Rotherham Metropolitan Borough Council

Regeneration & Environment Services

Community Safety and Street Scene

Highway Asset Management Plan

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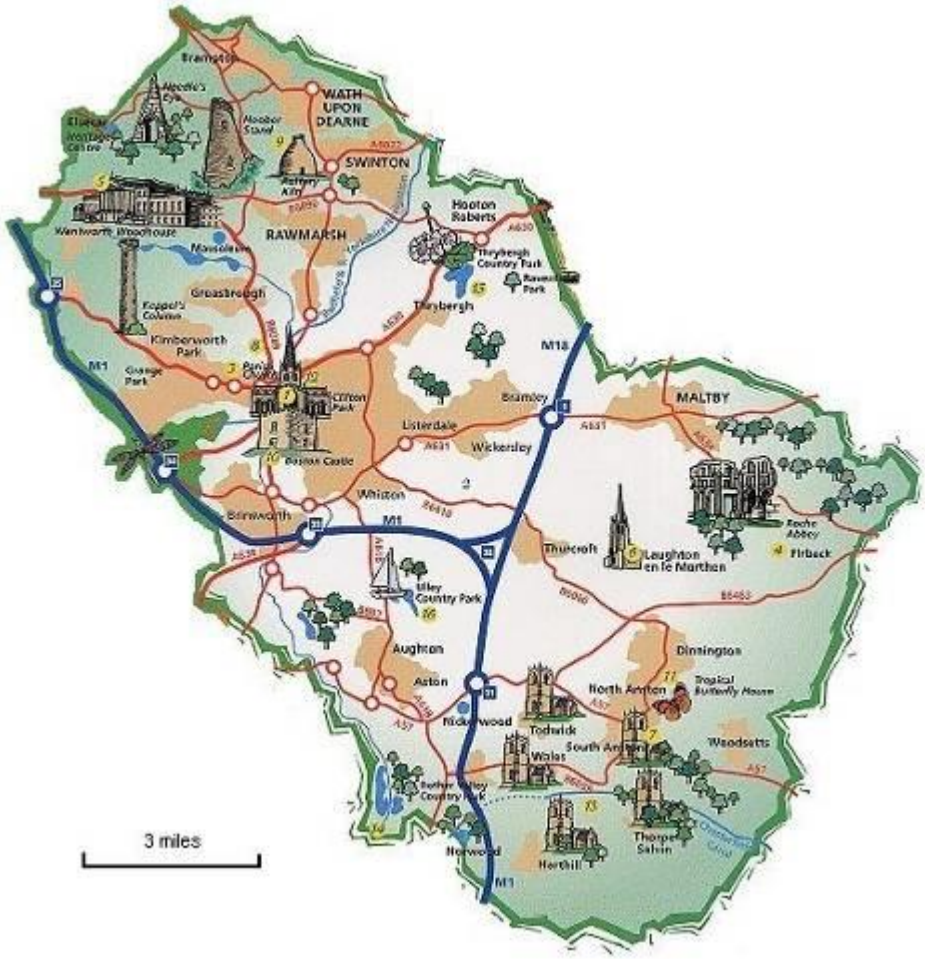


Rotherham is a town in South Yorkshire, England, which together with its conurbation and outlying settlements to the north, south and south-east form the Metropolitan Borough of Rotherham, with a recorded population of 265,800 in accordance with the office for national census 2021. Historically in the West Riding of Yorkshire, its central area is on the banks of the River Don below its confluence with the River Rother on the road between Sheffield and Doncaster.

Rotherham was well known as a coal mining town as well as a major contributor to the steel industry. Rotherham has three parliamentary constituencies, there are 31 parishes situated across the Rotherham borough with an established network of local councils comprising of two town councils, 59 local Councillors representing 25 wards. Rotherham has boarders with Barnsley (to the north), Doncaster (to the east), North East Derbyshire (to the south west) and Sheffield (to the west)

Rotherham is a constituent member of The South Yorkshire Mayoral Combined Authority. Formed in 2018, the constituent members of the Mayoral Combined Authority are Sheffield, Rotherham, Barnsley and Doncaster Councils.

Rotherham Metropolitan Borough Council (RMBC) is the Highway Authority responsible for the maintenance of 744 miles (1191km) of roads, 1,039 miles (1,667 km) of footway and 258 miles (415 km) of Public rights of Way. 146 highway structures, bridges, and subways, (greater than 1.5m span), 119 signalised junctions and crossings – Pelican, Toucan and Puffin activated 36,402 street lighting columns and 46,880 road gullies, grids, and soakaways. The Council has calculated the total asset value in accordance with requirements of the whole Government accounts to be gross replacement cost of over £1.93 billion and the depreciation replacement cost to be over £1.5 billion. The Highway Asset is most expensive asset the Council is responsible for.

2 INTRODUCTION

2.1 Introduction

The highway network that is managed by RMBC, represents the biggest financial asset that the Council is responsible for, it is therefore essential that it is well managed and maintained.

The highway network has suffered deterioration due to severe weather over a number of years. In recent years the council has recognised that the highway network requires increased investment. It is essential that the available resources are used in the most efficient way to get the maximum value to maintain the highway asset. This Highway Asset Management Plan (HAMP) details the Council's approach to efficiently maintaining the highway network as set out in the Highways Asset Management Policy and Strategy documents.

2.2 Purpose of the Highway Asset Management Plan (HAMP)

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.

The purpose of this HAMP is to identify and set out the maintenance requirements for the highway network in Rotherham in line with the nationally recognised framework. It is based on the principles set out in the Highway Infrastructure Asset Management Guidance (issued May 2013) and the Highway Maintenance Efficiency Programme (HMEP), both commissioned by the Department for Transport (DfT).

The framework can be used as an effective tool when managing the highway network and states that as part of the process it would be useful to take into consideration the following factors:

- A strategic approach over the long term
- Meeting stakeholders' needs
- A systematic approach
- Optimal allocation of resources

- Managing expenditure over the asset lifecycle
- Meeting performance requirements in the most efficient way
- Managing risk
- Operational delivery

The HMEP includes 14 recommendations, which it states should be considered as the minimum requirements to achieve an appropriate level of benefit from asset management. Below is a summary of the recommendations.

1. Asset Management Framework
2. Communications
3. Asset Management Policy
4. Performance Management
5. Asset Data Management
6. Lifecycle Plans
7. Works Programme
8. Leadership and Commitment
9. Making the Case for Asset Management
10. Competencies and Training
11. Risk management
12. Asset Management Systems
13. Performance Monitoring
14. Benchmarking

The HAMP has therefore been set out as an evolving document that will shape, determine and facilitate the long term future methods of managing the highway assets. The continuous development, review and improvement of the HAMP will take into account, asset data, levels of service, performance, lifecycle analysis, whole life costing principals, stakeholder expectation, statutory requirements and funding availability.

Through improving information and analysis of the maintenance of the highway assets, services can be delivered more efficiently. Highway maintenance budgets can then be used to prevent deterioration of the asset as much as possible and optimise the service with available resources. This will also support our priority to maintain a safe highway network.

2.3 Drivers for Highway Asset Management

As the highways asset is a valuable resource, which contributes to the economic viability of our Borough and to the wider Sheffield City Region, it is essential structured management of the asset is put into practice. The main drivers for the HAMP approach have been:

Governmental reports;

- Audit Commission report entitled *Going the Distance: Achieving better value for money in road maintenance* (2011).
- All Party Parliamentary Group on Highway Maintenance report entitled *Managing a valuable asset: Improving local road condition* (Oct 2013).

Local and national transport policy;

- The DfT first recommended in 2004 that HAMP's be produced by local authorities and has continued to promote them.
- Sheffield City Region Local Transport Plan for 2011-2026.

Financial reporting;

- Whole of Government Accounting (WGA) asset valuation for local highway authorities.
- Valuations are required for WGA reporting submitted to HM Treasury annually and also provide a basis for lifecycle analysis.

Budgetary planning issues including;

- Levels in local authority highway maintenance budgets.
- Value for Money principles.
- The Prudential Code - with existing resources becoming increasingly difficult to secure and stretch, the Prudential Code was introduced to encourage authorities to manage assets through 'spend to save' principles. Asset data analysis associated with the HAMP provides the evidence base to enable spend to save and value for money principles to be considered as a viable funding process.

Managing stakeholder expectations;

- The improved information and data produced and collected as part of asset management implementation is useful for providing an understanding of maintenance requirements and constraints of limited budgets. The Rotherham Highways Communication Strategy details the method of informing and notifying stakeholders of our proposed highway asset maintenance.

  Link; https://www.rotherham.gov.uk/transport-streets/rotherham-highways-communications-strategy/5

2.4 Scope of the Highway Asset Management Plan

There are many components that form part of the highway infrastructure and require consideration within management principles. The scope for this HAMP focuses towards the assets of highest value. Comprising of;

- Highway Network (carriageway and footway)
- Drainage
- Street Lighting
- Bridges and Structures
- Traffic Systems

3 IMPLEMENTING ASSET MANAGEMENT

3.1 Good Asset Management

Good asset management is essential in enabling RMBC to effectively deliver highway services to achieve our long-term corporate priorities. Asset management principles enable informed decisions to be made about investment and maintenance funding. Resources can then be targeted at where they are most effective and enable the identification and management of risk associated with our statutory duty to manage and maintain our highways.

The Council recognises the importance of good highway asset management and as such this forms part of the roles and responsibility of the Highway Asset and Drainage Manager. The role is to provide a source of expertise for the Council, as a specialist in highway maintenance, providing guidance to management and other staff where appropriate, including taking a lead role for highway asset management.

3.2 Data Management

Asset inventory information is the foundation stone on which asset management processes are built, since information regarding the network is essential for its efficient and cost-effective management. Rotherham's asset inventory data is held electronically to ensure up to date and accurate information is available. For the highway, Symology Insight contains the relevant information for highway planned and reactive maintenance (pothole repairs) works. Insight also holds the carriageway and footway inspection data. It can be referred to when undertaking any assessment and review of the highway and when responding to customer enquiries.

Table 3.2.1 Rotherham's asset inventory data

Asset Type	Information System
Highway Network	Symology Insight (Aurora – 2025)
Drainage	MapInfo Database Symology Insight / (Aurora 2025) Microsoft Access Microsoft Excel
Street lighting	Deadsure. (Aurora – 2025)
Structures	Bridge station Potential AMEX
Traffic Systems	Traffic Systems spreadsheet

Carriageway condition data surveys are undertaken across the highway network and information analysed using UK Pavement Management System (UKPMS) within Symology Insight software. The UKPMS module is used for calculating Gross Replacement Cost (GRC) and Depreciated Replacement Cost (DRC) for carriageways and footways.

Accuracy and completeness of inventory and condition data, and the management of associated systems is essential. The upkeep of relevant, up to date information is the key to effective management of the network. For a data management system to be effective it is essential that priority is given to its development, operation, and upkeep. For assets not held

on either Insight or Deadsure inventory database, MapInfo tables and spreadsheets have been created to hold information, for example on traffic calming assets These have been created as part of the developing highway asset management approach. The street lighting asset information held on Deadsure is a common database that is shared by all relevant staff who have access to the key information. A visual inspection was undertaken in 2010 to assess the asset and this is constantly updated when reactive maintenance visits are undertaken to street lighting units. In addition, mandatory electrical testing is undertaken every 6 years in line with IEE regulations (Institution of Electrical Engineers). This information is also recorded on the database along with condition data collected at the time of the visit to constantly update the relevant asset information on the register.

The database is flexible in the fact that reports can be easily created to give an overall view of the asset at any one time. This information has been used to develop the forward plan of asset replacement and assist with the lifecycle planning of the street lighting asset.

3.3 Asset Valuation

WGA has been introduced for highways local government accounting. There is a phased introduction to this method, and to moving away from the historical costing method that has traditionally been used, to assess the value of local authority highways assets. The WGA method is based on the value of the assets owned by the highway authority. The figures required are the Gross Replacement Cost (GRC), which represents the value of replacing assets as new and the Depreciated Replacement Cost (DRC) which represents the value of replacing assets in the current state of repair or age. Estimates are calculated on the basis set out in the CIPFA Code of Practice – Guidance to Support Asset Management, Financial Management and Reporting (published March 2013).

Table 3.3.1 shows the 2024 current position.

Table 3.3.1 WGA 2024
Note – GRC = gross cost of replacing as new, DRC = Cost of replacing to its current state

Asset Type	Gross Replacement Cost (GRC)	Depreciation	Depreciated Replacement Cost (DRC)
Carriageways	£1,365,709,000	-£123,459,000	£1,242,250,000
Footways	£238,730,000	-£105,119,000	£133,611,000
Structures (2020 figures)	£244,074,947	-£159,265,441	£84,809,507
Lighting	£59,000,000	-£18,100,000	£40,900,000
Traffic Systems	£15,023,000	-£7,642,000	£7,381,000
Street Furniture	£14,500,000	-£11,050,000	£3,450,000

Valuation requires robust asset information to ensure financial reporting requirements can be met. DRC valuation methods in the CIPFA Code mostly require estimation of the expected lives of the assets and their components and the age of the assets. Alternatively, methods for other asset groups use the condition of the assets to estimate depreciation and hence find the DRC.

3.4 Training and Development

Staff development and competencies required for highway infrastructure asset management has been identified by the Council as a necessity and critical to the management of the assets. Asset data is collected in-house by staff that have been trained on optimising data sets and UKPMS (Symology Ltd.), Whole Government Accounting (CIPFA) and the use of condition data (WCA) with the appropriate systems being regularly updated.

Key officers have been on several comprehensive asset management workshops and training held by Defra and the Environment Agency. The training included the collation and recording of highway asset data, mapping of the data producing flood risk areas and hazard maps, identifying flood risk areas, potential effect on the environment including climate change and planning requirements for future planning applications. The Council's Local Flood Risk Management Strategy and Action Plans identify the need for skilled resources and accuracy in managing highway infrastructure assets. Continuous health checking is carried out by those responsible for the individual asset groups.

Lead Highway Asset Manager and other Managers in Highways have undertaken the Highway Maintenance Efficiency Programme (HMEP) – Asset Management E Learning Toolkit.

This E Learning Toolkit is endorsed by the Chartered Institute of Highways and Transportation (CIHT) and is a 5-module training package developed to provide guidance to those decision makers delivering highway services. The Training is currently under review and relevant officers will undertake the training when it is available.

The team of Highway Inspectors undertake Safety Highway Inspections to identify, record and prioritise the repair of defects which present an immediate danger, or significant inconvenience to users of the highway, or to the structural condition of the highway and assets contained within the highway boundary. Highway Inspectors complete a certification scheme approved by the UK Roads Board and are included on the National Register of Highway Inspectors.

The Code of Practice for Highway Inspection and Assessment (CoPHIA) has been developed with the guidance of the Code of Practice for Highways Maintenance Management (CoPHMM), 'Well managed Highway Infrastructure October 2016' (CoPWMHI) and 'Highway Infrastructure Asset Management Guidance Document May 2013' (HIAMG). This CoPHIA came into force on 01 October 2018 and supports the Council's 'Highway Asset Management Plan' (HAMP). It also takes account of further advice from:

Gallagher Bassett International Limited (Insurers); The Council's Legal Services, Corporate Risk Manager and Insurance and Risk Manager; Kennedys Law (Solicitors) and Plexus (Solicitors)

4 LEVELS OF SERVICE

4.1 Levels of Service

Levels of service refer to a measure of the service quality achieved from highways assets. The level of service reflects the way the service is delivered and how it is perceived by customers. Levels of service include the performance and condition of the asset itself, the quality of the service that the asset provides and the performance of an authority in delivering that service.

Extensive information on the highway services provided by RMBC is available on the Council website and online reporting facilities are easily available through multiple channels.

Rotherham Council actively participates in the National Highways and Transport Network (NHT) public satisfaction survey. The NHT is a National independent benchmarking tool that measures the levels of our Highway services and performance, both regionally and nationally against other local Authorities. The Council also participates in more in-depth benchmarking surveys such as the Association of Public Service Excellence (APSE) and Annual Local Authority Road Maintenance Survey (ALARM) see section 5.4.1 and 5.4.2 respectively.

It is essential that limited resources are targeted to where they will have the greatest effect. The level and type of service provided will therefore be dependent on where and how the funding is prioritised.

In accordance with the HMEP pothole Review “Prevention is Better Than Cure” a review was undertaken to minimise the number of reactive actionable defect repairs (potholes) and where possible provide a first time and permanent repair to these defects, this also contributes to the whole life cost of the network and customer satisfaction. This example is detailed in section 4.5.

Councillors Seminar

Members Seminars have been held annually since 2015. The latest seminar was held in September 2024. Annually local Councillors are invited to provide details of an unclassified road within their ward they would like to nominate to be repaired. The suggested roads are assessed for suitability and if meet agreed criteria will form part of the Councils Highway repair programme. The Highway Repair Programme is updated regularly and is available to view on the Council Web site. Senior Managers in the Highway Asset Team meet monthly with the Cabinet Member responsible for the Service to brief them on the on-going works and agree any amendments.

4.2 Legislative Requirements

Rotherham refers to and complies with a range of legislation, regulations, and guidance in order to determine the level and standards of service provided. Examples of legislation and guidance are identified below list:

Legislation

- Highways Act 1980
- Road Traffic Regulation Act 1984
- New Roads and Streetworks Act 1991
- Railways and Transport Act 2003
- Traffic Management Act (TMA) 2004
- Disability Discrimination Act (DDA) 2005
- Flood and Water Management Act 2010
- Clean Neighbourhoods Act 2005

Guidance documentation

- Traffic Signs and General Directions (1994)
- Well Lit Highways (2004), Code of Practice for Street Lighting
- Management of Highway Structures (2005), Code of Practice for Structures
- Management of Electronic Traffic Equipment (2011), Code of Practice for Traffic Systems
- Well managed Highway Infrastructure October 2016
- Highway Infrastructure Asset Management Guidance Document May 2013

A fundamental part of our activities focuses around:

- The explicit duty to maintain the highway and its assets
- Powers to improve, ease movement and protect highway users
- Duty to co-ordinate activities undertaken on the highway

The introduction of the Traffic Management Act 2004 (TMA) aimed to pull together all the relevant duties and powers in order to assist authorities in managing the highway network and delivering a sustained level of service. Under the TMA local authorities have a network management duty to co-ordinate works on the highway to minimise traffic disruption. This is to ensure the availability of the highway network to service users. RMBC also operates a Street Works Permit scheme based on a Yorkshire wide model.

The permit scheme gives more control over how and when road and street works are undertaken by works promoters. It assesses works conditions and works methodology before granting permission to enter the highway. In some instances, RMBC will direct works promoters to undertake planned works at a less disruptive times of the day or by using a less disruptive form of traffic management.

Through the permit scheme RMBC may also request that promoters undertake works on consecutive calendar days to minimise works durations and when possible, work collaboratively with other promoters to reduce highway network occupancy and congestion.

4.3 Managing Customer Expectations

The expectation of the highway user is an important element in the Highway Asset Management Planning process, as it is for the users' benefit that the service is being provided. There is a need to focus on the requirements of service users and give emphasis to accounting for their needs.

Consultation is an important mechanism for defining and managing customer expectations. Customer surveys can also be used to establish the degree of satisfaction with current levels of service. Specifically, surveys can assist by identifying which aspects of the service are of most importance to the customer (e.g., whether street lighting is more important to customers than salting) and also the degree of satisfaction with particular aspects of the service.

Rotherham undertakes to inspect and survey the highway in order to determine and ensure that the highway is maintained in a safe and serviceable condition to comply with the recommendations of 'RMBC Code of Practice for Highway Inspection and Assessment' and in accordance with the Highway Authorities statutory obligations. Rotherham has developed its own Code of Practice for Highway Inspection and Assessment, which is developed from "Well managed Highway Infrastructure October 2016" and "Highway Infrastructure Asset Management Guidance Document May 2013" and also takes account of further advice from insurers and solicitors. The Council has adopted a risk-based approach to its highway Inspection and Assessment in accordance with the above guidance.

The purpose of the risk assessment is to determine the scale of the risk presented by a defect in order to prioritise the appropriate response. The implementation of a risk-based approach (RBA) to safety highway inspection is set out below. The Council's 'Risk Management Policy and Guide' adopts a '5x5' risk matrix, which is consistent with that included within the HIAMG on page 79 'Figure 10 Qualitative Matrix Approach'. A '5x5' matrix is adopted within this CoPHIA (see table 3.7.5a) which also provides for a risk factor score range from 1 to 25.
This code is reviewed annually and published on the Councils website for customers to view. This can be found at; https://www.rotherham.gov.uk/downloads/download/90/highway-code-of-practice

Combining these two elements can provide useful information to focus attention on the areas of highest importance to customers.

Rotherham has taken part in the NHT Survey 16 times. In 2024 the survey was sent to 3,300 households across the authority area and 695 members of the public responded. This represents an overall response rate for Rotherham of 21.1% compared with the national average of 22.4%.

The survey covers a range of transport issues, including the condition of roads, pavements, rights of way, cycle routes, the speed and quality of repairs, road safety, congestion and pollution, local buses, community transport.

The 2024 Survey results identified the most important issue to respondents is the safety on roads. The lowest satisfaction recorded this year is for the condition of the road network with 23% of people surveyed recording this as their largest area of dissatisfaction.

4.4 Gathering Customer Feedback

RMBC has facilities in place for customers to provide feedback and report defects through a 'One Stop Shop' approach. All telephone calls and electronic communications are handled at first point of contact by experienced staff within the Councils Customer services team.

Telephone calls are managed through a singular and dedicated 'Golden Number' accessible between the hours of 0800 to 2000 Monday to Friday. This is further complimented by an emergency reporting provision available to customers at all other times. In addition, a face to face service is accessible for customers to report issues in various localities across the Borough during the hours of 0900 to 1700 Monday to Friday.

Every customer contact is recorded, and enquiries or reports are mapped through a system of scripted questions designed to ensure that recorded reports are accurate and responded to within an appropriate timeframe. Quality checks on reports are routinely carried out by management teams and customer satisfaction is tested through mystery shopping exercises and ad-hoc outbound telephone surveys.

The Council has an online web-based reporting tool to allow residents and visitors the opportunity to make a report to the Council direct to the service online.

RMBC operates a 'Learning from Complaints' process which looks to identify any learning that has been evidenced as a result of dealing with a customer contact. This could be as a result of a complaint, informal complaint, or service request. The learning could be a simple change to the way that we deliver our service or full service review.

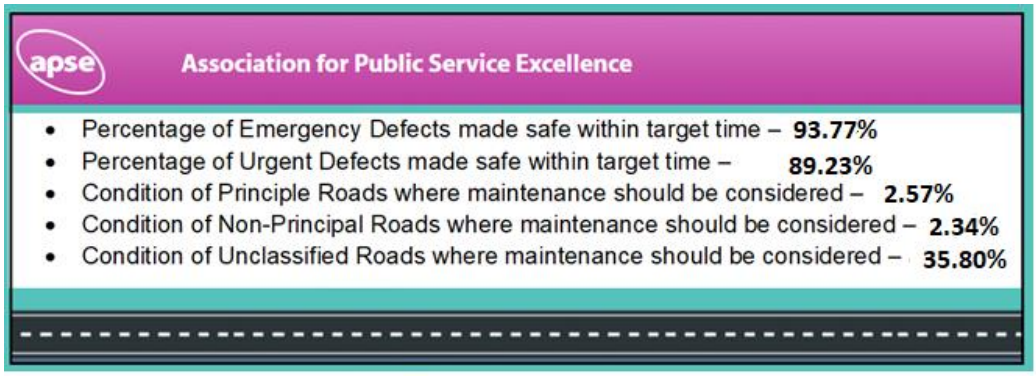
All lessons learnt are held on a corporate database with quarterly performance reports provided to senior managers. Improvements are also detailed as part of an Annual Complaints Report.

Customer questionnaires are also sent to properties affected by a highway maintenance scheme asking for feedback on performance including **(2023 / 2024);**

- Satisfied with pre-start information about the works - **90%** satisfaction
- Did the works start on time - **95%** satisfaction
- Satisfied with the quality of the work carried out – **93%** satisfaction
- Was the site left clean and tidy - **96%** satisfaction

Link to the Councils Performance monitoring;
https://www.rotherham.gov.uk/downloads/download/46/highways-asset-management

The Association for Public Service Excellence (APSE) undertake customer satisfaction and council benchmarking across England, Scotland, Wales and Northern Ireland. The 2023/24 core information includes findings below:



4.5 Improving service by providing a first time and permanent repair to pothole defects

Traditional pothole repairs may not look aesthetically pleasing but are fit for purpose in that they return the highway to a safe condition. In recent years the number of reactive pothole repairs has reduced, the reduction can be directly linked to the method of identification and delivery detailed within the Highway Asset Management plan; as illustrated in the table below.

Table 4.5.1 Reactive Pothole (PH) repairs:

Year	Pothole Defects
2015/2016	33079
2016/2017	32608
2017/2018	24774
2018/2019	22659
2019/2020	24561
2020/2021	19585
2021/2022	20021
2022/2023	16758
2023/2024	20166

The Council has a mobile milling machine / multi-Hog to carry out repairs on the highway. The mobile milling machine allows a permanent repair of actionable defects and therefore prevents further potholes from forming on targeted roads.

5 COMMUNICATION, MONITORING AND REPORTING PERFORMANCE

5.1 Communication and Consultation

The Council has a Strategy and Communication Plan which is available from the Council web page which has been developed and formally supported by the Cabinet Member. The various communication plans relate to different aspects of the highway - asset, street lighting drainage etc and have been developed with various stakeholders and users.

https://www.rotherham.gov.uk/transport-streets/rotherham-highways-communications-strategy/2

The Rotherham highways function covers a range of services which are of interest to and impact on local people. As such the Council is committed to proactive and transparent communication with stakeholders on a number of key themes, such as:

- Roads maintenance (including roads maintenance funding)
- Planned road and street works– for example, gas, water, electric.
- Highway licences/enforcement (for example, obstructions and licences)
- Winter maintenance and adverse weather preparedness (including drainage service)
- Capital investment projects, for example, LED replacement programme
- Parking incentives and enforcement
- Raising awareness of reporting mechanisms for issues e.g. potholes

Communications Approach

The approach for this strategy is:

Clear and transparent communication plans for residents, commuters and businesses which align with the Highways service objectives, under the individual service areas outlined above. Each area has its own bespoke “plan on a page” setting out the overall aim, objectives, and key messages

- Identified the main audience groups for communications
- Provide guidance for communicating with residents and key stakeholders around Rotherham Council’s Highways Services and list the communications channels to be used
- Provide guidance on key messages to be used. Key messages will be agreed for major schemes, long term strategies (for example, LED street lighting programme) or campaigns requiring communications support, in discussion with the service and communications colleagues. These key messages will be clear, concise and consistent and be aligned with the objectives of the respective service.

5.2 Internal Management and Communication

One of the key elements of highway asset management is ensuring a holistic approach to the delivery of services, promoting integration of processes, information and systems. RMBC highway asset managers support this by attending weekly meetings to review works programming to ensure effective delivery of services. This leads to a more efficient way of working through service-wide decision making considering projects that impact on two or more asset groups.

Examples of the benefits of a coordinated approach are given below.

Example 1. When reviewing planned works, if both the installation of traffic calming measures (Road Safety Team) and carriageway resurfacing works (Highway Assessment Team) are required, it is essential that the carriageway resurfacing is undertaken first as a newly resurfaced carriageway would be essential to accept the speed humps.

Communication of forward works programmes across the teams will ensure such instances can be identified and coordinated.

Example 2. To coordinate routine/scheduled works on the highway network a traffic management procedure is in place for high speed/dual carriageways. Officers coordinate programmes across street lighting, drainage, grass cutting and highway repairs to utilise a single traffic management / road closure programme is utilised to minimise disruption to users and keep costs to a minimum.

Example 3. A protocol for has been agreed with South Yorkshire Police to take advantage of any potential emergency temporary closures on the highway network. Maintenance teams will then use this opportunity to carryout routine inspections/maintenance of highway assets to minimise disruption to users and keep costs to a minimum.

5.3 Performance Management Framework

Performance management is coordinated by the Council's Corporate Performance and Quality Team and key performance indicators are reviewed quarterly and reports submitted to the senior management team. RMBC's performance management framework supports the asset management strategy by having a systematic approach to measuring performance.

The framework demonstrates how performance is managed to deliver the corporate vision to ensure roads are safe and well maintained. An example of this is the management of the principle and non-principal road networks. Performance data identified that these roads were not at a national average condition nor had the funding requirement to achieve this standard. Subsequently, investment programmes have been put in place and the corporate priority has been achieved for these roads.

Performance indicators have been reviewed by Government and National Indicators have been replaced with alternative reporting requirements. These new requirements have been collated in a Government document entitled, The Single List of Central Government Data Requirements from Local Government and are referred to as the 'Single Data List' - Appendix A. These include road condition data, road lengths, winter stock holdings and a series of flood risk data requirements.

In addition to the Single Data List, Highway asset teams also manage service performance through a suite of corporate and Local Indicators - Appendix B.

5.4 Benchmarking

A range of incentives, tools and techniques have been developed to assist performance improvement and these have been adopted where applicable in the development of the HAMP. These measures include benchmarking, best practice guidance and Codes of Practice. Performance improvement can refer to efficiency and service levels being well aligned with service user priorities and does not necessarily refer to increased funding for raising service levels.

5.4.1 Asphalt Industry Alliance - ALARM Survey (Annual Local Authority Road Maintenance)

Rotherham participates annually in the Asphalt Industry Alliance independently commissioned ALARM survey which aims to take a snapshot of the general condition of the local road network.

Table 5.4.1 ALARM Survey Key Findings March 2024 Report
ALARM-survey-2022-FINAL.pdf (asphaltuk.org)

Alarm - Key Findings 2024	Total (England)	Rotherham
Percentage of authorities responding	70%	n/a
Shortfall in annual carriageway maintenance budget Total	£122bn	n/a
Estimated time to clear carriageway maintenance backlog with adequate funding	10 years	10 years
Estimated one time catch-up cost	£16.3bn	n/a
Estimated one time catch-up cost per authority	£124.9m	2023*£85m
Frequency of road surfacing	80 years	25-40 years
Average number of potholes filled per authority last year	15464	20166
Average cost to fill one pothole (reactive)	£79.53	£13
Total spent filling potholes in past year	£143.5m	£252,903
Amount paid in road user compensation claims	£12.2m	£4,473

Although the findings are a snapshot it is useful to be able to identify specific comparisons that can be used to inform service decisions.
For example.

Percentage of budget used on reactive maintenance – This demonstrates that RMBC is better than the national average at minimising spend on pothole type repairs and promotes spending through programmed maintenance.

Average number of potholes filled per authority last year – This is significantly higher in Rotherham than the national average which could be an indication that the highway network is deteriorating and requires investment.

Average cost to fill one pothole – The the cost to repair potholes is extremely important. If the potholes were repaired using the national average rate it would require funding of £1.6m compared to our own cost of £252,903.

5.4.2 Association of Public Service Excellence (APSE)

Rotherham is a member of the APSE which enables benchmarking of services for similar Authorities (family groups) through Performance Networks.
In 2021 Rotherham Council was nominated in the Roads, Highways and Winter maintenance ‘’most improved performer’’.

In 2019 Rotherham Council were nominated for best performing authority for Street lighting.

National Winner 2013 - Best Service Team Award: Highways, Winter Maintenance & Street Lighting

National Finalist 2015 - Performance Networks Award: Highways, Winter Maintenance & Street Lighting

National Finalist 2016 - Performance Networks Award: Best Performer in Street Lighting

The tables below illustrate RMBC performance for each key performance indicator against the 2018-19 average performance of our family group.

Table 5.4.2 Rotherham MBC – Roads/Highways Performance at a Glance Report - APSE

apse performance networks	Performance in 2023/2024
Percentage of CAT1 defects made safe within response times	93.77%
Percentage of category 2 (high) repairs repaired within timescale	89.23%
Percentage of safety inspections completed on time	94.92%
Percentage of planned kilometres of safety inspections completed	100.00%
Percentage of maintained network subject to salting regime	45.78%
Condition of non principal roads (Class B - England and Wales only)	3.80%
Condition of non principal roads (Class C - England and Wales only)	1.99%
Number of category one defects per km of maintained road	0.24
Percentage change in number of category one defects	52.91%

Source: APSE Performance Networks Report 2024

Table 5.4.3 Rotherham MBC – Street Lighting Performance at a Glance Report

NHT Ref	APSE Ref	Indicators	2022/2023	2023/2024
	PI 44	Percentage of streetlights that are LED	99.00%	99%
HMB106		Speed of repair to streetlights	52.00%	50%
HMB105		Provision of street lighting where needed	57.00%	52%

Street lighting general performance is due to an extensive replacement programme of street lighting lanterns with LED units. Three separate capital investments were delivered between 2012 and 2020 to upgrade 36,000 of the streetlights to LED technology.

Separately, the costs incurred by the Council's for the maintenance of approximately 46,880 gullies is estimated at £5.40 per road gully, this is compared to our APSE family group average of £9.64. Further gully emptying improvements are being implemented by capturing data telematics to improve cleansing schedules. A new cleansing schedule was implemented from June 2019. The new maintenance regime was influenced by the records collected over 3 years by the Drainage Delivery Team. The new maintenance schedule was agreed with Senior Officers and Cabinet Members. The results of the new cleansing schedule will be monitored, and any modifications included in future reviews.

6 ASSET INVENTORY AND LIFECYCLE PLANNING – HIGHWAY NETWORK

6.1 Highway Network (Carriageway, Footway and PROW) Asset Inventory Information

The carriageway, footway, footpath and PROW asset inventory data is held on Symology Insight highway asset system. This system also holds streets that are not on adopted highway. The assets have unique section references and as a minimum have the following attributes:

- Length
- Width
- Surface Type
- Road Classification
- Hierarchy
- Urban or Rural

The system holds the information on all adopted roads. Any new roads are entered on the Street Gazetteer as they are created on the Local Land and Property Gazetteer (LLPG). Once a road has been adopted the asset data is collected within the period prior to the first cyclic safety inspection. For example, a road with a hierarchy of Local Access Road (Well Maintained Highway CoP Code 4b and RMBC CoP Category 6), will have the asset data collected within six months. Existing asset data is checked on a regular basis using the following process.

Ward boundaries changed in 2021. Rotherham has 25 Wards, and the asset collection team is split North and South. Each month the asset collect team select the next two Wards in the cycle and re-collect the asset data for a road in each of the two selected Wards. Additionally, as part of the routine safety inspections system carried out on each road and have a maximum frequency of 6 months, any significant asset changes are reported to the Highway Asset team.

Table 6.1.1 Rotherham Council Highway Network Lengths (as of March 2024)

Carriageway	Length (km)
Principal – A Roads	137
Non-Principal – B Roads	97
Non-Principal – C Roads	182
Unclassified – U Roads	775
Footway/Footpath	Length (km)
	1687
PROW	Length (km)
	414
Total (including PRoW)	**3292**

Table 6.1.2 Highway network valuation for WGA (2023)

	Gross Replacement Cost (GRC) £m	Depreciation £m	Depreciated Replacement Cost (DRC) £m
Carriageways	£1,365,709,000	-£123,459,000	£1,242,250,000
Footways	£238,730,000	-£105,119,000	£133,611,000
Total	£1,604,439,000	-£228,579,000	£1,375,861,000

The Symology Insight system has been in place for a number of years and facilitates the provision of the network condition, which is broken down into three categories (RAG):

1. Green (Generally good condition). SCANNER CI 0-40. CVI CI 0-40
2. Amber (Plan investigation soon). SCANNER CI 40 to 100. CVI CI 40 to 85.
3. Red (Plan maintenance work and add to forward works review list). SCANNER CI >100. CVI CI >85.

Table 6.1.3 Carriageway Condition (UKPMS) 2023/2024

Road Classification	Survey	Red (Plan maintenance)	Amber (Plan investigation)	Green (Generally good)
Principal - A Roads	SCANNER	2.57%	17.33%	80.1%
Non-Principal - B & C Roads	SCANNER	2.34%	19.11%	78.55%
Unclassified - U Roads	CVI	12.69%	23.11%	64.20%

Table 6.1.4 Footway Condition (UKPMS) 2023/2024

Asset Type	Survey	Red (Plan maintenance)	Amber (Plan investigation)	Green (Generally good)
Footway	CVI	43.41%	38.00%	18.59%

6.2 Carriageway and Footway Lifecycle Planning

The key objective of this lifecycle planning is to drive the efficient maintenance and long term management of highway systems by the adoption of an asset management approach. This will be achieved by the setting of appropriate targets, monitoring and measuring performance against these, reporting outcomes, and reviewing service delivery.

Rotherham Council has improved the condition of its Unclassified network through a ringfenced Capital funding directed to the unclassified network. Investments of £10m over three years starting in 2017/2018, an additional investment of £24m over 4 years, starting in 2020, and a further Council Capital investment (announced in February 2024) of £3m per year (for four years) to be used on the unclassified network and £1.2m per year (for four years) to be used on footways.
This has seen Rotherham Council's unclassified network improved to 12.69% (2023/2024)

Consecutive bad winters and severe weather events have served to accelerate any already deteriorating carriageways and highlight the poor structural condition through swift decline of the surface layers.

Current WGA for 2024 shows the carriageways to have a gross replacement cost of over £1.37bn, demonstrating the high replacement value of this.

The Council recognises the importance of strategic roads being well maintained, to avoid a negative impact on Rotherham's economy. The importance of maintaining strategic routes supports Economic Growth by ensuring our highway networks are well maintained to keep people and goods moving efficiently and effectively.

Through the use of lifecycle planning, we have been able to identify the level of funding needed to achieve the level of service required by the Corporate Priority. The Principal Roads in Rotherham are in a good condition compared to the national average.

Similarly, the Non-Principal Network is also in a relatively good condition compared to the national average.

Highway Condition Comparison Latest Figures Available from DfT 2022/2023

Table 6.2.1

Road Classification	RMBC 2023/2024	National Average 2023/2024
Principal - A Roads	2.57%	4% (Mar 2023)
Non-Principal - B & C Roads	2.34%	6% (Mar 2023)
Unclassified - U Roads	12.69%	Tba Nov
Footway	43.42%	not available

6.2.1 Carriageway

Estimates for treating the Carriageway network were calculated in 2024 This estimate of the outstanding backlog is totalled £123m (depreciated cost)

The WGA Code of Practice method for calculating the depreciated value for the carriageways, which can be used to represent the cost to treat all poor condition carriageways, is to be undertaken by a UKPMS module. This module is available through the Insight system and is required to calculate Depreciated Replacement Cost (DRC) for inclusion in all WGA submissions.

It would be impractical to treat such a high proportion of the network each year, since the congestion impacts of this would be huge even if the funding were available. However, these figures are useful to show the amount of investment required.

Across the whole network if the standard for carriageway condition was to be brought up to an acceptable level, there would still be an annual 'standstill' investment required to sustain this level. To maintain a "standstill" condition for the carriageway network requires a year on year maintenance budget of approximately £10m based on a design life of 40 years.

A lifecycle planning toolkit has been made available as part of the HMEP resources which uses inventory and condition data to create deterioration models for carriageways, footways, and ancillary assets (street furniture, road markings etc). This has been considered and trialled and is now embed within Symology Insight.

6.2.2 Footway

The total cost for treating poor condition footway based on the CIPFA code depreciation methodology is £105m. Analysis of the condition data for footways, has confirmed this using the condition index from CVI of 55 and above.

6.2.3 Maintenance Treatments

Rotherham's approach is to move away from traditional maintenance options, not concentrating on repairing worst first, and more towards treatments that extend the life of a road. It is therefore important to have a wide range of treatment options available so as to allow the most appropriate treatment to be used on the appropriate site.

Following an assessment of the condition data various outcomes are taken forward and the treatments types available are described below and are listed in hierarchical order:

- **No works required.** This may be the outcome of the initial works preparation due to the defects do not yet requiring attention, works are planned in the future or others carrying out works (for example Statutory Undertakers or other Rotherham teams).
- **Safety Defect Repair.** The vast majority of these are in the carriageway (potholes) and are treated by sweeping out the defect, placing the appropriate material (usually 3mm Fine Cold Asphalt or proprietary mixed material) and compacting. Safety defects can range from a missing gully lid to a fissure developing, they all have one thing in common, they need urgent attention. For this reason, the vast majority cannot be planned, so are classed as reactive maintenance.
  The following treatments are all classed as non-reactive and can be planned. These treatment types become more complex, time consuming to implement and expensive as you move down through the treatments list.

- **Patching.** This can be overlay, one course or multiple courses, patching in small areas, from 400mm square to about the size of a dining room table. The "Multi-hog" is being used on some of these to excavate the existing surface. Where there is more than 30% (by area) of patching required this treatment is not suitable as it is not cost effective.
- **Super Patching.** These are patches at least 50m in length and at least half width of carriageway or full width of footway. This is used where there may be a number of localised patches that can be joined up or larger areas of deterioration. These can be overlay, one course or multiple course patching. Usually, a large milling machine is employed to excavate these types of patches in bituminous surfaces.

- **Surface Treatment.** This can be accompanied by pre-patching and is used on surfaces where there is fretting or minor defects; the existing surface should be sound for this treatment to be successful. There are several types of surface treatments we use, footway/footpath Micro-asphalt, carriageway Micro-asphalt, carriageway surface dressing, carriageway thin surfacing (6mm) and carriageway thin surfacing (10mm). The Micro-asphalt and surface dressing seal the surface and provides a uniform appearance; it does not improve the surface shape. Thin surfacing seals the surface, provide a uniform appearance and improve surface shape. They can also be used on surfaces less stable than for those where Micro-asphalt or surface dressing is used.
- **Overlay.** Usually just the surface course but can be accompanied by patching. It is used on surfaces which are generally sound, but the ride quality is poor. May not be suitable where the overlay reduces thresholds heights.
- **Resurfacing.** The existing surface is excavated to accept single or multiple courses, does not include Sub-Base. This is used on surfaces where there is significant surface deterioration and the surface would not support a surface treatment or overlay.
- **Reconstruction.** Excavate and replace the existing construction with new, includes Sub-Base. This is used on surfaces where there is a major breakdown in the surface and is usually accompanied by failure of lower layers.

6.2.4 Unadopted Highways

There is a small, but significant, length of highway in Rotherham that has never been adopted despite being used by vehicular traffic. These roads are maintained by what is termed “The Street Manager” and are usually the adjacent residents but can be the landowner. There are approximately 146 km of these unadopted roads across the Borough. Many of these roads are in a poor condition and pose a problem because if they were to be adopted in their current poor state, without being brought up to a good standard, they would be a considerable maintenance burden. However, allocating resources to unadopted highways would divert essential resources from the adopted highway network. RMBC does provide advice to Street Managers and will, where necessary, carry out essential emergency repair works.

6.3 Carriageway and Footway Network Level Lifecycle Planning

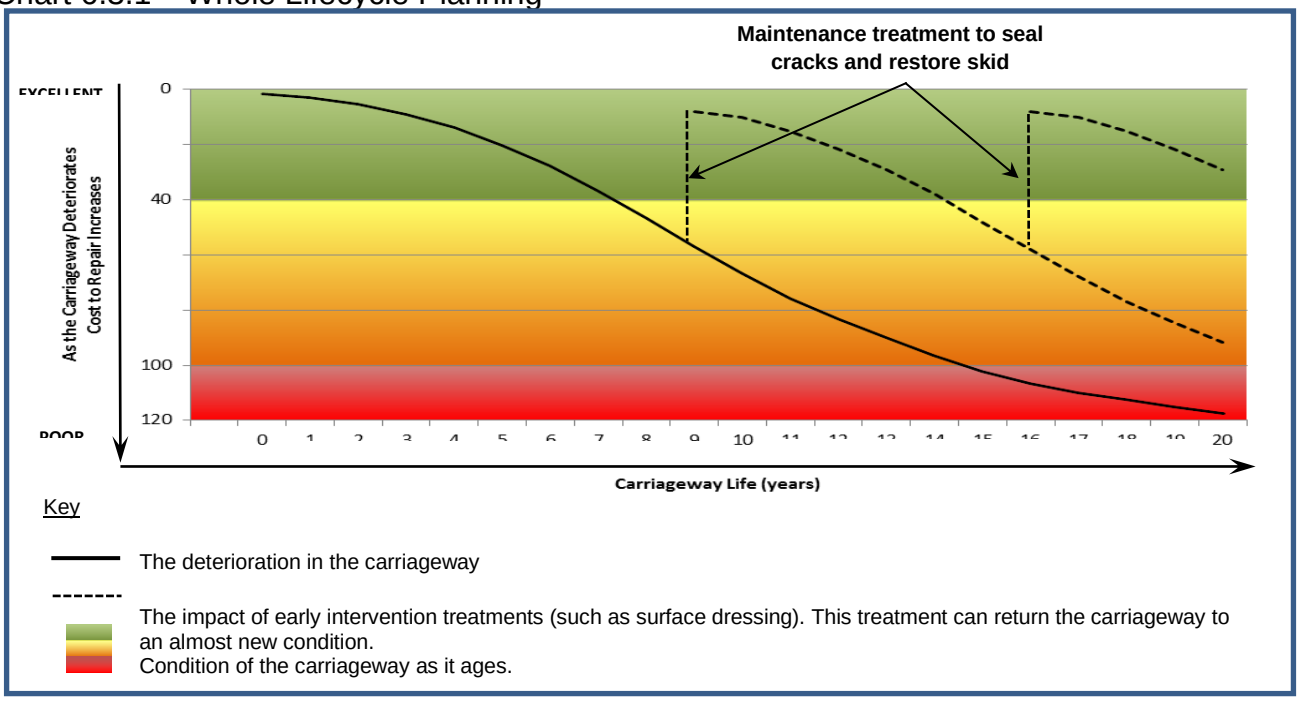
A significant prioritisation factor for the highway works programme is carriageway condition. If the prioritisation criterion was based on the highest proportion of red condition, most schemes chosen would be likely to require full depth reconstruction. However, this type of treatment is not the best value for money when considering the network over lifecycle periods. As full depth reconstruction is expensive, only relatively short lengths of the network can be treated. In the meantime, the rest of the network is deteriorating and each year a proportion of amber sections will deteriorate to red.

An alternative method of prioritisation is for sections that require resurfacing to be treated before they deteriorate to the point where they would require full reconstruction. This method allows much longer lengths to be treated with more cost-effective resurfacing treatments and enable further deterioration of the network to be contained by treating amber lengths with

less expensive treatments before they deteriorate to red condition, where structural maintenance would be required. The red sections that already require reconstruction will remain red and the treatment requirements would remain the same. Where possible, roads with a high proportion of red condition should be held in a safe condition with reactive maintenance budgets whilst a long-term whole life cost approach is adopted.

The Going the Distance report, published by the Audit Commission in May 2011, recommends this approach. The report advocates a whole life cost option over 'worst first' prioritisation. It says that by considering an asset over a whole lifecycle it is possible to select the best time to intervene, which is before the asset deteriorates to a very poor condition. The diagram below represents the report's argument that failure to intervene at the right time and with the most appropriate treatment will result in poor roads and represents poor value for money.

Chart 6.3.1 Whole Lifecycle Planning



6.4 Maintenance Lifecycle Aspects

6.4.1 Creation and Acquisition

Roads created by RMBC are usually new roads built as part of strategic transport improvements such as A57 Improvement (M1 Junction 31 to Todwick Crossroads), which was created in 2014.
Creation and acquisition of highways in this context more commonly relates to the adoption by RMBC of privately built roads such as those in newly built housing estates. Adoption standards for carriageways and footways are set out by RMBC and these can be adopted as Council owned assets once they have been confirmed to be of this standard.

6.4.2 Routine Maintenance

The planned capital maintenance programme for highways in 2023/24 repaired and resurfacing approximately 4.14% of the highway network with the appropriate treatments. Roads included in the programme have traditionally been determined based on UKPMS condition indicators showing the highest proportions of red and amber condition, along with an element of engineering judgment. A decision-making prioritisation process has been developed and set out in Table 11.2.1. This aims to bring more aspects including qualitative factors and incorporate Customer, Quality, Cost (CQC) into the decision-making process.

Highway inspections are used to determine locations for which reactive maintenance is required. Details of how the Council undertakes highway inspections and assesses the highway can be found in the Code of Practice for Highway Inspection and Assessment and is available to view on the Council website. Reports from members of the public are also used to identify locations in need of reactive maintenance. Where appropriate, sections are patched as this is more cost effective than filling individual potholes. Planned maintenance is more cost effective than reactive maintenance, although the reactive maintenance element is also necessary. Good asset management principles promote moving towards planned maintenance and minimising reactive maintenance requirements. Rotherham only spends around 5% of its maintenance budget on reactive maintenance compared to a national average of 22% (Source Alarm 2024).

6.4.3 Renewal and replacement – Materials

A palette of material specifications is used in the renewal or replacement of carriageway and footway assets. All asset groups utilise materials from this palette only, so that replacement can be managed efficiently. This avoids the rising maintenance costs that can occur from using different materials in different locations across the Borough. The palette is wide ranging enough so as to respect the different nature of locations including historical locations whilst allowing asset maintenance to be managed.

6.4.4 Renewal and Replacement – Footways

The vast majority of footways (85%) in Rotherham are bituminous. With the exception of the Town centres and Conservation Areas, if any flagged footways require relaying, upgrading or reactive maintenance we will replace them with bituminous surfacing. This is a higher priority where there is vehicle over-riding damage, which can result in tripping hazards.

6.4.5 Collaborative Working

Major schemes promoted by the Councils Transportation Team using Local Transport Plan – Integrated Transport funding often requires a contribution from the Highway Maintenance budget to allow a section of the networks to be fully repaired. This form of collaborative working improves the network for residents and visitors, minimises disruption to road users and maximises all available budgets to uplift the quality of the built environment. Good examples of recent joined up working include Brinsworth Village Improvements and College Road Island.

6.4.6 Disposal

Materials are recycled where possible for reconstruction schemes. This is usually unbound sub-base material. In addition to the environmental benefits, recycling materials on site can reduce disposal costs and drive down new material costs.

Some older roads in Rotherham that are resurfaced have coal tar which is hazardous and is taken by a local company for recycling by using specialist techniques.

6.5 Resilience to Climate Change

In recent years, winters have been harsh with very low temperatures and long spells of snow and ice. This freeze/thaw cycle can cause the rapid deterioration of the surface layers and it is thought that Climate Change will increase the severity of winters into the future. Resilience to extreme winters includes winter maintenance services such as gritting, to maintain a safe and accessible highway network during harsh conditions.

Rotherham Council has a Salt Dome at our Hellaby Depot for the protection of the winter salt stocks. This enables the Council to maximise gritting potential. The salt is now stored to ensure it is at its optimum condition, which reduces spread rates such that smaller quantities of salt are required. With the use of our weighbridge the Council manages the salt stock effectively. A Multi-hog vehicle is used for salt spreading on footways and minor side roads. These implementations make for a more flexible winter maintenance provision.

Climate Change is also thought to increase the propensity for extreme temperatures and increased rainfall intensities. Materials therefore need to be resilient to these weather extremes including temperature ranges reaching both extraordinarily high and low temperatures.

Carriageways in poor condition are susceptible to further deterioration through water damage. Vehicle loadings have an increased effect on water saturated materials. When surface layers are damaged, water ingress can degrade underlying bound materials in lower layers impacting on the structural integrity of the carriageway. Surfacing is therefore important to deter water ingress, especially with increased intensity rainfall resulting from Climate Change.
Rotherham MBC working in collaboration with SteelPhalt have (in March 2022) installed the world's first carbon negative asphalt on one of its main roads. This scheme was delivered on Broom Lane, just outside the Town Centre as part of the £24 Million to 2024 Roads Programme. The product uses recycled steel slag aggregate and a bi-product natural binder (the glue that holds the aggregate together). This innovative material has also been used in 2024 on a section of Manvers Way Wath Upon Dearne and its performance will be monitored regularly.

6.5.1 Resilient Network of Roads

In response to the extreme weather experienced during the winter of 2013 and 2014 the Secretary of State for Transport commissioned a review of the resilience of the transport network in the event of extreme weather.

As part of the recommendations Local Authorities should develop asset management plans with Drainage assets being an integral component. Also to identify a 'resilient network' to give priority, in order to maintain economic activity and access to key services during extreme weather.

In 2010 the South Yorkshire LTP Partnership's "Congestion and Network Management Implementation Group" (CNMIG), led on defining the Strategic Network for the County. The CNMIG comprises of nominated Traffic / Network Managers from the four South Yorkshire Local Highway Authorities and a representative from South Yorkshire Passenger Transport Executive (SYPTE).

The South Yorkshire Strategic Network illustrated in Appendix C has been defined in recognition of those routes which: -

- Reflect discrete travel corridors between main urban areas and / or the National Network.
- Provide the main links between key settlements (within and outside South Yorkshire).
- Are traffic sensitive / critical in terms of network resilience (i.e. those which are particularly managed to ensure disruption is minimised).
- Take account of 'Emergency Diversion Routes' as agreed with the National Highways (i.e. in respect of alternative routes which motorists are encouraged to use when motorways are closed).
- Include bus "key routes" (as identified by SYPTE).
- Are important for Freight.

As part of the Council's highways winter maintenance duties salting routes have been developed to support the identified strategic network in Rotherham. In the event of a forecast for significant snowfall or prolonged sub-zero conditions a senior management team meets daily to provide clear leadership and take a strategic view of action. If necessary, salting may be restricted to these roads to provide resilience to the strategic network. Further details are contained within the Highways Winter Service Manual, which is reviewed annually and available on the Council website.

The Council has also recorded all strategic highways which are at risk of flooding. This information has been taken from actual records of flooding, historical flood events and predicted flooding in an extreme flood event. The strategic highways at risk of flooding are identified in the Council's, Regeneration and Environment, Emergency Plan, which is regularly updated, and all key officers have access to the Plan. In addition, the Plan provides information relating to the Council's resources available and includes details of external resources that the Council can utilise when dealing with a flood event. The Plan provides a clear indication of where all resources should be deployed before and during a flood event such that all preventative measures can be in place to mitigate the risk of flooding to the highways, where possible.

The aim of Plan is to maintain the safety of the highway at all times and the procedure includes working closely with the Council's partners such as the Environment Agency and

Met Office, in a flood event. The Council has dedicated contact details with its partners to plan and predict the likelihood of a flood event, including the possible effect of a storm event and rising river levels etc. The Council provides continual training for all key officers identified in the Plan and all key officers would be expected to deal with a major flood event.

6.6 Reclassification

Regeneration across Rotherham in recent years has altered the nature and characteristics of some roads and in some cases ultimately changed the function of the road. A reclassification review was undertaken in 2012 as part of the Yorkshire Permit Scheme, to assess the appropriateness of roads to their current highway classifications which is to be updated and reviewed on a regular basis. Recent central government changes mean that reclassification can now be undertaken by local authorities without approval from DfT, which was previously required. Improving classifications would enable road users to select the most appropriate routes through the Borough and therefore contribute to the effective delivery of business provision.

The Maintenance Block formula for central government allocations includes lengths of each road type, so changing classifications is likely to have some impact on future central government contributions and should be taken into consideration when reviewing road classification.

6.7 Additional Highway Assets

6.7.1 Road Markings and Signage

Road markings and signage are created and acquired regularly for highway schemes. Markings and signage such as parking restrictions and one way systems are supported by Traffic Regulation Orders (TRO). Disposal of such markings and signage requires alterations to the TRO. Many of the RMBC TRO records need to be scanned for robust data management. The Parkmap GIS system was used to hold data of all parking restrictions in Rotherham but has become out of date and is not useable in its present state. A comprehensive updating of this system is intended as it would provide a useful tool for managing data. Once completed there would be a requirement to keep this information up to date.

The Traffic Signs Regulations and General Directions (TSRGD) which provides guidance for signage and road markings has been reviewed and republished as a result of the Signing the Way review https://www.legislation.gov.uk/uksi/2016/362/contents/made

6.7.2 Roundabouts and Mini roundabouts

Maintenance of roundabouts will commonly have traffic management requirements. For example gully cleansing or verge maintenance can require the innermost lane to be closed, impacting on congestion and traffic management costs. Mini roundabout carriageway surfaces and markings can be vulnerable to fast deterioration through vehicle braking and turning movements. These have usually been introduced as traffic calming features and frequent maintenance is commonly required to maintain them.

6.7.3 Anti-Skid Surfaces - Skidding Resistance Policy (updated 2023)

Rotherham MBC, as Highway Authority, has a duty under the Highways Act 1980 to maintain

the highway in a condition that is safe and fit for purpose. Adequate levels of skidding resistance on road surfaces is an important aspect of highway maintenance, and one that contributes to road safety.

The Council has a Skidding Resistance Policy that was reviewed and updated in July 2023. The Policy is embedded in the Code of Practice for Highway Inspection and Assessment. The purpose of this document is to outline Rotherham MBC's approach to maintaining the appropriate levels of skid resistance on the adopted road network.

It provides a step-by-step approach to identifying and managing skid resistance deficient sites and sets out a process for determining options and recommendations and how these will be prioritised allowing for budget and programme considerations.

The procedures in this document set out a long-term strategy to manage the skid resistance of the Borough's network to a consistent and safe level.

The document is structured around the 2019 Highways England (since renamed National Highways) Skidding Resistance Standard CS228, which supersedes the previous standard HD28/15.

The term 'skid resistance' used in this policy refers to the frictional properties of a road surface in wet conditions, measured using a specified device, under standardised conditions. The skid resistance of a wet or damp road surface can be substantially lower than the same surface when dry and is more dependent on the condition of the surfacing material.

Skid resistance measurements are used as an assessment of a road's level of skid resistance and as an indication of the potential need for further investigation. However, it should be noted it does not represent the definitive skid resistance available to a road user making a particular maneuver at a particular time and at a particular speed.

6.7.4 Traffic Calming Assets

Speed humps, cushions and tables have been introduced at many locations across Rotherham that required speed reduction measures. These assets can cause deterioration of carriageways and require frequent maintenance to the surrounding carriageway surface. However, lessons have been learned and associated carriageway strengthening, and resurfacing works are now carried out in conjunction with traffic calming measures. Locations of road safety engineering measures are recorded on a MapInfo layer.

7 ASSET INVENTORY AND LIFECYCLE PLANNING – DRAINAGE

7.1 Drainage Asset Inventory Information

Table 7.1.1 Highway Drainage Asset Inventory

Asset Type	Number of Assets	Length of Assets (km)
Road Gullies	46883	
Highway Drains, including connections (estimated)		366*
Subway Gullies/Grids	78	
Roadside Linear Drainage Channels		7.5
Storage Pipes		2.5
Soakaways/Silt Traps/Petrol Interceptors	300	
Flow Controls	9**	
Total	47270	371

* Figure based on an assumption that 20% of the 1,126km of highway has a highway drainage system (225km) plus each road gully has a 3m connection (46883 x 3m = 141km) Total 366km
**Figure based on flow controls at West Bawtry Road (3no.), A57 (2no.), Mansfield Road, Aston, Doncaster Road, Thrybergh, Keswick Way, North Anston & Goodwin Avenue, Rawmarsh

Customers are kept informed about highway drainage maintenance on the Council's web site, which includes:

- Local Flood Risk Management Strategy.
- Surface Water Management Plans.
- Section 19 Investigation Works (Floods and Water Management Act 2010).
- Services and Duties that the Council's Drainage Service provides.

7.2 Drainage Lifecycle Planning

The following objectives are specific to the drainage asset are as follows:

- Identify long term investment infrastructure assets in accordance with Rotherham's Local Flood Risk Management Strategy, Action Plans and Asset Register
- Explore the possibility of combining Flood Defence works through Defra Grant in Aid funding with future Local Highway Authority funding arrangements.
- Respond to stakeholders concerns with regard to flooding or other drainage problems.
- Carry out routine inspections in accordance with the Council Annual Gully Cleansing Schedule and Programme for highway infrastructure assets to determine future performances. Comprehensive assessments are carried out through CCTV surveys, hydraulic modelling (use of Micro Drainage), frequent blockages reports whereby the maintenance strategies are determined, schemes are prioritise using Council scoring matrix. Based on this information the works and programme of investment is determined.

- Continue to promote safety and accessibility for vehicles, motorcycles, bicycles and pedestrians.
- Carry out additional inspections to ensure the structural and functional integrity of the drainage system.
- To protect and ensure environmental sustainability by avoiding entry of pollutants into drainage systems.

Presently the highway drainage networks are being surveyed in accordance with the requirements of the Floods and Water Management Act 2010. The information and data is being recorded through insight using mobile devices to map the assets on site whilst being cleansed. Some highway drainage systems are over 100 years old, and some are in a poor condition and require replacing.

With the current increase in heavy rainfall events and on-going pressures of climate change significant improvement to the drainage network is required, works will be carried out annually through existing revenue budgets. Significant investment is required to bring the drainage system in line with the estimated 40% increase in capacity required for climate change.

The condition of highway assets are inspected and recorded in various ways which include:

- Damaged gullies or kerb off-lets are recorded during safety inspections, other surveys and from public reports.
- Blocked ditches or roadside grips are seldom noticed during safety inspections and problems are frequently discovered during the course of other work and/or reports received from the public when flooding occurs.
- Piped systems, manholes, outfalls, catchpits, soakaways and SuDS (sustainable drainage systems) do not have a regular inspection regime. Faults are only discovered following detailed inspections of the highway, reports by the public or when the system is in need of clearance or repair.

The current condition of the visible, regularly visited sections of the network (e.g. gullies) is generally known and in reasonable order. However, the condition of the remainder of the network, which is largely underground, is less well known. During rainy periods, increased flooding has been one of the issues to be managed. The Council has a duty of care and will respond to any flooding/ponding on the highway as soon as resourcing allows.

Drainage lifecycle planning also considers routine maintenance and planned renewal/replacement of drainage asset.

Table 7.2.1 Routine maintenance for drainage activities

Description of Maintenance	Current Regime	Works History	Lifecycle Impacts
Cyclic Maintenance			
Gully Cleaning	Every road gully in Rotherham (Approx 46,883) is inspected (& if necessary cleansed) at least once/year. The gullies on some roads are cleansed twice/year	All cleansing works are recorded on worksheets and entered onto a database. Insight on mobile devices within the Jet Vacs was introduced in 2023 to	Regular gully cleaning helps to alleviate flooding problems and reduces the rate of degradation of the drainage asset. Tracking device identifies potential

	& the gullies on Rotherham Gateway are cleansed four times/year, other “hotspots” are also cleansed more frequently	capture all the required information and location of each road gully while they are being cleansed.	drainage problems and safeguards against future claims.
Cleaning of brooks and screens	Carried out in accordance with annual maintenance programme; all trash screens and watercourses are carried out ad-hoc.	All works are recorded on worksheets and entered onto database	Regular cleaning of brooks and screens helps to alleviate flooding problems and reduces the rate of degradation of the drainage asset.
Reactive Maintenance			
Gully Repair	Isolated gully repairs are identified from safety inspections, or from reports received from team following gully cleaning	A list of damaged gullies is recorded. All works are recorded on worksheets and entered onto database	Repairs to gullies are reactive can have the effect of reducing the need for greater drainage maintenance at a later time.
Cleaning of drainage kerb, drainage channel pipes, manholes, soakaways etc.	The need to clean safety kerb, pipes, manholes etc. are identified from safety inspections or when flooding problems is reported.	All works are recorded on worksheets and entered onto database	Regular cleaning of these assets would help to alleviate flooding problems and reduce the rate of degradation of the drainage asset.
Piped Drainage Repair	Isolated pipe repairs are identified from safety inspections, or from reports received from the team following gully cleaning	All works are recorded on worksheets and entered onto database	Repairs to pipes although being reactive can have the effect of reducing the need for greater drainage maintenance at a later time.
Clearing of Ditches, Swales, Ponds etc.	The need for clearing of ditches etc. are identified from safety inspections, or from flooding reports received from the public	All works are recorded on worksheets and entered onto database	Introducing a regular cleaning regime could have an effect of reducing the number of flooding incidents reported.

Table 7.2.2 Planned renewal/replacement maintenance for drainage activities

Description of Maintenance Activity or Treatment Type	**Current Regime** (Expected Life or treatment frequency)	**Works History** (How much is achieved per annum)	**Lifecycle Impacts** (The asset’s whole life cycle and or other maintenance activities)
Culverts and Piped Drainage System: Replacing badly damaged culverts and piped systems	A list of known drainage problems is maintained, with each site being subject to investigation using CCTV; funds are then allocated to undertake repairs based on a priority rating up to	All works are recorded on worksheets and entered onto the database	Repairs to the drainage system are reactive and only if they are noticed at an early stage can they have the effect of reducing the need for greater drainage

	the available funding limit.		maintenance at a later time.
Bulk Gully Repair	Gully repairs are identified from safety inspections, or from reports received from the team following the gully cleaning	A list of damaged gullies is Included on the works programme. All works are recorded on worksheets and entered onto the database	Repairs to gullies although being reactive can have the effect of reducing the need for greater drainage maintenance at a later time.

7.2.3 Culverted Watercourses

There is approximately 13.8km of culverted watercourses located under public highways. Watercourses are a form of flood risk in some areas and are often in need of constant maintenance works and/or require regular repair or upgrades to mitigate the risk of flooding. The landowner(s) or riparian owner(s) has the responsibility for the maintenance of flows within a watercourse located in their land.

Some of the culverted sections are over 100 years old and some have not been maintained or replaced due to funding constraints. Subsequently, some of these culverts are in very poor condition and in need of replacement.

It is estimated that approximately 60% of ordinary watercourses need attention and approximate estimations have been made of the lengths likely to require replacement or repair work. Cost estimations have been made using similar cost assumptions for a culvert replacement scheme. More detailed assessment of total costs for repairing culverts under public highways, Council land and private land are currently being produced through the development of the Flood Risk Asset Register and Record.

Table 7.2.4 Estimated costs to treat poor condition culvert sections

Defective Culverts	Length (m)	Unit cost (£pm)	Estimated cost to treat (£mil)
Below adopted highway	Estimated 600	£2,250	1.35m

These costs refer to scheduled capital works and would be likely to be much higher in an emergency collapse situation. Presently in some areas there is a risk of flooding, a priority programme will be prepared for renewal or replacement capital works that are required for the ordinary watercourse network.

7.2.5 Repairs to Road Gullies

There are a large number of older type road gullies (e.g. brick built etc.), which should be replaced by modern gullies that can be rodded and cleaned more easily. It is estimated that approximately 15% of Rotherham's 46,883 road gullies could be considered as this type. In some cases the gully connections are difficult to cleanse causing further maintenance implications. It is estimated that to replace all of these obsolete gullies with effective trapped

gullies with rodding access would cost in the region of £4.8 million, therefore it could be considered as not being cost effective or a priority. There is a limited on-going replacement programme based on flood risk, which is on a small scale and managed from existing maintenance budgets. Drainage is reviewed as part of highway schemes so that any obsolete gullies can be replaced as part of the scheme. Ineffective gullies lead to water holding on the carriageway, which can accelerate carriageway deterioration.

7.3 Drainage Asset Lifecycle

7.3.1 Creation and Acquisition – Linear Drainage

12km of linear drainage is used on public highways. Maintenance of linear drainage can be problematic, and developers are encouraged not to use linear drainage unless there is no other possible solution. In March 2022 a linear drainage cyclical program was created to become more proactive rather than reactive on cleansing. It is estimated that 20% of linear drainage needs replacing due to defects.

Table 7.3.1 Estimated costs to replace defective linear drainage

Total Length of Linear Drainage (m)	20% of Total Length of Linear Drainage	Unit cost (£ per linear m)	Total cost for estimated repairs (£m)
12,000	1,200	360	0.432

All future sections introduced in Rotherham will be designed and installed strictly in accordance with manufacturer's recommendations and industry best practice to optimise performance.

7.3.2 Sustainable Drainage Systems (SuDS)

The Flood and Water Management Act 2010 requires SuDS to be used for new developments. This includes additions to the highway network. These should be designed in accordance with the South Yorkshire Interim Guidance for Sustainable Drainage Systems and the CIRIA SuDS Manual. Not all SuDS features are suitable for inclusion within a highway adoption and will be considered on a case by case basis. In 2015 the supplementary planning documents made SuDS the preferred option for draining any major development.

7.3.3 Routine Maintenance and Prioritisation

Maintenance of highway drainage is undertaken in-house and maintenance levels are determined such that they are in line with - Well Maintained Highway Infrastructure - A Code of Practice.

The Council carries out its inspections and cleansing of the gullies in accordance with the Council's Annual Gully Cleansing Schedule. All reports of problem gullies are recorded on the Council's Drainage Section database for further action where necessary. Following data

collection through the mobile database, a risk-based approach to gully cleansing will be introduced to ensure operational efficiencies.

The Drainage Service operates a prioritisation and scoring matrix (Table 11.3.1) database which prioritises the highway drainage work required into High, Medium and Low priorities, for example the higher priority the more urgent/necessary the work. All assessments are rated on the severity of the flooding problems, safety of the public highway properties and lives, frequency of the flooding problems and repeat reports. It has been estimated that within the existing Council's Works Programme for the repair or replacement of defective highway drainage systems, the costs are estimated at approximately £1.5m.

Customer, Quality, Cost (CQC) is used as part of seeking improvements drainage assets. Satisfied Customers, Technical Quality and Cost Effective Delivery are generally considered to be the three key components of all round excellent performance.

For ordinary watercourse sections in the ownership of private riparian owners, there can be risks to potential non-maintenance. Riparian owners are to be notified of their responsibility by the Lead Local Flood Authority (LLFA). A management strategy for the LLFA owned culverts is being prepared, which will include highway and non-highway watercourse assets as well as third party owned assets. Policy for routine maintenance of watercourse assets is to be included in this management strategy and associated action plans.

7.4 Resilience to Climate Change

Experts have estimated that Climate Change could impact and increase the intensity and frequency of extreme rainfall events. The drainage network is therefore required to cope with increased rainfall in order to prevent flooding to highway and properties and maintain levels of service. It has been recognised that to minimise the risk of flooding to roads and properties there is a need to be more efficient and possibility of an increase in the maintenance of the drainage network. In other areas where drainage systems require replacement then the design of the drainage network must take into account climate change.

New developments are required to include a 40% uplift on current design rainfall amounts to allow for the effects of climate change.

8 ASSET INVENTORY AND LIFECYCLE PLANNING – STREET LIGHTING

Table 8.1.1 Street Lighting Inventory

Street Lighting Asset	Number of Units
Up to 5m	10,948
Up to 6m	15,132
Up to 8m	4,002
Up to 10m	5,218
Up to 12m	891
High mast	19
Wall Mount / Pole Bracket	192
Total	36,402

Table 8.1.2 Concrete Columns

	Number of Units
Concrete Columns	9,520

Table 8.1.3 Valuation of street lighting Assets 2024 value £M

	Value £m
Gross Replacement Cost	54,610
Depreciated replacement Cost	36,510

Table 8.1.4 Age Profile of columns

Age	Up to 5m	Up to 6m	Up to 8m	Up to 10m	Up to 12m	High Mast	Wall mount / Pole Bracket	Total
0-20	2,565	11,637	1,553	1,519	133			17,407
21-30	2,184	1,720	960	1,712	203			6,779
31-40	2,200	1,395	1,101	1,165	342		192	6,395
40+	3,999	380	388	822	213	19		5,821
Total	10,948	15,132	4,002	5,218	891	19	192	36,402

8.2 Street lighting Lifecycle Planning

Lifecycle planning considers the overall asset and to plan and implement key replacement initiatives to mitigate identified risks. The major risk with the street lighting asset is safety, both in regard of structural condition of the asset and the planned and reactive maintenance element of street lighting.

The following objectives are specific to the street lighting asset:-

- Being responsive to stakeholders' concerns with regard to street lighting issues and include this in the decision making process
- Carry out mandatory testing and routine inspections in line with industry standards
- Continue to promote safety and accessibility for all road users in the Borough
- Follow a sustainable action plan in relation to reducing energy consumption and carbon emissions.

8.2.1 Street Lighting Asset Data

The UK lighting board published the code of practice 'Well-lit Highways' in 2004 and the principles within the document were used as a basis for the initial collection of asset data. This street lighting asset information was first collected 14 years ago and is maintained on a regular basis. In accordance with the recommendations in the HMEP guidance, as and when changes are made to the asset infrastructure, the data is updated to provide an accurate profile of the asset. The asset information is held on a central database 'Deadsure' which stores, manages and reports all relevant data. There are 3 basic components within each street lighting asset, these being the column, lantern and power supply.

8.2.3 Column condition

The main consideration over the past few years for maintenance of the asset has been the column type. As this is the structural part of the asset it was imperative to assess and consider capital investment for replacement. An age profile was drawn up when the data was first collected and this profile of the asset was used to form the basis of a 2009 Council Report to change over 10,000 ageing, potentially failing concrete columns to steel replacement columns with a 50 year life. The report considered a number of options to consider the asset replacement strategy, namely: -

- A 'do minimum option' of reactive replacement of failing columns, but this would mean that the backlog of replacement would grow year on year and the risk of damage and injury to persons and property would increase.

- Pursuing a fast track solution using an outside service provider (PFI) to replace all columns with potential defects and manage the total street lighting function for the life of the contract which would be 25 years. This option was considered by an independent financial consultant and was not deemed viable for the Authority.

- The preferred option of a planned 10 year programme of replacement using high specification columns with a design life of 50 years. The lighting function has remained in house and has allowed new technology to be applied with associated benefits.

Within the preferred option, replacement works have been prioritised in line with ILE technical report 22 (managing lighting columns) and a visual inspection was carried out of all the lighting columns within in the borough to give a '1' to '5' rating of column condition. This information was logged against the types of column with known inherent defects along with column ages to give list of the 'action age' of the columns to enable prioritisation for replacement. Within the priority programme consideration was also given to the type of lantern and light source and low pressure sodium units (due to their age) have been prioritised before high pressure sodium units. By using these set criteria, a 10 year column replacement programme with clear prioritisation has been completed.

The asset replacement programme has also been supported by recent Local Transport Plan funding which again considered the age profile of the asset as a priority consideration and has allowed replacement of columns on main routes and Quality bus corridors, which although primarily steel were again an ageing asset.

As the replacement of the columns continues there is still a need for continual assessment, both visually and structurally of the street lighting asset. Further to this, independent visual inspections have taken place with small numbers of columns being replaced immediately. Other columns which have been identified are to be programmed for replacement over next 3 years or if possible, remedial works will take place on the column to increase the action age. The assessment of the asset will be a continual process to identify and prioritise the replacement of columns.

8.2.4 LED “Invest to Save” – Lantern Replacement Main Routes

As the use of LED lighting has become widespread in street lighting, Rotherham MBC has taken the opportunity to invest in this technology. Approximately 36,000 units have been changed over 8 years using £5.4 million in ‘invest to save’ capital investments. This investment has reduced the energy consumption in street lighting from 12.5 million Kwh to 7 million Kwh, a significant energy reduction.

8.3 Street Lighting Asset Lifecycle

8.3.1 Creation and Acquisition

It is recommended that bespoke street lighting assets are not introduced in Rotherham, since these increase maintenance costs throughout their lifecycle. Approved lighting design standards for RMBC are held and new assets acquired should ideally be to these specifications.

Ornamental lighting such as up-lighting under benches is not recommended to be introduced as service level priority is in favour of lighting required for practicality over ornamental and aesthetic reasons.

New street lighting columns may also require banner arms, Wi-Fi transmitters or the potential to have CCTV or bus lane enforcement cameras attached.

8.3.2 Routine Maintenance

Reactive maintenance for street lighting assets is undertaken by RMBC direct services street lighting team. Faults can be reported by members of the public or identified by highway inspectors and are attended within a target of 3 days for resident reports and 5 days for inspectors report. Customer, Quality, Cost (CQC) is used as part of seeking Improvements to street lighting assets. Using APSE benchmarking data, the authority can make a direct comparison with similar authorities to ensure delivering a cost effective service within the parameters of customer expectations. Staff are available to provide in depth technical information to customers and with the recent introduction of LED technology, a number of night time customer engagement sessions have been carried out.

A cyclical maintenance programme is in place with regard to mandatory electrical testing and this is carried out every 6 years. A visual inspection is also undertaken when the electrical testing and when reactive maintenance takes place to identify any failing or damaged units, these are then programmed for replacement using the capital works funding or a small fund

within the revenue allocation. Weekly night-time scouting of the asset was discontinued with the introduction of LED units, night inspection now takes place every 2 months.

Going forward, the installation of LED units should reduce the number of faults and make the street lighting service far more cost effective. Revenue works are prioritised to include mandatory works such as electrical and structural testing, reactive works such as random repairs taking into consideration customer reports, and asset replacement / upgrading works and budgets availability.

8.3.3 Other energy saving measures

In addition to the use of low energy usage LED other energy saving measures are employed. These are:-

- Trimming – the lighting levels of switching on and off the street lighting units has been reduced saving around 200 hours / annum/ street lighting unit.
- Dimming – as the amount of traffic on roads reduces significantly at certain times, the lighting levels can be reduced saving energy by reducing consumption.

8.3.4 Disposal

Waste products are recycled where practicable. Concrete is recycled by crushing and grading for highway usage. Steel also has a scrap value and many of the bulbs used in street lighting are recycled. Where products are disposed of, they are disposed of in a manner compliant with current legislation.

8.3.5 Street Furniture (Vehicle restraint systems)

During 2017/18 the inventory data for the VRS systems within the Borough has been collected and included in the street lighting, signs and amenities asset database. This has allowed a detailed survey of all the VRS systems to be carried out and an overall condition of the barriers ascertained. Following this, in 2021/2022 a capital investment of £400,000 enabled all non-conforming barrier throughout the Borough to be replaced.

9 ASSET INVENTORY AND LIFECYCLE PLANNING – HIGHWAY STRUCTURES

9.1 Bridges and Structures Asset Inventory Information

Table 9.1.1 Structures inventory

Structure Type	Number
Bridge: Pedestrian/Cycle (multi-span)	7
Bridge: Pedestrian/Cycle (single span)	5
Bridge: Vehicular (2 or 3 spans)	44
Bridge: Vehicular (4 or more spans)	5
Bridge: Vehicular (single span)	79
Culvert (single cell)	34
Sign/Signal Gantry [spanning]	0
Tunnel (bored)	0
Underpass (or Subway): Pedestrian	27
Underpass: Vehicular	0
Total	201
Public Rights of Way Footbridges	129
Retaining Wall	60km

Table 9.1.2 Gross Replacement Cost (GRC) for 2019-20 WGA submission

Highway Structures	Value (£m)
Gross Replacement Cost (GRC)	£244
Depreciated Replacement Cost (DRC)	£159

9.2 Bridges and Structures Assets

The Gross Replacement Cost (GRC) of RMBC owned structures is approximately £244m, which represents the value of replacing all structures as new. The GRC is calculated by considering each structure individually with indicative costs based on the size of the deck area, calculated using the CIPFA structures toolkit. Table 9.1.1 above shows how many of each asset type are listed in the structures inventory.

A toolkit has been created by CIPFA to calculate the Depreciated Replacement Cost for the WGA returns. This utilises condition information from structure inspections. The information gained is useful to provide an overview of the condition of the structures asset base. The expected design life of highway structures is 120 years although many have been built in the past that may not have been designed to this standard.

9.3 Asset Description and Data

Rotherham has a highway structures stock consisting of 201 Bridges and Culverts and 241 Public Rights of Way Footbridges and approximately 60km of highway retaining walls. An extensive electronic inventory is maintained for each structure consisting of construction details, inspections and repairs. This system is networked and accessible by all relevant staff.

Data collection is carried out as recommended in the Code of Practice for the Management of Highway Structures and this process is controlled / monitored by a database. This process is funded by a dedicated highway structures revenue budget.

9.4 Bridges and Structures Asset Lifecycle

9.4.1 Asset Collection

Recent years has seen a significant improvement with the effective storage and handling of data for asset management and asset valuation. Condition inspections and assessment now has good data held for the previous seven years. New methods of data capture are to be trialled in the coming years allowing electronic recording of information on site. This will make the inspection process more efficient and speed the input process to the asset management system.

There is still a considerable amount of condition data needed for retaining walls and it is hoped that there will be significant progress during this asset management plan.

An effective asset management system is a key factor. Work will continue with Symology (Insight Asset Management System) to continually develop the software necessary to produce an effective management system encompassing all the requirements outlined above.

9.4.2 Life-cycle Planning

A key element of lifecycle planning is to determine the level of service required and what investments are required to achieve that performance. The level of the service set by corporate priorities is to ensure highway structures are maintained to a safe and consistent standard.

To ascertain this, a programme of general and principal Inspections are carried out as recommended in the Code of Practice for the Management of Highway Structures. The inspections report on each element of a bridge giving it a condition score weighted according to its structural importance. From this data an individual Bridge Condition Score can be calculated, and this is used to determine a Bridge Stock Condition Indicator. The results indicate that 22% of the structures are in the category Very Good, 18% Good, 37% Fair, 22% Poor, 1% Very Poor, but noncritical. The overall current level of performance is classed as fair to good. The stock review referred to 9.4.1 will ensure that resources are targeted to ensure that these figures improve, subject to appropriate funding being made available. The current accumulated depreciation (GRC less Depreciated Replacement Costs (DRC of £159m) is £84.8m with an annual depreciation of around £4m.

Table 9.4.1 - Bridge Condition Indices illustrates an improvement of condition has been achieved.

The CIPFA structures toolkit has been developed to aid this function. We continue to work with our asset management system supplier to run the toolkit to ensure accurate output. This work and population of all the necessary data continues to be improved, as data errors

are removed or corrected allowing for the development of more advanced life-cycle plans for this asset group.

Previously the management of highway structures had been going through considerable changes in recent years supported by government who have produced a Code of Practice for the Management of Highway Structures and a 'toolkit' to aid lifecycle planning. This allowed bridges to be assessed for their average condition and critical element condition together with an overall Bridge Stock Condition.

Table 9.4.1 Bridge Condition Indices

Year	BCi average	BCi critical
2015/16	84	83
2016/17	78	66
2017/18	82	71
2018/19	84	83
2019/20	85	83
Bridge Stock Condition – Good to Fair		

The improvement demonstrates that the recent funding levels achieved by the group, including significant investment at Crinoline Bridge has maintained the level of required level of service.

ADEPT have been looking at these indicators as a method of measuring performance and have collated data nationally. Their conclusion at present is that the data is not sufficient to enable comparisons to be made. Work is continuing on this.

10 ASSET INVENTORY AND LIFECYCLE PLANNING – TRAFFIC SYSTEMS

10.1 Traffic Systems – Asset Inventory Information.

Table 10.1.1 Traffic Signals Inventory

Type of Installation	Number
Junction	53
Dual Pelican	0
Single Pelican	3
Dual Puffin	10
Single Puffin	29
Dual Toucan	10
Single Toucan	12
Wig Wag	2
Total	119

30 sites are Remote Monitoring Sites (not connected to UTMC)
2 sites also have "Pegasus" facilities

Table 10.1.2 Urban Traffic Management Control (UTMC) installations

Asset Type	Number
SCOOT Detection	370
Variable Message Signs (VMS) (160mm)	8
VMS signs (100mm)	1
VMS Signs (240mm)	3
Automatic Number Plate Recognition (ANPR) Cameras	34
CCTV Cameras (in conjunction with SYP)	81
Bluetooth Journey Time Monitoring Unit	50
CCTV Cameras (not in conjunction with SYP)	13

Table 10.1.3 Urban Traffic Management Control (UTMC) central systems

System	Assets
Dynniq Scoot UTC	Central system
Dynniq Common Data Base	Central system
Imtrac Fault Management System	Central system
Drakewell Journey Time Monitoring	Central System
CCTV – Synetics Synergy Pro	Central system

Table 10.1.4 Age profile of traffic signals (excluding refurbishment after April 2020)

Assets	Average age (yrs)	Average remaining life (yrs)
Junction	12	8
Puffin	10	10
Dual Puffin	15	5
Pelican	20+	0
Dual Pelican	20+	0
Toucan	10	10
Dual Toucan	9	11
Wig Wag	5	15

Table 10.1.5 Valuation of Traffic Systems Assets for WGA (2018/19)

	Value (£000's)
Gross Replacement Cost	£15,913
Depreciated Replacement Cost	£6,890

10.2 Traffic Systems Asset Lifecycle and Lifecycle Plans

Information for Traffic Signals assets is collected by inspections and surveys by both RMBC staff and the term maintenance contractor. This information is held centrally in electronic format and also on the cloud based Fault Management System (FMS).

The number of traffic signals and control information systems assets are shown in the tables above. The Gross Replacement Cost (GRC) of all these assets, calculated for the Whole of Government Accounts submission for 2018-19 is £15.913m which represents the estimated value to replace all the assets. The Depreciated Replacement Cost (DRC) is calculated to be £6,890m. This represents the value of the assets, taking into account their current age and condition.

Traffic signals on street assets have a design life of 20 years. The average ages of the current traffic signal assets in Rotherham can be seen in Table 10.1.4 above. Historically traffic signal installations have been replaced on the basis of age and condition. However, some of these assets will have many faults before they reach this age and others will still be in working condition as they reach this age, but at risk of requiring complete refurbishment in the event of failure, due to the obsolete nature of the infrastructure. Funding streams have been identified that will enable a programme of traffic signal refurbishment schemes.

The annual depreciation for traffic systems is up to £0.7m per year, based on a 20 year design life. This gives an indication of the annual expenditure required to keep the condition of on-street traffic systems assets at current levels.

Life cycle planning aims to minimise whole life costs for all assets through short term maintenance cycles and longer term interventions centred on replacement and refurbishment investments. Key stake holders will be able to contribute to this process through various forums and methods, particularly disabled users and representatives, cycling, walking and horse riding groups, South Yorkshire Police, and passenger transport groups including the local bus companies. Close working with the Integrated Transport team will ensure a co-ordinated programme of replacement and investment that minimises whole life costs and maximises value for money.

10.2.1 Creation and Acquisition

The majority of new assets are due to new infrastructure requests from the Integrated Transport team utilising the associated South Yorkshire / Sheffield City Region Local Transport Plan (Integrated Transport) budget (see 10.2.6 below).

New signalised junctions, crossings and other traffic systems infrastructure is sometimes installed as part of Highways Act Section 278 agreements between the Council and a developer. Within such agreements, future maintenance for 20 years and replacement at year 20 is taken into account. In some circumstances new crossings are installed utilising in part 'Section 106' contributions provided by developers as part of the planning process

10.2.2 Reactive and Routine Maintenance – Revenue Funding Needs

Revenue funding needs are based on comprehensive lifecycle planning through a term maintenance contract incorporating the known asset register and pre-determined cyclic maintenance regimes and associated response specifications for reactive maintenance. The overall performance target is to ensure the network is safe and fit for purpose. The routine maintenance fund has remained static for many years at approximately £106,000 despite inflation, the externalisation of the reactive and routine maintenance function, increasing numbers of traffic signal related assets and recent new additions such as Variable Message Signage or Urban Traffic Control systems. Reactive and routine maintenance is currently provided through a term maintenance contract in partnership with Doncaster Borough Council. The contract has allowed a re-evaluation of revenue needs through new schedules of rates and these will be further reviewed when the contract is re-let.

Routine preventative maintenance consists of interim inspections and yearly electrical tests. All signals assets are attended on an annual basis for inspection, bulk lamp change and lens cleaning.

Responsive maintenance consists of attending faults within target times. There are different priority levels for performance targets ranging from 1 hour to 15 days depending on the urgency of the safety implications of the fault.

A new Code of Practice for Traffic Systems was introduced in 2011 entitled Management of Electronic Traffic Equipment. This has the same status as the three other highways codes of practice; Well Maintained Highways, Well Lit Highways and Management of Highway Structures, although these latter codes have recently been combined into one code, namely "Well Managed Highway Infrastructure".

10.2.3 Renewal and Replacement

Asset inventory information is held centrally and is readily available. The quality of data available for traffic signal assets has recently been improved and updated with a full and accurate inventory of all traffic signal and control equipment.

The asset inventory information allows detailed lifecycle planning. Whilst the overall performance criteria is one of safety and fit for purpose, the key determination factor of lifecycle planning will be the age and condition of equipment. Equipment of more than 20 years old will be difficult or impossible to repair and maintain, and not benefit from low energy costs or new technology. Long term investment plans aim to ensure that equipment is replaced at or before reaching this age. Whilst this does mean a significant annual

investment, interaction and alignment with the Integrated Transport Programme of improvements means that lifecycle planning of the traffic systems infrastructure produces one coherent programme of works. The estimated need for long term investment in renewal or replacement infrastructure resting with the Traffic Systems service is therefore estimated at £250k per year in future years as the Integrated Transport fund will assist with the overall funding need. This funding has been confirmed for four years commencing in 2017/18 and prevents a funding scenario that relies solely on Integrated Transport funding as this would skew the long term investment plans to those aligned solely to Integrated Transport initiatives.

10.2.4 Upgrading

Pelican crossings are upgraded to puffin or toucan crossings when they require replacement and when funding is available and there are now just 8 pelican crossings left in the borough, with plans for the upgrading of half of these already underway.

New installations and replacement crossings are upgraded with LED light aspects, which is more cost effective than the traditional tungsten halogen bulbs through energy and maintenance savings. LED lights also reduce carbon emissions and have improved safety for traffic signals since red light failure is less likely to occur than with a single bulb. This decreases the occurrence of emergency responsive maintenance fault attendances required. Upgrading has incorporated the use of Extra Low Voltage supply to maximise energy savings.

Upgrading also occurs through Urban Traffic Management Control (UTMC) optimisation of systems and software. This enables improved availability of the highway network and increase's the level of service in terms of junction operation and optimising journey times. Recent funding for improvements have come through the South Yorkshire Intelligent Transport System – part of the South Yorkshire / Sheffield City Region Integrated Transport initiative. This in turn utilised funding made available through the Local Sustainable Transport fund.

10.2.5 Disposal

Specialist disposal is undertaken for hazardous materials or components used in older traffic systems assets. There are cost implications to this as well as the environmental implications of the fluorescent materials. Assets with fluorescent tubes are no longer introduced, so the specialist disposal for this will no longer be required once all assets that include the tubes have been replaced.

When traffic signal sites are upgraded, if there are already LED lamps there will be an opportunity to re-use the LED lamps rather than install new ones.

10.2.6 Local Transport Plan – 'Integrated Transport'

The Integrated Transport team and associated capital budget will affect asset stock through the removal of existing crossings and signal controlled junctions, through the

implementation of new signals at existing junctions, through new crossings and through the refurbishment of existing crossings or junctions. In the latter case this is due to the need to improve pedestrian and/or cycling provision or due to the need to add or remove turning manoeuvres. In respect of removal, signals could have been introduced for one or more of the following reasons:

- To improve capacity
- Deal with congestion and delays
- Provide pedestrian facilities
- Address a road safety problem
- To introduce bus priority

Several signal installations have been removed in recent years where the reason(s) for implementation no longer apply and the use of signal installations for pedestrian or traffic management is kept under constant review.

In respect of new crossing, the requirements for new crossings are determined using a pv^2 calculation, which considers;

- The number of pedestrians crossing at the desire line
- The traffic flow for the road.
- The number of accidents that have occurred at the location

This process is undertaken following requests for controlled crossings by service users. Any locations that show a likely requirement for a controlled crossing are prioritised within available Integrated Transport (IT) capital budgets.

The likely impact on congestion of a crossing is also assessed for potential new locations. In some locations a controlled crossing may be a more suitable and potentially more cost effective alternative to a school crossing patrol.

10.3 Renewal / Refurbishment / Upgraded Infrastructure

Traffic signal upgrades and new signals use LED lighting and Extra Low Voltage (ELV) systems. This has safety benefits, reduced energy and maintenance costs and reduced carbon output. Carbon taxes mean carbon reduction also provides financial benefits in addition to its non-monetary environmental benefits. Energy saving benefits are likely to increase in the future as energy costs rise.

As indicated earlier, grant funding is available for the renewal, refurbishment or upgrading of infrastructure where there is a benefit to integrated transport that will yield from an improvement to existing facilities. Additional funds are provided directly by the Council. Annual depreciation of traffic system control assets is £0.7m per year based on a 20 year life span.

Current assessments of asset condition indicate, of the 115 existing traffic signal locations 25% are in a red (poor) category, 14% are amber (fair) and 61% are green (good). The overall level of performance is fair to good.

10.4 Urban Traffic Management Control (UTMC) Software and Systems Management

10.4.1 UTMC/SCOOT in-station by Dynniq

The present UTMC system consists of two central systems. The first is the UTC/Scoot system which is used for the town centre traffic signals for co-ordination between junctions and to optimise and change signal timings. This was purchased during 2013 with a 5 year maintenance plan included in the installation. The second system is a hosted South Yorkshire Common Data Base (CDB) which again is a Dynniq system. This is used to populate VMS signs, ANPR and Bluetooth Journey Time Monitoring systems.

10.4.2 Communications Infrastructure and Technology

Rotherham town centre traffic signals are connected to the UTC system and communication links are provided by a combination of a wireless 'imesh' system, fibre optic cables and some rented ADSL circuits.

There are some important sites in the borough that do not have communications links and there may be opportunities for future investment by providing communication links via mobile 4G technology. These sites are:

- A57 Anston Crossroads
- Ravenfield Crossroads

This will result in safety benefits by improved fault reporting and response times.

10.4.3 Journey Time Monitoring using Bluetooth and ANPR

Rotherham currently has 34 ANPR cameras and 50 Bluetooth detectors, mapping vehicle movements. This data in turn yields:

- Origin/destination data between any site combination
- Journey time data between any site combination or across corridors
- Identification of areas of significant speeding

10.4.4 MOVA Locations

Microprocessor Optimised Vehicle Actuation (MOVA) is installed at several major junctions and these sites benefit from improved efficiency and reduced queue lengths.

- Whiston Crossroads A631 / A618
- Doncaster Road A630 / Oldgate Lane (2 sites)
- Walesbar Crossroads
- Ravenfield Crossroads
- A633 corridor (3 sites)

- A57 Anston Crossroads

In addition, there are 9 signalised pedestrian crossings that operate MOVA

- Station Street
- Lime Grove
- Church Street
- Golden Smithies
- Dale Road
- Kilnhurst Road
- Mushroom Roundabout
- A630 Hooton Roberts
- New York Junctions (3 sites)

If funds can be identified there are opportunities for improvements at other sites by upgrading the operating system by the installation of MOVA.

10.4.5 Operation of Remote Monitoring Sites

Remote Monitoring System (RMS) traffic signals are not linked to UTMC. RMS works via dial up telephone lines (PSTN) from a central installation to each set of traffic signals on the system. Already in place is the conversion of some BT phone line's to mobile phone connection for fault reporting. Savings are likely through reduced call and line rental costs.

10.4.6 Variable Message Signs (VMS)

Twelve sites have benefitted from the installation of VMS signs to reduce congestion and hence improve levels of service by providing up-to-date driver information for traffic, events and roadworks.

Table 10.4.1 Sites with variable message signs

VMS Location	Reason
Rotherway	For A630/A631/town centre
Centenary Way, Canklow	For A630/A629/town centre
New Wortley Road	For A629/A630/town centre
Doncaster Road, Dalton	For A630/A6123
Herringthorpe Valley Road	For A6123/A630
East Bawtry Road	For A631 and M1 motorway
West Bawtry Road	For A630/A631 and M1 / M18 motorways
Centenary Way (northbound)	For all major routes
Centenary Way (southbound)	For all major routes
Greasborough Road, Northfield	For A6123, A630, B6089
Broad Street, Parkgate	For A633, A6123 and congestion (Retail Parks)
Great Eastern Way	For A633, A6123 and congestion (Retail Parks)

10.4.7 CCTV systems

The Borough operates a system of 92 CCTV cameras in partnership with the South Yorkshire Police Service. Forty six traffic signal installations can be viewed from CCTV cameras, seventeen of these are key junctions/roundabouts which can be observed for traffic conditions and are monitored from the UTC control room.

The cameras utilise BT or Virgin Media communication networks except where equipment to communicate wirelessly direct to the Council offices has been installed.

Table 10.4.2 CCTV Sites (for UTMC purposes only)

CCTV Location	Reason
Doncaster Gate/Wellgate	Town centre problems
Whiston Crossroads	For A631/A618
Alma Road/Hollowgate	For Southern Orbital Route
Broad Street/Greasborough Road	For A633 and Parkgate
Maltby Crossroads	For A631 and Maltby
Hollowgate/Wellgate	For Southern Orbital Route
Corporation Street	Bus Station West
Effingham Square	Inner Ring Road
Main Street	For town centre
Canklow Road	For Southern Orbital Route
Drummond Street	For Southern Orbital/town centre
College Road Roundabout	All major routes
St Anns Roundabout	All major routes
Centenary Way	For A630/ Inner Ring Road/New York
Rotherham Road, Parkgate	For A633 & Retail Parks
Mushroom Roundabout	For A630 and A6123
Dalton	For A630 linked signals
Canklow Roundabout	A631/A630
A630 Dalton	A630 Doncaster
A57 Todwick	A57 Worksop
A57/A618 Aston	A57/A618 Growth Corridor

As indicated earlier, the borough also has 12 sites where CCTV is installed for traffic purposes and that are not linked to the system shared with the police.

11 WORKS DECISION MAKING PROCESS

11.1 Decision making

Improvements in the asset information enable processes for decision making to be improved to take different elements into account. Scheme prioritisation decisions will commonly depend on a number of parameters including whole-life costing, risk management and traffic impacts. For example, decisions about carriageway resurfacing prioritisation may take into account the following issues:

- Condition
- Treatment recommended (timing of intervention)
- Funding options
- Whole life costs
- Traffic impacts of works
- Strategic and operational risk
- Amenity Impact Assessment
- Strategies and initiatives
- Reactive maintenance expenditure
- Service requests or complaints
- Safety
- Strategic and key routes network
- Impact of road failure
- Engineering judgement
- Coordination with statutory undertakers programmes

Robust and transparent processes are required for confidence that optimum decisions can be made. Such processes are part of the structured asset management approach to decision making. This is illustrated in the assessment criteria for carriageways/footway works Table 11.2.1

11.2 Highway Network

11.2.1 Highway Network Decision Making Process

Traditionally, the capital maintenance programme has been determined on condition indicators from UKPMS Scanner surveys, CVI's, along with an element of engineering judgement. Roads with the highest percentages of amber sections are considered for the programme and external factors are considered in a qualitative approach. These factors have been quantified below in Table 11.2.1.

The aim of this process is to prioritise sections of highway for inclusion in the works programme that will provide value for money and improve levels of service whilst limiting the impacts of the works. This aligns with the RMBC aim of provision of the best possible services for its residents.

The 2011 Audit Commission 'Going the Distance report' recommended a move away from 'worst first' planning to using resources to stem the decline of assets in better condition whilst

maintaining the condition of the poorest condition assets. Network level analysis to investigate has shown how treating longer sections with resurfacing treatments could protect the network and improving condition indicators over a lifecycle. The Highways team has worked closely with our highway asset management system provider (Symology Ltd) to produce treatment options and lengths. By considering the treatment required and using this information as a major factor in the prioritisation process, more cost effective treatments can be undertaken. This avoids the potential position where only costly full depth reconstruction is undertaken for the works maintenance programme and more and more of the network continues to deteriorate to red. This treatment priority factor would mean that sometimes roads for which the majority of the condition is designated as amber would be prioritised above others with high percentages of red condition.

A treatment identification method uses failure mechanism information from Scanner and Course Visual Inspections (CVI) surveys of each road section to identify the likely required treatment. This method will give an idea of treatments for the prioritisation process. However, trained officers will still determine actual treatments to be undertaken for schemes using detailed individual assessments.

UKPMS Scanner surveys are undertaken on 50% of A, B and C classified roads in both directions each year. This means that for classified roads, each carriageway section will be surveyed once every 2 years. For Unclassified roads and all classes of footways a CVI is carried out on 25% of this network. This means that the unclassified roads and all footways are surveyed in a four-year period. Engineering judgement is still required in the prioritisation method. One reason for this is to consider the potential that the condition of some roads that were not included in the most recent surveys could be known to have deteriorated significantly.

Another factor that has been included in the prioritisation method is the reactive maintenance expenditure. If a section of road is receiving regular reactive maintenance, then it is likely that it would be more cost effective for the road to be treated as part of the works maintenance programme. However, this too will be subject to engineering judgement. For example the reactive maintenance costs may relate to work that has now arrested deterioration and prevented the requirement for further treatment for a number of years.

11.2.2 Highway Network Prioritisation Method

The impact on traffic is considered as part of the scheme prioritisation process, however it should be noted that this element may outweigh all others factors as a scheme that is in close geographical proximity to another scheme may cause severe traffic problems. This would reduce the level of service and undermine RMBC's responsibility for roadwork's coordination under the Traffic Management Act 2004 network management duty, and so is to be avoided.

Table 11.2.1 shows the prioritisation method for assistance in programme building for highway schemes; this is to be refined as the process is introduced. The aim is to include a range of key elements into the decision making process.

Table 11.2.1 Highway Works Prioritisation Criteria

Points Criteria	Factor	Description	Source
Amber - 100 Red - 25 Green - 0	Condition Treatment Recommendation	Focus on AMBER, especially High AMBER. Will the works address any RED.	Condition data from Insight.
Yes – 50 No - 0	Ward Member and Parish/Town Council Suggestions	Annual Ward Member review.	Ward Members and Parish/Town Councils
Yes – 50 No - 0	(High) Highway Inspector Input	Input from the experienced and trained highway inspectors	Highway Inspectors
Yes – 50 No - 0	Strategic Network	Works are on our main routes	Street Gazetteer
Yes – 50 No - 0	Coordination with other programmed works	Is the site affected by other RMBC or Statutory Undertakers works	Insight and internal works meetings
Yes – 50 No - 0	Customer Reports	Is the suggested site the subject of reports	Connect and Insight.
Yes – 50 No - 0	Risk Mgt/Safety	Third party claims information/pothole data	Insight
Yes – 0 No - 25	Level of funding Required	Excessive cost of works - do the works need phasing	Desk top design.
Below – 0 Above – 25	Overall, Ward condition	Is the Ward above or below the national average condition	Ward condition data.

11.3 Drainage Decision Making Process

The Drainage Section has a prioritisation and scoring matrix database which prioritises the highway drainage work required into High, Medium and Low priorities, for example the higher the priority the more urgent the work.

Table 11.3.1 Highway Drainage Works Prioritisation – Scoring Matrix

High Priority – e.g. flooding to public highway or internal flooding to properties	**Medium Priority** – e.g. where the is minor ponding on the public highway or flooding to gardens	**Low Priority** – e.g. where water runs down the road to the next gully
Scoring Matrix 100 + Work required to be carried out within a short timescale subject to funding	**Scoring Matrix between 35 to 99** Work required to be carried out within a reasonable timescale subject to funding	**Scoring Matrix between 0 to 34** Work required to be carried out within the Council's Programme of Works and subject to funding

The scoring matrix is used to determine the priority of remedial works. The score is based on three criteria; the severity of the flooding, the frequency of the flooding and the length of time that the Council has known about the problem.

11.4 Street Lighting Decision Making Process

Prioritisation of asset replacement works is determined by a number of factors attributed to the asset.

- **Safety** - The position and condition of the asset needs to take into consideration both the safety of vehicles and members of the public.
- **Asset condition** – dependent on condition data identified by mandatory and reactive works. Columns in poor condition can be replaced or if localised damage has occurred, can be subject to maintenance options such as fitting of steel sleeves.
- **Asset type** – certain columns have known inherent structural problems and should be replaced as part of a priority programme. This has been identified as part of the capital borrowing strategy in 2009 when 10,000 columns were identified as having structural issues. Further visual and structural inspections also take place by an external contractor every 3 years to identify further street lighting units that are in need of replacement.
- **Customer reports** - Assessed in line with the technical detail regarding safety and condition and are then prioritised within the programme.

Replacement works are prioritised in line with ILE technical report 22 (managing lighting columns) with a visual inspection carried out of all the lighting columns within in the borough to give a ‘1’ to ‘5’ rating of column condition. This information has been logged against column types with known inherent defects along with column ages to give a list of the ‘action age’ of the columns to give a priority for replacement.

Within the works prioritisation programme consideration was also given to the type of lantern and light source and low pressure sodium units (due to their age) were prioritised before high pressure sodium units. By using this set criteria, a clear prioritisation of the 10 year column replacement programme was developed.

11.5 Structures Decision Making Process

At present a programme of works is prioritised based on a manual assessment of the condition reports and other factors such as risk, customer reports, Network Rail reports and the impact on the highway, businesses etc. The aim of this process is to prioritise the works programme to give value for money and does not follow ‘worst first’ planning, it aims to improve the assets in better condition whilst maintaining the condition of the poorest condition assets thereby achieving the performance targets of Safe and Fit for Purpose. The table of Bridge Condition Indices shows that this ‘steady state’ condition is being achieved. The future development of life cycle plans will help to validate these decisions making the process more cost effective.

At present the assets are assessed according to their condition and put through a ranking process taking account of risk, available funding and other local factors. A programme of works is then produced.

11.6 Traffic Systems Decision Making Process

The major considerations for asset replacement and upgrading are:

- Age of equipment
- Condition of equipment
- Frequency and type of fault occurrence
- Data from regular periodic inspections
- Data from electrical testing

A comprehensive asset list is held centrally and sites have been assessed using a red, amber, green system for replacement and upgrade based on age and condition. A draft programme of work is then prioritised using all available data from inspections and fault reports which is held on the Fault Management System (FMS). As data in the FMS is expanded, it will make future decision making easier, quicker and more accurate.

Draft programmes are amended to reflect Integrated Transport objectives and funding in order to produce one single programme of replacement or upgrading.

All new traffic signal equipment in Rotherham is installed in accordance with The Code of Practice for Traffic Control and Information Systems, Local Transport Note 1/98 The Installation of Traffic Signals and Associated Equipment and DfT Advisory Leaflets as appropriate. All equipment uses of the latest technology available to make our systems safer, energy efficient by the use of LED lamps and utilises intelligent detection where appropriate. Where groups of signals are located close together refurbishment schemes will try to link these signals to give a smoother and faster journey time and less delays to the all road users.

12 RISK MANAGEMENT

12.1 Effective Risk Management

Effective Risk Management is essential for any organisation and its partners to achieve strategic objectives and improve outcomes for local people. Good Risk Management looks at and manages both positive and negative aspects of risk. It is not about being risk averse but is the process whereby the Council methodically addresses the risks attaching to its activities with the aim of achieving sustained benefit within each activity and across the portfolio of all activities.

In response to the Corporate Governance Report published in February 2015 and the resultant Improvement Plan, the Rotherham Risk Management framework and responsibilities was completely renewed.

As part of the work required to meet these objectives a revised Risk Management Policy and Strategy was drafted, reflecting sector good practice, and including the roles and responsibilities of members and employees.

Allied to this is a rigorous, ongoing development and training programme of middle to senior managers in risk approaches to management and decision-making. It is now also a corporate

requirement that risk is discussed in PDR's and 1:1 meetings, to ensure that every employee is aware of risk and has input to the risk identification process, with the aim being to fully integrate Risk Management into our culture, our everyday business operations and those of our contractors and partners.

By managing threats effectively, we are in a stronger position to deliver the Council's objectives. It is acknowledged that risk is a feature of all business activity, including highway asset management, and is a particular attribute of the more creative of its strategic developments. The Council accepts the need to take proportionate risk to achieve its strategic obligations but expects that these are appropriately identified and managed. By managing these opportunities in a structured process, the Council is in a better position to provide improved services and better value for money.

In keeping with the Council's approach and to ensure good management and maintenance of the council's highway network, we aim to:-

1. Identify, manage and act on opportunities as well as risks to enable the Council to achieve its objectives and include Risk Management into our culture and day to day working practices.
2. Manage risks in accordance with best practices and comply with statutory requirements.
3. Anticipate and respond to changing social, environmental and legislative requirements.
4. Maintain awareness of the need for Risk Management to those involved in developing highway asset management policies and service plans and in delivering those services.
5. Demonstrate the benefits of effective Risk Management by:
    - Cohesive leadership and improved management controls;
    - Improved resource management – people, time, and assets;
    - Improved efficiency and effectiveness in service and project delivery;
    - Better protection of employees, residents and others from harm;
    - Reduction in likelihood/impact of losses; and lower insurance premiums;
    - Improved reputation for the Council.

12.2 Types of Risks

There are principally two types of risk that the Council faces, Strategic and Operational.

Strategic Risks may be potentially damaging to the achievement of the Council's objectives, for example risks relating to the environmental impact of the Council's service delivery, for example energy efficiency, pollution or recycling and significant flood risks.

Operational Risks are faced in the day to day delivery of services, for example physical risks relating to physical damage such as fire, security, and accident prevention.

In order to capture these risks, and to ensure compliance with corporate procedure, the Managers of Highways, Roads & Carriageways; Street Lighting; Drainage; Bridges / Structures and Traffic Systems are required to identify risks, at least quarterly, in respect of their individual services which are then scored accordingly to achieve an appropriate RAG rating and culminate in an overarching Service Risk Register - Appendix D

Any red or amber risks that are subsequently deemed worthy of possible inclusion in the Council's Strategic Risk Register are referred on to the Insurance & Risk Manager for consideration. The remaining risks stay on the Operational Service Risk Register for ongoing management and assessment.

Highway-related operational risks vary in nature. Highways, Roads & Carriageways include the potential for tripping claim liability through defects on the highway. The Council's success in complying with the requirements set out in Section 58 of the Highways Act means that we currently we currently repudiate in excess of 96% (2022/2023) of all Highways claims. We have achieved similar results over the past several years and are recognised within the insurance industry as one of the best performing authorities in the country in this regard.

Street Lighting is associated with increased personal security, so any potential service level changes to lighting levels will require consideration of risk impact.

Flood risks associated with drainage assets pose operational risk through potential flooding to highway and properties. Regular maintenance of existing highway drainage assets is a priority for the Council in maintaining the safety of the public highway.

An important element to be considered in the analysis of highway structures lifecycles is the high level of risk associated with structures being under-maintained as the risk to public safety is higher than for other asset groups.

By building risk awareness into our business cases and proposals to Cabinet and SLT, driving Risk Management through a 'top down and bottom up' approach and maintaining and regularly reviewing the relevant risk registers (Strategic and Operational) we are putting ourselves in a better position to highlight unacceptable risks (individually or collectively) and take appropriate action where necessary to minimise the risk of potential losses (including financial).

13 FUNDING

13.1 Highway Asset Funding Streams

Identified below are the funding streams available to the major asset groups. The Government has made a commitment to a long term funding strategy to support works planning over a minimum of three years. These will be utilised to best effect reflective of a strategic and prioritised approach to service delivery. Although the Council revenue funding for future years is only indicative, it is used to develop long term maintenance works programmes.

- CRSTS annual capital budget allocations
- DfT Grants, Challenge Funding, Incentive Funding
- Rotherham Council annual revenue funding
- Rotherham Council Capital investment
- Defra/Local Levy
- DfT Pothole Fund

Table 13.1 Highways Funding

Year	DfT LTP / CRSTS Allocation	RMBC Capital Roads Programme	RMBC Capital	RMBC Capital Footways	RMBC Revenue	RMBC Capital Multi-hog	Pothole Fund - Total	Network North Fund
2015/2016	£3,068,000		£3,000,000		£1,486,443			
2016/2017	£2,809,000		£2,000,000		£1,486,443		£229,000	
2017/2018	£3,469.462	£3,000000			£1,486,443		£295,000	
2018/2019	£3,024,000	£2,350,000	£500,000	£1,000,000	£749,000	£300,000	£1,264,000	
2019/2020	£3,024,000	£4,650,000	£500,000		£749,000	£300,000	£220,000	
2020/2021	£3,024,000	£6,000,000	£150,000		£700,000	£300,000	£2,600,000	
2021/2022	£2,158,381	£6,000,000	£500,000		**£700,000**	£300,000	£1,788,183	
2022/2023	£3,342,800	£6,000,000	£500,000		£700,000	£300,000	£2,422,154	
2023/2024	£3,342,800	£6,000,000	£500,000		£700,000	£300,000	£500,000	
2024/2025	£3,342,800	£3,000,000	£500,000	£1,200,000	£700,000	£300,000	-	£1,161,992

Table 13.2 Highway Drainage Funding – All Revenue

Year	Gully Cleansing	Gully Waste Disposal costs	Highway Drainage Investigations/ Repairs	RMBC Capital	District Grids	Highway Funded Works	Total
2015/16	£173,500	£55,995	£139,597		£6,400	£32,115	£407,604
2016/17	£204,081	£31,779	£139,597		£6,400	£58,924	£440,781
2017/18	£204,081	£31,779	£139,597		£6,400	£27,946	£409,803
2018/19	£204,081	£31,779	£139,597		£6,400	£0	£381,857
2019/20	£204,081	£31,779	£139,597		£6,400	£0	£381,857
2020/21	£204,081	£31,779	£139,597		£6,400	£0	£381,857
2021/22	£204,081	£31,779	£139,597		£6,400	£0	£381,857
2022/23	£204,081	£31,779	£139,597		£6,400	£0	£381,857
2023/24	£236,735	£25,000	£196,600	£300,000	£6,400	£0	£764,735

Table 13.3 Street Lighting Funding

Year	DfT LTP Allocation	RMBC Capital	RMBC Revenue (Including Energy)
2019/2020	£170,000	£729,000	£1,964,249
2020/2021	£170,000	£270,000	£1,964,249
2021/2022	£170,000	£270,000	£1,964,249
2022/2023	£170,000	£270,000	£1,964,249
2023/2024	£170,000	£270,000	£1,964,249
2024/2025	£242,000	£820,000	£1,964,249

Table 13.4 Structures Funding

Year	DfT LTP Allocation	RMBC Capital	RMBC Revenue
2015/2016	£391,000	0	184,000
2016/2017	£359,000	0	184,000
2017/2018	£348,000	0	184,000
2018/2019	£329,450	1,321,000	160,000
2019/2020	£129,450	0*	160,000
2020/2021	£529,450	0*	160,000

*Subject to i) Funding revue (Rev)
ii) Further bids (Cap)

Table 13.5 Traffic Systems Funding

Year	DfT LTP or RMBC Capital or Other Capital Allocation*	RMBC Revenue**
2015/2016	£50,000	£106,000
2016/2017	£50,000	£106,000
2017/2018	£50,000	£106,000
2018/2019	£400,000	£111,620
2019/2020	£300,000	£111,620*
2020/2021	£300,000	£111,620*

*Subject to funding review (revenue)

13.6.1 Collaboration to Maximise Funding

To maximise the above funding streams and generate savings collaborative procurement and working with other local authorities has been undertaken. Listed below are examples where this has been put into practice.

- Rotherham MBC have taken the lead for procuring Winter Forecasting Services, which has been contracted jointly with Doncaster MBC and Barnsley MBC.
- Rotherham MBC are members of a consortium that comprises of seven Yorkshire authorities to procure a contract for Scrim and Scanner condition surveys.
- Procurement of a surface dressing programme has been conducted through the West Yorkshire Highway Alliance.
- The Yorkshire Purchasing Organisation (YPO) is utilised for Salt requirements.
- RMBC highways officers working for other South Yorkshire Authorities.
- RMBC conducted a procurement of a multi-million-pound contract for LED lighting units on behalf of Rotherham and Barnsley Councils.
- RMBC are the lead authority for the procurement of a new Traffic Control Systems contract with Doncaster MBC. This includes maintenance and supply/install of new traffic signals equipment.

In 2014/15 as part of a benchmarking exercise to ascertain best value for the delivery of Highway Maintenance works in Rotherham, a contract to the value of £362,000 was advertised through the Midland Highway Alliance Framework. The objective of the framework is to match the best private sector provider to the work who is then invited tender for the contract.

Prior to costs being received from the private sector organisation the in-house highway delivery team (HDT) also provided costs to carry out the works, which were 34% cheaper. The works were subsequently issued to the HDT which were delivered on time and within the target price.

RMBC are members of the Midlands Highway Alliance and West Yorkshire Highways Alliance. This enables the Council to share procurement activities and achieve efficiency savings, more competitive prices and sharing of knowledge and expertise with other authorities and the supply chain.

RMBC Corporate Procurement Service currently attend regular meetings with the YORprocure Strategic Procurement Group where opportunities for collaboration and knowledge sharing are regular discussed.

Wherever possible the RMBC Corporate Procurement Service will work with other authorities to join procurement at the early stages to encourage combined buying power, a specific paragraph of wording is also included in the contract notices to encourage other authorities to access the frameworks that RMBC have establish reducing duplicate work for other authorities and creating opportunities to negotiate cost reductions with suppliers. Barnsley MBC has recently accessed the RMBC framework for Road markings.

13.6.2 Collaborative business relationships can take many forms:

• Strategic business partnerships: private or public
• Supplier relationships

- Consortia and alliance partners
- Shared services
- Collaborative procurement
- Divisional relationships
- Client or customer relationships

The fundamental role of the internal RMBC Highway Service is to maintain the adopted highway (roads, footpaths, PROW etc.) in a safe condition. This is done through a number of teams/functions relating to roads and highways:

- Highways Asset Management (inc Winter Services)
- Drainage Service
- Highway Maintenance Delivery Team
- Highways Inspection and Enforcement
- Street Lighting, Signs and Amenities

The Corporate Procurement Service work in partnership with the Highway Network Management Group, for all purchasing and supply requirements.

Details of all agreements currently in place that are utilised by the Highway Network Management Group can be found by visiting the RMBC Contracts Register:

https://www.rotherham.gov.uk/downloads/download/7/tenders-and-contracts

The majority of arrangements of spend for Highways Equipment and Materials are set up as frameworks to offer as much operational flexibility as possible and to allow innovation and changes in the marketplace.

A breakdown of the main areas of spend include following:

- Anti-skid Surfacing
- Bitumen Emulsion
- Bitumen Macadam
- Christmas Lights
- Columns and Poles
- Concrete Products
- Grounds Maintenance Equipment and Servicing
- Highways Surveys
- Installation of Street Lighting Equipment
- Janitorial supplies
- Manhole Covers and Gully Gratings
- Operated, Non-Operated Plant and Tool Hire
- Personal Protective equipment including first aid supplies
- Plants, trees and shrubs
- Provision of Rock Salt
- Ready Mix Concrete
- Refuse sacks

- Road markings
- Road stone, Sand & Gravel
- Personal Protective Equipment
- Street Furniture and Bollards
- Street Lighting Lanterns and Associated Products
- Surface Dressing
- Supply of hand tools
- Topsoil
- Traffic Signage
- Traffic Signals
- Tree maintenance services
- Ultra-Thin Surfacing Material

The Council has seen financial savings achieved, through the existing framework and contractual arrangements that are in place with current suppliers.

14 FORWARD PROGRAMMES

14.1 Shared Works Priorities

In year works programmes for each asset group are brought together in identifying potential schemes. Firstly, this enables identification of opportunities for co-ordinating works budgets. Secondly, it allows identification of schemes that cannot feasibly be undertaken concurrently which would cause adverse traffic impacts if both were to be undertaken at once. Geographically close schemes and those on parallel strategic routes will not be undertaken concurrently due to the major traffic disruption that can occur.

The Highways Streetworks Team coordinate both internal and external works. This is done by the use of formal regular meetings with both internal and external stakeholders and individual works meetings.

Three year detailed works programmes for capital maintenance works have also been produced to support the Council's asset management Policy and Strategy - Appendix E. These will also be communicated to stakeholders and members of the public. By having longer term information on when works will be carried out will help avoid some of the dissatisfaction of residents when they are unclear when or if works will be carried out.

14.2 Forward Programmes

To provide an overview of the primary works type requirements for each of the asset groups a Forward Works Programme has been developed including an indication of funding streams and who will be responsible for their delivery – Appendix F.

The Forward Works Programme includes works type that do have funding allocations and those, those that are self-financing, and also works that have no financing identified at present but would be beneficial for the service.

14.3 Forward Works Data Requirements

A number of data requirements have been identified for improvement of the management and efficiency of each asset group. Appendix - G

A key data requirement will be the purpose for which the asset is being introduced such that rationalisation can be undertaken if circumstances change. For example, if a pedestrian crossing is installed for a nearby school, it would no longer be required if the school were to move site.

Some of the data requirements will be straightforward desktop exercises that will not be prohibitively time consuming and may potentially be undertaken by existing staff over periods of time. Other data requirements have an available funding source such as DEFRA 'new duties' funding for developing the flood risk asset register.

14.4 Forward Works Aspirations, Innovation and Adopting New Technologies Plan.

Highway Services look to identify ways in which the service can move forward to face future maintenance challenges and use innovation for improving asset management. Whilst the economic outlook places restrictions on some aspirations, there is potential for innovations and new technologies to support cost reductions at the same time as improving the service - Appendix H.

This may be an 'invest to save' project where an initial funding expenditure for technology will reduce costs in the long term. Other innovations may be required to deal with changing circumstances such as improving resilience to Climate Change.

Innovations and new technologies for assets may emerge over the coming years and as part of asset management principles, innovations will be continually reviewed.

15 HIGHWAY ASSET MANAGEMENT IMPROVEMENT PLAN

Asset management techniques are being integrated into highway working practices Therefore the HAMP will be an evolving document which will be annually reviewed and updated. Key to this is to ensure that the Highway Asset Management Policy, Strategy and Plan reflect the Council's Corporate Priorities.

The actions within the Improvement Plan are based on the development of the HAMP and provide the basis for implementing good asset management principles in Rotherham - Appendix I.

16 GLOSSARY OF TERMS

AMMG	Asset Management and Maintenance Group
ANPR	Automatic Number Plate Recognition
APSE	Association of Public Sector Excellence
CCTV	Closed-Circuit Television
CDB	Common Data Base
CIL	Community Infrastructure Levy
CIPFA	Chartered Institute of Public Financing and Accounting
CIPFA Code	Code of Practice on Transportation Infrastructure Assets
CP	Corporate Plan
CSS	County Surveys Society
CVI	Coarse Visual Inspection
DCLG	Department for Communities and Local Government
DEFRA	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DRC	Depreciated Replacement Cost
EA	Environment Agency
R&E	Regeneration & Environment
EU	European Union
FDGiA	Flood Defence Grant in Aid
FRM	Flood Risk Management
FWMA	Flood and Water Management Act (2010)
GIS	Graphical Information System
GRC	Gross Replacement Cost
HAMP	Highway Asset Management Plan
HDT	Highway Delivery Team
HM	Her Majesty
HMEP	Highway Maintenance Efficiency Programme
HMT	Her Majesty's Treasury
LA	Local Authority
LED	Light Emitting Diode
LHA	Local Highway Authority
LLFA	Lead Local Flood Authorities
LTP	Local Transport Plan for the Sheffield City Region
MOVA	Microprocessor Optimised Vehicle Actuation
NHT	National Highways and Transportation
OS	Ordnance Survey
PAR	Project Appraisal Report
PSTN	Public Switched Telephone Network
PSV	Polished Stone Value
PROW	Public Rights of Way
RAG	Red, Amber and Green
RMBC	Rotherham Metropolitan Borough Council
RMS	Remote Monitoring System
SCANNER	Surface Condition Assessment of the National Network of Roads
SCOOT	Split Cycle Offset Optimisation Technique
SON	High Pressure Sodium
SOX	Low Pressure Sodium
SuDS	Sustainable Drainage Systems
SYPTE	South Yorkshire Passenger Transport Executive
SYLDG	South Yorkshire Land Drainage Group
TAG	Local Authority Technical Advisors Group
TMA	Traffic Management Act (2004)
TRO	Traffic Regulation Order
TSRGD	Traffic Signs Regulation and General Directions
UKPMS	United Kingdom Pavement Management System

UTMC	Urban Traffic Management Control
VMS	Variable Message Signs
WGA	Whole Government Accounts
YPO	Yorkshire Purchasing Organisation

17 Tables and Charts

18 Acknowledgements

Sam Barstow – Assistant Director of Community Safety and Street Scene

Richard Jackson – Head of Service - Highways

Andy Saxton – Highway Asset and Drainage Manager and HAMP Coordinator

Allan Lewis – Street Lighting Manager / Streetworks

Matthew Reynolds – Structures / Transportation and Highway Design Manager

Mick Powell – Traffic Systems Engineer

19 Supporting Documents

Rotherham MBC Code of Practice for Highway Inspection and Assessment (CoPHI&A)
Rotherham Rights of Way Improvement Plan (RWIP)
Rotherham Winter Service Manual (WSM)
Traffic Signs and General Directions (1994)
Well Lit Highways (2004), Code of Practice for Street Lighting
Well-managed highway infrastructure 2016 ('Well-managed highway infrastructure' supersedes the previous Codes 'Well-maintained Highways', 'Well-lit Highways' and 'Management of Highway Structures'. This was published on 28 October 2016)
Management of Electronic Traffic Equipment (2011),
Code of Practice for Traffic Systems

20 APPENDICES

Appendix A - Single Data List central government data requirements relevant to the Network Management Group

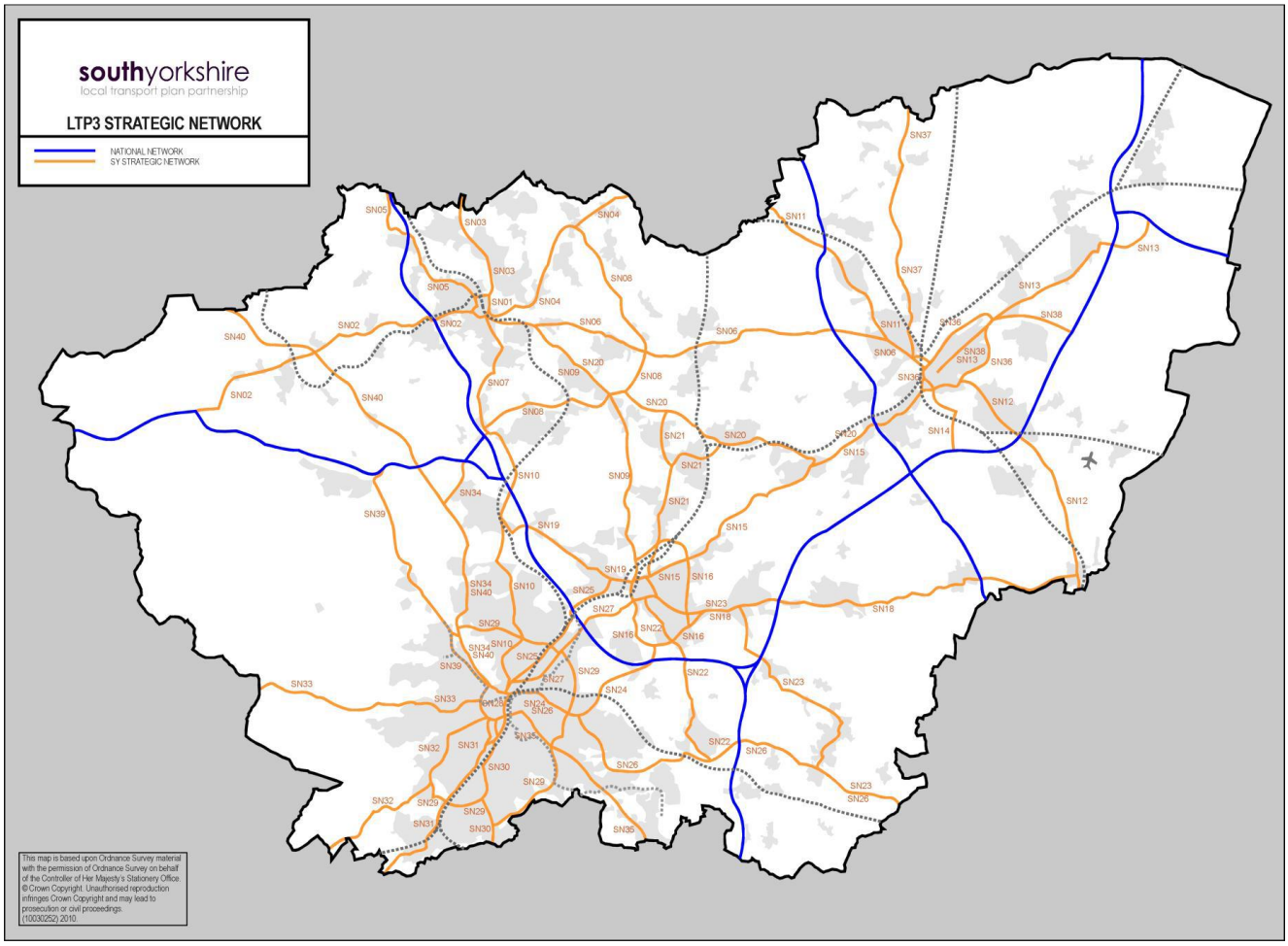
Ref	Data Collection Name	Data Topic	Government Department	Frequency
251-00	**Winter Salt Stock Holdings**			
251-01		LA winter service salt stock holdings	DfT	As required
129-00	**Highway Inventory Data**			
129-01		Numbers and characteristics of bridges and lighting	DfT	Ad hoc approx. every 3 years
130-00	**Road Condition Data**			
130-01		Principal roads where maintenance should be considered	DfT	annual
130-02		Non-Principal roads where maintenance should be considered	DfT	annual
130-03		Skidding resistance surveys	DfT	annual
130-04		Carriageway work done survey	DfT	Annual
132-00	**Road Lengths Survey**			
132-01		LA estimated road lengths	DfT	annual
158-00	**Public Rights of Way**			
158-01		Changes to the Definitive Map	DCLG/OS	As required

Appendix B – Corporate & Local Indicators

See link below:

Q1___Highways_Performance.docx (live.com)

Appendix C - Strategic Road Network



Appendix D

Risk Register

https://moderngov.rotherham.gov.uk/documents/s123475/Appendix%201%20-%20Risk%20Management%20Policy%20Guide%202019%20Update%20081119.pdf

Appendix E – Works Programmes

Highways - Works Programme (All works subject to funding)
Link to the Indicative Highway Repair Programme
https://www.rotherham.gov.uk/directory/28/indicative-highway-repair-programme

Proposed Highway 3 and 5 year repair programme

3 Year Potential Carriageway Resurfacing Sites	
Address	Locality
ALDWARKE LANE	ALDWARKE
BROOM LANE	BROOM
CARR LANE	CARR
CUMWELL LANE	HELLABY
DEARNEWAY	WATH-UPON-DEARNE
DONCASTER ROAD	DALTON
EAST BAWTRY ROAD	WHISTON
FIRBECK LANE	LAUGHTON-EN-LE-MORTHEN
GRANGE LANE	THORPE HESLEY
GREAT EASTERN WAY ROUNDABOUT	RAWMARSH
GILDINGWELLS ROAD	LETWELL
HELLABY LANE	HELLABY
HERRINGTHORPE VALLEY ROAD	BROOM
LONG LANE	WHISTON
MAIN STREET	WENTWORTH
MANVERS WAY	WATH-UPON-DEARNE
MORTHEN HALL LANE	MORTHEN
MOORGATE ROAD	MOORGATE
MOWBRAY STREET	EAST DENE
NEWHALL LANE	CARR
POPLAR WAY	CATCLIFFE
RYTON ROAD	ANSTON
STAG ROUNDABOUT	STAG
UPPER WORTLEY ROAD	KIMBERWORTH
WORKSOP ROAD	THORPE SALVIN
WORRY GOOSE ISLAND ROUNDABOUT	WHISTON

5 Year Potential Carriageway Resurfacing Sites	
Address	Locality
ASTON WAY	FENCE
BACK LANE	THRYBERGH
BAWTRY ROAD	HELLABY
BAWTRY ROAD	WICKERSLEY
BOLE HILL	TREETON
BOLTON ROAD	WATH-UPON-DEARNE
BRECK LANE	DINNINGTON
BRINSWORTH ROAD	BRINSWORTH
BROOK LANE	BRAMLEY
CHESTERFIELD ROAD	SWALLOWNEST
CHURCH LANE	BRAMLEY
CHURCH STREET	SWINTON
DONCASTER GATE	ROTHERHAM TOWN CENTRE
FAR DALTON LANE	DALTON
FIELD LANE	MORTHEN
FISH POND LANE	MALTBY
FRONT STREET	TREETON
GRANGE LANE	MALTBY
GREEN ARBOUR ROAD	THURCROFT
HAUGH ROAD	RAWMARSH
HIGH HOOTON ROAD	SLADE HOOTON
HOOTON LANE	LAUGHTON-EN-LE-MORTHEN
HOOTON ROAD	KILNHURST
KILNHURST ROAD	RAWMARSH

LAKELAND DRIVE	NORTH ANSTON
LAUGHTON ROAD	THURCROFT
LITTLEFIELD ROAD	DINNINGTON
MAIN STREET	NORTH ANSTON
MIDLAND ROAD	MASBROUGH
MONKSBRIDGE ROAD	DINNINGTON
MORTHEN ROAD	THURCROFT
MUGLET LANE	MALTBY
NURSERY ROAD	NORTH ANSTON
OLDCOTES ROAD	DINNINGTON
PACKMAN ROAD	WEST MELTON
PARK HILL	SWALLOWNEST
RAWMARSH HILL	PARKGATE
ROTHERHAM ROAD	DINNINGTON
ROWMS LANE	SWINTON
SHEFFIELD ROAD	TODWICK
ST NICOLAS ROAD	RAWMARSH
THORPE STREET	THORPE HESLEY
WALES ROAD	KIVETON PARK
WENTWORTH ROAD	SWINTON
WESTGATE	ROTHERHAM TOWN CENTRE
WOOD LANE	TREETON
WORKSOP ROAD	SOUTH ANSTON
WORKSOP ROAD	ASTON
WORRY GOOSE LANE	WHISTON

Drainage - Works Programme (All works subject to funding)

Proposed Drainage 3 year repair programme

Morrel Street	Maltby
St Johns Green	Greasborough
Haven Hill	Stone
Sheffield Road	South Anston
Mansfield Road	Aston
Main Street	Aughton
Herringthorpe Valley Road	Rotherham East
Highfield Road, Swinton	Swinton Rockingham
School Street	Dalton & Thrybergh
Park Road	Rotherham East
New Street	Keppel
Myrtle Crescent	Wickersley North
Harworth Crescent	Sitwell
Green Lane	Rawmarsh East
Carlingford Road	Boston Castle
Broom Lane	Boston Castle
Brinsworth Lane	Brinsworth
Blyth Rd / Kings Wood Lane	Maltby / Stone
School Lane	Thrybergh
Ash View	Greasbrough

Street Lighting - Indicative 3 Year Works Programme (Indicative Costs – some works may change between 24/25 and 25/26)

Project Title	Year & Costs(£000's)		
	2022/23	2023/24	2024/25
1805 column replacements	100		
Wales Road - Wales	40		
Doncaster Road – Thrybergh	20		
Bawtry Road - Brinsworth	10		
Moorhouse Lane - Whiston	10		
Oaks Lane – Kimberworth	20		
Flanderwell Lane - Flanderwell	40		
Fleming Way - Flanderwell	40		
Bonet Lane - Brinsworth	20		
Brinsworth Road / New Brinsworth Road - Brinsworth	60		
Canklow Meadows - Canklow	30		
Main Street – Catcliffe	20		
Orgreave Road - Catcliffe	20		
The Whins / Cinder Bridge - Greasbrough	30		
The Chase - Aston		25	
Worksop Road – Aston		40	
Mansfield Road – Aston		50	
Main Street – Aughton		20	
Mangham Road – Barbot Hall		30	
Rotherham Road – Swallownest		30	
Cross Street – Bramley		20	
Station Road – Kiveton		30	
Broom Valley Road - Broom		10	
Meadowhall Road - Meadowbank		20	
Hangsman Lane – Laughton		40	
Moorgate Road - Moorgate		75	
Crowgate – South Anston		20	
Morthen Road – Thurcroft		30	
Green Arbour Road - Thurcroft		20	
Doncaster Road / Church Street - Wath		50	
Worrygoose Lane - Whiston		10	
Hollings Lane - Thrybergh		30	
2025/26 programme to be agreed following inspection surveys.			

Structures – 2015 - 2021 Works Programme

Project Title	Treatment/Type of Work	
Asset Management	Assessment	£80k (average) per year 2015-21
Principal Inspections		£40K (average) per year 2015-21

Old Flatts Bridge	Refurbishment	Completed 2015/16
Rawmarsh Road Canal Bridge	Joint	Completed 2017/18
Clough Road Bridge Joints	Joint	Completed 2017/18
Eldon Road Footbridge	New Deck	Completed 2015/16
Manor Road	General repairs	Prepare scheme for 2021/22
National Grid Armco Underpass	Protective	Prepare scheme for 2021/22
Red Hill Bridge	Refurbish	Prepare scheme for 2021/22
Wood Lane Culvert	Clean	Prepare scheme for 2021/22
Newhall Green	General repairs	Prepare scheme for 2021/22
Bridge Lane Culvert	Minor repairs	Prepare scheme for 2021/22
Northfield Canal	Concrete repairs	Prepare scheme for 2021/22
Bessemer Way	Joint	Completed 2017/18
Grafton Bridge	Joint	Completed 2017/18
Miscellaneous Minor Schemes		£40k (average) per year 2015/21
Brookhouse Bridge Joints	Joint	Completed 2017/18
Talbot Road Bridge	Joint	Completed 2017/18
Canklow River Bridge	Waterproofing	Completed 2016/17
Barrow Hill retaining wall	Stabilize	Completed 2016/17
Centenary Way Viaduct	Joint	Completed 2017/18
Centenary Way Rail/Canal Bridge	CP system	Completed 2017/18
Packman Road	Culvert	Completed 2017/18
Crinoline Bridge	Refurbishment	Completed 2019/20
James Street Footbridge	Partial clean	Review condition in 2022
Halmshaw Canal	Partial clean	Review condition in 2022
Parr Yard Culverts South	Repairs to walls	Review condition in 2022
Rother Sluice Bridge	Miscellaneous	Review condition in 2022
Bow Bridge	Miscellaneous	Review condition in 2022
Woodhouse Mill Rly North	Miscellaneous	Review condition in 2022
Long Road Drain	Miscellaneous	Review condition in 2022
Low Bridge Wentworth	Miscellaneous	Completed in 2019
Fitzwilliam Road Subway	Misc	Completed in 2018
Hooton Roberts	Miscellaneous	Completed in 2014
Back Lane	New Culvert	Review condition in 2022
Rawmarsh Road Rly	Joint	Completed in 2018
Brinsworth Street Culvert	Miscellaneous	Prepare scheme for 2021/22
Manvers Way Footbridge	Painting	2021/22 proposed scheme subject to funding
Catcliffe River Bridge	Refurbishment	2021/22 proposed scheme subject to funding
River Rother Bridge/Centenary Way	Refurbishment	Not sure which one this is?

Traffic Systems - Detailed Works Programme 2015 – 2021

Project	Treatment/Type of Work	
Canklow Road / Alma Road	Full Refurbishment	Completed 2015/16
Swallownest Crossroads	Full Refurbishment	Completed 2015/16
Doncaster Road / Clifton Lane*	Full Refurbishment	Completed 2015/16
Moorgate Road at Oakwood School*	Full Refurbishment	Completed 2015/16
New Wortley Road / Clough Street 4	Full Refurbishment	Completed 2020/21

New Wortley Road / Henley Grove 4	Full Refurbishment	Completed 2020/21
A57 Anston Crossroads 1	Full Refurbishment	Completed 2020/21
Rotherham Road / Elsecar Road 5	Full Refurbishment	Completed 2019/20
Corporation Street / Chantry Bridge	Full Refurbishment	Completed 2018/19
Brecks Island* 10	Full Refurbishment	Not programmed, under investigation
Bawtry Road / Morrisons* 2	Full Refurbishment	Programmed 2020/21
Cramfit Road Railway Bridge 8	Full Refurbishment	Programmed 2021/22
Corporation Street / Upper Millgate	Full Refurbishment	Not programmed, under investigation
Braithwell Road / High Street	Full Refurbishment	Not programmed, under investigation
High Street / Manor Road, Maltby	Full Refurbishment	Not programmed, under investigation
Rotherham Road / Byford Road	Full Refurbishment	Completed 2017/18
Rotherham Road / Milton Street	Full Refurbishment	Not programmed, under investigation
Alma Road / Hollowgate / Moorgate*	Full Refurbishment	Completed 2017/18
Bawtry Road / Brecks Crescent	Full Refurbishment	Not programmed, under investigation
East Bawtry Road / Worrygoose	Full Refurbishment	Not programmed, under investigation
Bawtry Road / Springfield Crescent*	Full Refurbishment	Not programmed, under investigation
Bawtry Road / Northfield Lane*	Full Refurbishment	Not programmed, under investigation
Moorgate Road / Boston Castle	Full Refurbishment	Not programmed, under investigation
Doncaster Gate / Howard Street 3	Full Refurbishment	Programmed 2021/22
Malbty Crossroads 6	Full Refurbishment	Programmed 2021/22
Rotherham Road / Addison Road 7	Full Refurbishment	Programmed 2021/22
Bawtry Road / Morthen Road*	Full Refurbishment	Not programmed, under investigation
H'thorpe Valley Road / Mowbrey	Full Refurbishment	Not programmed, under investigation
H'thorpe Valley Road / Browning	Full Refurbishment	Not programmed, under investigation
H'thorpe Valley Road / Shenstone	Full Refurbishment	Not programmed, under investigation
Herringthorpe Valley Road / Far	Full Refurbishment	Not programmed, under investigation
Wickersley Road / Herringthorpe J &	Full Refurbishment	Not programmed, under investigation
Bawtry Road / Denby Way	Full Refurbishment	Not programmed, under investigation
Dearne Way Biscay Way	Full Refurbishment	Not programmed, under investigation
Dearne Way Doncaster Road	Full Refurbishment	Not programmed, under investigation
Wath Wood Rd Quarry Hill	Full Refurbishment	Not programmed, under investigation
Fenton Road	New Crossing	Completed 2018/19
Bawtry Road Brinsworth	New Crossing	Completed 2019/20
A57 Worksop Rd Anston	New Crossing	Completed 2020/21
A633 Rawmarsh	New Junction	Under investigation
A5109 Meadowbank Road	New Crossing	Under investigation
Morthern Road	New Crossing	Under investigation
Upper Wortley Road	New Crossing	Under investigation
Great Eastern Way	New Crossing	Under investigation
Rotherway Roundabout	Metering	Under investigation
Sheffield Road Templeboro 1	New Crossing	Under investigation
Sheffield Road Templeboro 2	New Crossing	Under investigation
Kenneth Street	Removal	Completed 2015/16
A57/A618 Roundabout	Removal	Completed 2020/21
St Ann's Roundabout (at St. Ann's	Removal	Completed 2015/16
Bramley Crossroad 9	Full Refurbishment	Completed 2019/20

(7) scheme (& number) featuring in 2016 bid for capital funding

Appendix F – Forward Works Programme

Asset Group	Short Term 2018-2019	Medium Term 2019-2023	Long Term 2023 and beyond	Financing	Responsible for Delivery
Highway Network	Revenue works, (small patching & potholing) full network. Capital Maintenance on Principal Roads. Capital Maintenance on Non-Principal Roads. Capital Maintenance on Unclassified Roads. Grants. Road classification dependent on conditions	Revenue works, full network. Capital Maintenance on Principal Roads. Including phasing schemes Capital Maintenance on Non-Principal Roads. Including phasing schemes Capital Maintenance on Unclassified Roads. Grants. Road classification dependent on conditions.	Revenue works, full network. Capital Maintenance on Principal Roads. Including phasing schemes Capital Maintenance on Non-Principal Roads. Including phasing schemes Capital Maintenance on Unclassified Roads. Grants. Road classification dependent on conditions.	RMBC Revenue Funding. LTP Funding. LTP Funding. RMBC Capital LTP Funding. DfT and other sources.	Highway Service – Regeneration and Environment
Street Lighting	Capital street lighting replacements. Concrete columns and columns in poor condition Main Route Invest to save LED units Residential Invest to save LED units Routine maintenance and mandatory testing works	Capital street lighting replacements. Concrete columns and columns in poor condition Main Route Invest to save LED units Residential Invest to save LED units Routine maintenance and mandatory testing works	Capital street lighting replacements. Concrete columns and columns in poor condition Residential Invest to save LED units Replacement of PLL lighting with LED Routine maintenance and mandatory testing works	Prudential borrowing and current LTP (2014-15) Capital investment borrowing Capital investment borrowing To Be agreed Revenue	Street Lighting Delivery Team Street Lighting Delivery Team Street Lighting Delivery Team Street Lighting Delivery Team
Structures	Revenue works, (small schemes, reactive maintenance)	Revenue works, (small schemes)	Revenue works, (small schemes)	RMBC Revenue Funding.	RMBC, EDS, Highway Service.

	Capital Maintenance Schemes. Grants	Capital Maintenance Schemes. Grants	Capital Maintenance Schemes. Grants	LTP/DfT Funding Grants or RMBC Capital DfT and other sources.	
Traffic Systems	Revenue works (small Schemes, Reactive Maintenance) Capital Schemes	Revenue works (small Schemes, Reactive Maintenance) Capital Schemes	Revenue works (small Schemes, Reactive Maintenance) Capital Schemes	RMBC Revenue LTP Funding or RMBC Capital	RMBC Traffic Signal Contractor RMBC Traffic Systems Team

Appendix G - Forward Works Data Requirements Plan

Asset Group	Short Term 2018-2019	Medium Term 2019-2023	Long Term 2023 and beyond	Financing	Responsible for Delivery
Highway Service	Annual asset collection Condition Data	Annual asset collection Condition Data	Annual asset collection Condition Data	RMBC and LTP.	RMBC, EDS, Highway Services
Drainage	Collect inventory and condition data for highway drainage including gullies and linear drainage and tracking devices for Gully Flushers for gully cleansing operations.	Highway drainage- implement targeted gully cleansing programme and Local Flood Risk Management Strategy Action Plans.	Targeted gully cleansing programme. Ongoing updating of Local Flood Risk Management Strategy - Action Plans.	Revenue Maintenance Budget.	Highway Service, Drainage Section

Street Lighting	Condition data Asset collection data as part of mandatory testing and routine works.	Condition data Asset collection data as part of mandatory testing and routine works	Condition data Asset collection data as part of mandatory testing and routine works	Revenue Revenue	RMBC RMBC street lighting delivery team
Structures	Annual General Inspections (Condition data) Annual Principle Inspections (Condition data) Asset inventory data updates	Annual General Inspections (Condition data) Annual Principle Inspections (Condition data) Asset inventory data updates	Annual General Inspections (Condition data) Annual Principle Inspections (Condition data) Asset inventory data updates	RMBC and LTP RMBC and LTP RMBC and LTP	RMBC, EDS, Highway Service
Traffic Systems	Annual Inspections (Condition data) Asset Inventory data updates	Annual Inspections (Condition data) Asset Inventory data updates	Annual Inspections (Condition data) Asset Inventory data updates	RMBC Revenue RMBC Revenue	RMBC Traffic Signal Contractor RMBC

Appendix H - Forward Works Aspirations, Innovation and Adopting New Technologies Plan

Asset Group	Short Term 2018-2019	Medium Term 2019-2023	Long Term 2024 and beyond	Financing	Responsible for Delivery
Highway Services	Continuing the use of surface treatments. Identification of new mobile devices. Development of “Find & Fix” teams for safety defects. Reduction in spend on reactive maintenance. To see the highway network at or above national average.	Continuing the use of surface treatments. Identification of new mobile devices. Introduction of “Find & Fix” teams for safety defects. Reduction in spend on reactive maintenance. To see the highway network at or above national average.	Continuing the use of surface treatments. Identification of new mobile devices. Introduction of “Find & Fix” teams for safety defects. Reduction in spend on reactive maintenance. To see the highway network at or above national average.	RMBC and LTP. RMBC. RMBC. RMBC. RMBC and LTP.	RMBC, Community Safety and Streetscene

Street Lighting	Development of real time electronic fault clearance (handheld mobile) Reduction in reactive maintenance (LED)	Implementation of real time electronic fault clearance (handheld mobile) Central Management System	Central Management System)	LTP Capital funding	RMBC / IT service provider RMBC
Structures		Development of Life-Cycle maintenance plans Electronic data capture Develop designed and costed schemes to enable cost benefit justification for funding bids	Electronic data capture	RMBC and LTP. RMBC. LTP	RMBC, EDS, Highway Services.
Traffic Systems	Business case for fibre communications network	Expand fibre network in the central area	Invest to Save for remaining sites to fit LED signals	RMBC Capital LTP	RMBC