cyclic Maintenance is the regular on-going day-to-day work that comprises servicing rather than repair and is necessary to keep assets operating, Cyclic maintenance activities for each of the assets are detailed in the Life Cycle Plans.

3.5 Planned Maintenance: Renewals

Renewal/replacement work is major planned (programmed) work that does not increase the asset's designed capacity, but restores, rehabilitates, replaces or renews an existing asset to its original capacity.

Details of renewal activities are detailed in the Life Cycle Plans for each of the Assets. The Principal Engineer for each asset renewal project is responsible for the selection of appropriate treatments.

3.6 Scheme Prioritisation and Works Programme

3.6.1Unclassified Roads and Footways

NCC have introduced a procedure for identifying possible renewal schemes on the unclassified road and footway network using the GIS mapping system.

Initially the relevant condition data, is plotted onto a map showing those areas that should be considered for treatment, other details are also considered using separate plans such as accident clusters; slips, trips & falls & third party claims.

Also taken into consideration is the location of buildings that may lead to an increase in vulnerable pedestrian numbers such as care homes, schools etc. In addition the Highway Control Assistants are asked to identify where repeated visits for reactive repairs have taken place.

From this a list of possible schemes is produced that meet the condition technical criteria for some form of renewals work to be undertaken on a ward by ward basis. Where there is available budget these framed choices are provided to the ward members from which an agreed priority list is derived taking into account the other local factors set out above such that a programme of works can be produced for each ward up to the funding limit available.

3.6.2Principal Roads

Schemes on Principal roads are prioritised initially using skid resistance information the results of the "griptester" skid resistance investigations are entered processed in-house computer programme that prioritises sites by their percentage below the investigatory level.

This list is then re-prioritised following an on-site risk assessment, which is undertaken based on the factors set out in advice note HD28/04 including accident history information.

Additional schemes are added to the list based on carriageway condition assessed by the "SCANNER" and "CVI" methods. These are then prioritised using an effectiveness ratio of percentage of area in need of treatment against the area to be treated together with traffic figures, accident data useage and synergy with other highway works.

The final selection criteria is approved each year by the portfolio member with a one year construction programme to meet the available budget. A provisional list of prioritised schemes for years 2 and 3 are produced forming a 3 year rolling programme based on anticipated future budgets and allocations that is reviewed every year and contained in the AS&OR..

3.6.3Non Principal Classified Roads

Additional schemes are added to the list based on carriageway condition assessed by the “SCANNER” and "CVI" methods and these are then prioritised using an effectiveness ratio of percentage of area in need of treatment against the area to be treated together with traffic figures, accident data useage and synergy with other highway works.

The final selection criteria is approved each year by the portfolio member with a one year construction programme to meet the available budget. A provisional list of prioritised schemes for years 2 and 3 are produced forming a 3 year rolling programme based on anticipated future budgets and allocations that is reviewed every year and contained in the AS&OR

3.6.4Treatments and Construction

The actual treatments to be undertaken at each location is decided using the knowledge and judgement of the experienced officers within the authority. An on-site engineers assessment is undertaken with early contractor involvement being seen as key such that the site inspection will be attended by representatives of the organisation that it is intended will be undertaking the works.

During and following the site visit agreement will be reached between the design engineer and the highways manager for internal works and/or a contractors representative for external works as to the treatment type and quantities of works to be undertaken, following which the engineer will order the works using the Symology works ordering system.

3.6.5Structures

Planned maintenance schemes are initially identified following the results of the Bridge inspections they are then ranked in order of importance by using a number of criteria.

Firstly safety concerns are addressed by analysing the condition of the critical components, where necessary emergency or make safe works are undertaken.

Secondly condition of other elements are analysed, severity and extent, to prioritise the necessary works along with the importance of the route carried or crossed.

The list of possible schemes is placed in priority order and works are undertaken up to the funding limit available, with additional schemes being placed on a reserve list.

3.6.6Traffic Signals

Planned Maintenance schemes are prioritised using the following criteria:

- Scheme Selection: The majority of the proposed maintenance schemes emanate from inspection reports, which are collected throughout the year and recorded on the database.

- Scheme Validation: Many of the schemes are put forward due to the obsolescence of the existing equipment, however at present the need for works far outstrips the available budget, so the schemes are ranked on a worst first basis.

- Provisional Programme of Works: Should sufficient funding become available the works programme will take into account the type and age of equipment in order to reduce the need for maintenance knowledge of particular types of obsolete equipment and to reduce the amount of salvaged equipment required to be stored.

3.7 Works and Procurement Arrangements

At present works are commissioned through a number of routes although procurement methods are constantly being reviewed in line with Council procedures.

Generally works for all planned and reactive maintenance works (design and construction) are carried out using in house resources. Framework contracts are also in place for using external contractors to provide specialist services and/or additional capacity when required,

All works ordered through framework contracts or internal agreements are actioned by creating a works ticket within the Symology Insight asset management system. The works tickets are provided to the contractors along with construction details and a bill of quantities when appropriate.

3.8 Works Programme

A list of schemes is produced in priority order using the above criteria a one year programme is developed to match the funding available each year.

The list of schemes is used to assess the amount of works that could be undertaken in subsequent years should funding be made available.