

Hartlepool Borough Council

Highway Maintenance Plan



Foreword

Hartlepool Borough Council Highway Maintenance Plan

The highway network is, almost certainly, the most valuable asset that any local authority owns; so looking after the network should be a key priority for every council. and as such its maintenance is a significant factor in ensuring that people and goods move freely, safely and efficiently around Hartlepool. That is why the Tees Valley Councils have collaborated to produce this "Highway Maintenance Plan" . .

In this context the Highway Maintenance Plan is a key document in ensuring that those responsible for delivering the service are aware of the Council's requirements, procedures and processes.

Following the publication of successive Codes of Practice for Highway Maintenance since 1983 (the latest being October 2016) the Hartlepool Council Highway Maintenance Plan has been developed and is founded on the key principle of Best Value and Risk Assessment, supported by the original themes of a robust regime of safety inspection and a planned investment programme based on whole life costs.

CONTENTS

Foreword

Executive Summary

PART A —STRATEGY

- Section 1 INTRODUCTION**
- 1.1 The Hartlepool Approach
 - 1.2 Code of Practice for Maintenance Management
 - 1.3 Purpose and Scope
 - 1.4 Aims and Duties
- Section 2 POLICY FRAMEWORK**
- 2.1 Strategic Objectives
 - 2.2 Integrated Transport Strategy
 - 2.3 Delivering Best Value
 - 2.4 Risk Management
 - 2.5 Legislation
- Section 3 MAINTENANCE STRATEGY AND HIERARCHY**
- 3.1 Principles and Objectives
 - 3.2 Maintenance Management System
 - 3.3 Network Inventory
 - 3.4 Network Hierarchy
 - 3.5 Maintenance Categories
- Section 4 SERVICE DELIVERY**
- 4.1 Responsibilities
 - 4.2 Service Delivery Arrangements
 - 4.3 Procurement Strategy
 - 4.4 Client Management
 - 4.5 Engineering Consultancy
 - 4.6 Partnered Works Contracts

PART B — STANDARDS

- Section 5 INSPECTION AND ASSESSMENT**
- 5.1 Inspection Categories
 - 5.2 Safety Inspections
 - 5.3 Service Inspections
 - 5.4 Condition Surveys
 - 5.5 Risk Assessments
 - 5.6 Category 1 Defects
 - 5.7 Category 2 Defects
 - 5.8 Defect Investigatory Levels
 - 5.9 Skid Resistance

Section 6 CONDITION AND STANDARDS

- 6.1 General
- 6.2 Types of Standard or Investigatory Level
- 6.3 Condition of Carriageways
- 6.4 Condition of Footways
- 6.5 Condition of Cycle Routes
- 6.6 Condition of Highway Drainage Systems
- 6.7 Condition of Embankments and Cuttings
- 6.8 Condition of Landscaped Areas and Trees
- 6.9 Condition of Fencing and Barriers
- 6.10 Condition of Traffic Signs and Bollards
- 6.11 Condition of Road Markings and Studs
- 6.12 Condition of Traffic Signals, Pedestrian and Cycle Crossings
- 6.13 Regulatory Functions

PART C - FINANCIAL AND PERFORMANCE MANAGEMENT

Section 7 PROGRAMMING AND PRIORITIES

- 7.1 General
- 7.2 Public Engagement
- 7.3 Statutory Priorities
- 7.4 Balancing Core Network Objectives
- 7.5 Balancing Priorities by Type
- 7.6 Balancing Priorities by Category

Section 8 SUSTAINABLE HIGHWAY MAINTENANCE

- 8.1 General
- 8.2 National Highway Sector Schemes
- 8.3 Technical Specifications and Guidance
- 8.4 Quality Management and Sector Schemes
- 8.5 Environmental Management
- 8.6 Environmental Sustainability

Section 9 FINANCIAL MANAGEMENT

- 9.1 Sources of Funding
- 9.2 Financial Procedure
- 9.3 Accounting Principles
- 9.4 Financial Control

Section 10 PERFORMANCE MANAGEMENT

- 10.1 Benchmarking
- 10.2 Performance Indicators and Targets
- 10.3 National Performance Indicators

HIGHWAY MAINTENANCE PLAN — September 2018

EXECUTIVE SUMMARY

The Hartlepool Highway Maintenance Plan has been developed to conform with the recommendations set out in the Well-maintained Highways, Code of Practice for Maintenance Management published in October 2016 and founded on the key principles of Best Value and Risk Assessment.

This policy document is divided into 10 sections, which can be summarised as follows:

PART A - STRATEGY

Introduction - this sets the scene through identifying the vision, goals and values of the Council insofar as they relate to transportation in general and highway maintenance in particular, and the new Well-maintained Highways, Code of Practice for Maintenance Management

Policy Framework - this encompasses the key Best Value requirement for policy integration by linking the Council's aspirations and strategic objectives to the Government's transport policy contained in the "Ten Year Plan for Transport". This is more comprehensively considered in the Hartlepool Local Transport Plan within which highway maintenance has a significant contribution. Delivery of these objectives and policies will be underpinned by a risk management strategy.

Maintenance Strategy and Hierarchy — this comprises the strategy elements of a detailed inventory, a defined hierarchy and policies and objectives linked to maintenance activity types and categories. The hierarchy is the foundation of the strategy and is fundamental in determining policy priorities. However, in order to operate effectively, the strategy should be supported by a comprehensive management system, the level of which is determined by the extent of the defined inventory. Moreover, the Council is committed to the development of UKPMS and the type of survey regime approved will determine how future maintenance strategies are supported.

Service Delivery — this defines how maintenance activities are undertaken in Hartlepool through various service delivery contracts. The procurement strategy for service delivery contracts takes into account the implementation guide "Rethinking Construction" fundamental for securing Best Value.

PART B - STANDARDS

Inspection and Assessment — this defines the inspection and assessment regime detailing safety and service inspections and structural condition surveys. The inspections incorporate items for inspection, frequencies of inspection, defect investigatory levels, risk assessments and defect response times. The Hartlepool policies on structural condition surveys are outlined. This section comprises the policies and procedures that are fundamental to safety and third party insurance issues.

Condition and Standards — linking to the core network objectives of safety, serviceability and sustainability, this section defines the condition at which investigatory levels for maintenance are applicable and the appropriate treatments that may result. It covers all elements of maintenance activity and also includes regulatory functions, winter service and weather and other emergencies.

PART C — FINANCIAL AND PERFORMANCE MANAGEMENT

Programming and Priorities — this sets within the context of Best Value the establishment of priorities at corporate, departmental and maintenance levels. Programming and prioritising maintenance works are considered in relation to statutory requirements, core network objectives, maintenance type activities (such as reactive and routine maintenance) and maintenance category elements (such as drainage systems and road markings).

Quality Management — this sets out the requirements for consistent standards of quality in respect of materials, treatments and processes in order to meet the core network objectives and to secure Best Value. Consideration is given to the National Highway Sector Schemes, environmental issues, noise pollution, waste management and the recycling of existing highway materials.

Financial Management — this sets out the financial procedures to be adopted by the Council. It defines the budget allocation procedure in respect of special maintenance, basic maintenance and capital maintenance and specifies the procedures for dealing with claims and rechargeable works.

Performance Measurement — this sets out how the Council is measured in terms of Best Value through benchmarking, performance indicators and performance targets.

Whereas the Highway Maintenance Plan sets out the policies and objectives underpinned by the Risk Management Strategy, guidance on how risk assessments are translated into maintenance works will be contained in the "Hartlepool Council Highway Inspection Manual."

The adoption of this Manual together with appropriate training of all inspectors will enable effective risk assessments to be undertaken on site.

PART A STRATEGY

1 INTRODUCTION

1.1 THE HARTLEPOOL APPROACH

Hartlepool's highway network covers over 400 Km of roads. The Council is responsible for providing services to over 90,000 people including management of the highway network.

The Council seeks to provide a high quality service with the aim to work with and support the people of Hartlepool to fulfil our mission to be a responsive and caring Council providing good quality and efficient services'.

The successful management of the highway network is fundamental to the ability of the Council to deliver this vision. The highway network is fundamental to the economic, social and environmental well being of the community. Consequently the use of appropriate management systems is essential in achieving this.

1.2 CODE OF PRACTICE FOR HIGHWAY MAINTENANCE MANAGEMENT

The most recent Code of Practice for Highway Maintenance Management entitled "Well maintained Highways", published in October 2016 by the Roads Liaison Group is founded on the key principles of Best Value, that services should be based upon the needs of users and the community rather than the convenience of service providers. It has also been designed to facilitate the conduct of Best Value Reviews including highway maintenance, and to provide a stimulus to the pursuit of improvement.

The importance of highway maintenance and its relevance to the integrated transport agenda is widely recognised and it is important that the service is closely integrated, not only with overall transport policy, but also with other key areas of policy.

Maintenance policy and practice should be sufficiently flexible to respond and add value to a wide range of local circumstances, whilst retaining the level of consistency expected by users, particularly for those parts of the network serving more than a local function.

The object of the Code is to encourage co-ordination and consistency in the delivery of local highway maintenance services and to facilitate sharing of developing best practice. The Code comprises a framework of guidance and standards that, if generally applied, should contribute significantly to the achievement of this objective.

The duty of Best Value means regular review, comparing performance and challenging present arrangements in order to secure continuous improvement or "step change" in pursuing defined outcomes and this requires a robust regime of performance indicators, benchmarks and targets. The broadly based performance improvement agenda of Comprehensive Performance Assessment has evolved from Best Value with due consideration within this plan.

A key area of the Best Value regime is that of procurement, with the expectation that reviews should specifically consider the potential for competition in service delivery. Consideration should be given to "Rethinking Construction" arising out of the Egan Report with the emphasis on new forms of partnering arrangements including public-private partnerships and the use of framework agreements.

The Government's Efficiency Review undertaken by Sir Peter Gershon during 2004 has promoted increased stimulus for review in the delivery of services.

The strong focus on the needs of users rather than providers brings a requirement for greater emphasis on consulting and involving users, and will need careful local consideration of how to undertake this most effectively for such a wide ranging and complex service.

Finally, the importance should be stressed of the need for highway maintenance to meet the challenge of sustainability. This requires that the wider economic, social and environmental implications of both the service and its individual schemes are first of all understood, and then modified as far as practicable to ensure Best Value outcomes for the community.

The Council fully endorses the principles of the Code of Practice and will seek to ensure that all highway maintenance activities in Hartlepool are undertaken in accordance with the requirements of the Code.

1.3 PURPOSE AND SCOPE

The objectives of the new Code of Practice and accordingly, therefore, the objectives of this Highway Maintenance Plan are:

- to encourage the adoption of asset management planning as a means of demonstrating value for money in the delivery of highway maintenance.
- to encourage the development, adoption and regular review of policies for highway maintenance, consistent with the wider principles of integrated transport, sustainability and Best Value
- to encourage a focus on the needs of users and the community, and their active involvement in the development and review of policies, priorities and programmes
- to encourage harmonisation of highway maintenance practice and standards where this is consistent with users expectations, whilst retaining reasonable diversity consistent with local choice
- to encourage the adoption of an efficient and consistent approach in the collection, processing and recording of highway inventory, highway condition and status information for the purpose of both local and national needs assessment, management and performance monitoring
- to encourage the adoption and regular review of a risk management regime in the determination of local technical and operational standards, rectification of defects arising from safety and serviceability inspections, and investment priorities.
- to encourage innovation in the procurement of highway maintenance contracts, whilst complying with the high standards of corporate governance.
- to seek continuous improvement in environmental performance and operate in such a way as to safeguard personal safety, public safety and to minimize the potential harmful effects of treatments on the environment.

Although the main purpose of highway maintenance is to maintain the highway network for the safe and convenient movement of people and goods, this needs to be set within the wider context of integrated transport, Best Value and the corporate vision of the Council.

The principles that underpin and define the objectives of highway maintenance are:

Network Safety

Complying with statutory obligations
Meeting users' needs for safety

Network Serviceability

Ensuring availability
Achieving integrity
Maintaining reliability
Enhancing condition

Network Sustainability

Minimising cost over time
Maximising value to the community
Maximising environmental contribution.

The scope of the highway maintenance service is very wide ranging and encompasses the following types of activity:

- Reactive — responding to inspections, complaints or emergencies
- Routine — regular consistent schedule for patching, cleaning, landscape maintenance and other activities
- Programmed — planned schemes, primarily of resurfacing, reconditioning or reconstruction
- Regulatory — inspecting and regulating the activities of others
- Winter Service
- Weather and other emergencies

All technical and operational standards contained in this Highway Maintenance Plan are for guidance as investigatory levels only. Decisions for action must be taken in accordance with the risk management strategy of the Council.

1.4 AIMS AND DUTIES

The Council has a duty as the local highway authority for Hartlepool, excluding the A19 trunk road, to ensure that all adopted roads and footways are maintained in a safe condition having regard to the amount and nature of the traffic using them. It is also the aim to provide a road network with a condition and environment that are acceptable to the people of Hartlepool and the travelling public. In the pursuit of this aim, the Council is committed to ensuring that all funds available for the service are used as effectively as possible.

To undertake this duty and in seeking to achieve these aims, the following strategies have been incorporated:

- to monitor the proportion of the maintenance budget spent on programmed structural maintenance to bring it in line with the national average
- to continue to give a high priority to the Principal Road Network, heavily trafficked routes and areas of high pedestrian usage
- to engage in regular consultations with users to ascertain views, needs and priorities
- to programme and prioritise works, having taken into account the results of user consultations, consistent with the risk management strategy

- to maximise expenditure on works on the highway, whilst ensuring that sufficient and appropriate data is collected to enable informed decisions on priorities for expenditure to be taken
- to continue to develop the use of condition data and other management information in accordance with the development of UKPMS
- to develop a Transport Asset Management Plan (TAMP) as part of the Local Transport Plan process.
- to ensure that highway maintenance activities are undertaken in accordance with the principles of the Code of Practice for Highway Maintenance Management "Well — maintained Highways" as contained in this Maintenance Plan.

2 POLICY FRAMEWORK

The planning and delivery of services will be integrated within the wider aims and objectives of the corporate vision and coordinated with other business objectives. This is crucial in ensuring a high quality service that offers good value for money to the people of Hartlepool.

2.1 STRATEGIC OBJECTIVES

In developing the vision for Hartlepool the Council has identified the Community Strategy themes as follows;

- **Jobs and the Economy**
- **Lifelong Learning and Skills**
- **Health and Care**
- **Environment and Housing**
- **Culture and Leisure**
- **Strengthening Communities**

We can contribute to achieving the Council objectives by focusing on the achievement of four specific objectives.

The four objectives are: -

- To keep the highway network safe and well maintained at all times of the year
- To reduce congestion on the network by co-coordinating the works programmes of all those organisations affecting the network
- To apply the principles of Local Agenda 21 via the increased use of low noise surfacing, recycled materials and by the adoption of a whole life costing strategy for treatment identification and selection
- To manage and monitor service performance and improvement through the effective use of performance management tools

These objectives will form the basis in the development of policy and strategy, however four other elements shall also be taken into consideration: - Integrated Transport Strategy, Best Value principles including Promoting Continuous Improvement, Risk Management principles and Legislation.

The theme of strategic policy integration is continued in Government transport policy. The Ten Year Plan for Transport, although now elapsed, was intended to support and contribute to long term Government objectives within which highway maintenance was

placed as a key priority for investment. The key principals are still relevant and continue to be championed within this Plan.

Although highway maintenance is a contributory element to some of the objectives and targets in the Plan, the key objectives will be:

- Better Road and footpath conditions
- Reduced casualty numbers
- Reduced noise
- Enhanced personal safety

The Hartlepool Highway Maintenance Plan will endeavour to achieve these objectives by

- Progressing longer term, non adversarial and sustainable contracts
- Seeking opportunities to Invest to save
- Seeking funding from other organisations for Crime reduction and Environmental improvements
- Working with all partners to deliver additionality to projects
- Improving public perception of road works by early informative consultation with all stakeholders
- Highway Management Policies and objectives based on the recommendations within the new Codes of Practice
- Basing priorities on reviewed hierarchies, technical requirements and whole life costing
- Maintaining accurate and updated inventory details, necessary for Asset Management valuation
- Informing developers of sustainable requirements
- Applying Environmental Management Strategy throughout to save energy and mitigate effects of climate change

Highway maintenance policy should be developed integrally with the overall management of the network so that the whole is managed holistically to provide consistent and appropriate levels of service through all the modes of transport and their constituent activities. It is essential that consistency exists across all the service boundaries.

Managing highway maintenance needs to be consistent with arrangements for managing an authority's wider asset base such as land and property set within the context of an asset management regime. The key principles of asset management are:

- focus on lifecycle costing
- management strategies for the long term
- establishing and monitoring levels of service
- managing risk of failure or loss of use
- sustainable use of physical resources
- continual improvement.

2.2 INTEGRATED TRANSPORT STRATEGY

In accordance with the requirements of the Local Transport Plan guidance the Council has prepared a Local Transport Strategy for Hartlepool. This sets out details of how transport can contribute towards the longer term (10-15 years) vision for Hartlepool.

To ensure that the Transport Strategy and the LTP puts transport users' priorities at the heart of these services a series of public meetings have been undertaken. These meetings have promoted a close understanding between the public and council as to what are the key transport issues in the town.

There are a number of challenges raised by these consultations and these have been distilled into four objectives.

Objectives

Delivering Accessibility

- to reduce the barriers to accessing employment, education and training and health care
- to support the location of new development and provision of services that reduce the need to travel

Safer Roads

- to reduce the incidence and severity of personal injury road crashes
- to increase personal safety and security whilst travelling

Tackling Congestion

- to encourage more sustainable modes of travel, especially in urban areas
- to maintain, improve and make more efficient use of the existing transport network

Better Air Quality

- to control and maintain local air quality

The transport strategy supports the aims of the emerging LDF in promoting Hartlepool's economic and social development and improving the environment, and is in line with other corporate policies.

2.3 DELIVERING BEST VALUE

From 1 April 2000 the duty of Best Value was placed on local authorities in respect of the funding, procurement and delivery of all services. It requires authorities to:

- ensure that services are responsive to the needs of the community not the convenience of service providers
- secure continuous improvement in the exercise of all functions, whether statutory or not, having regard to a combination of economy, efficiency and effectiveness.

The Government stated that Best Value could lead to "genuine and long term improvements in the social, economic and environmental well being of communities", which is reflected by the requirement to produce a community strategy.

The principles of Best Value are particularly relevant to highway maintenance for the following reasons:

- highways are a major public asset highly valued by the community
- maintenance attracts a high level of public interest and concern
- performance indicators have historically been difficult to quantify
- there has tended to be no robust framework for local comparison
- there has been an inefficient approach to whole life costing
- there is a wide and developing range of service delivery options.

Best Value has developed through the process of Comprehensive Performance Assessment (CPA) which focuses on the corporate and service performance of the authority, promising greater flexibility in return for performance improvement. The involvement of highway users and the community during a Best Value consultation exercise is both desirable and relevant and is essential in generating understanding in order to pursue Best Value. Consistency of standards is also an important element in delivering Best Value. There must be consistent standards demonstrated by the Council and, moreover, there should also be reasonable consistency with the networks maintained by housing authorities or other agencies. The Council has adopted a standard computer system throughout to record inspections, which can then be assessed by insurance/legal services to deal with claims.

Best Value reviews are built on the 4 C's (Challenge, Compare, Consult and Compete) and each of these must be fully examined and incorporated into the process. Authorities need to show that for every review their process is:

- 1) Challenge - How and why are particular services being provided. Are we doing it right?
- 2) Compare - The Council's performance against other authorities.
- 3) Consult - Investigate the communication channels held between the council and service users.
- 4) Compete - Ensure that all services are open to fair competition.

It is important that reviews should

- (a) identify all areas of interaction of highway maintenance with each of the key corporate objectives of the Council
- (b) investigate and pursue added value when opportunities arise through these interactions and ensure sustainability is considered throughout.
- (c) investigate and resolve conflicts which arise through these interactions.

The goal of Best Value to secure continuous improvement will only be effective in an organisation that is able to embrace change, encourage risk and innovation, and is able to learn from both its successes and failures. As continuous improvement will be measured through performance indicators, benchmarking and targets, these will clearly need to be appropriate and meaningful.

The authority embraces the principles of competition in procuring the delivery of services taking into account both price and quality. Comparison and consultation shall be exercised to ensure efficiency.

The Council's Standards and Policies are being developed through consultation and will take into account local needs. Information on these is being made available through the

Council's website. The website is also being developed to show information on both authority and utility road works, which will help to alleviate inconvenience and disruption. Procedures are also in place to manage all calls to the council, via Hartlepool Connect.

The Council and service providers embrace the requirements of equal opportunity, and the philosophy of "investors in people" processes including appraisal, training and development.

2.4 RISK MANAGEMENT

Risk management is defined as "The identification, measurement, control and financing of risks, which threaten the existence, the assets, the earnings or the personnel of an organisation or the services it provides." Risk management is recognised as an integral part of good management practice. The process of risk management consist of steps, which when undertaken in sequence, enable continual improvement in decision making.

The main elements of the risk management process will consist of the following:

Establish the context — the strategic, organisational and risk management context. **Identify risks** — what, why and how things can arise.

Analyse risks — consider the range of potential consequences and how likely those consequences are to occur.

Evaluate risks - compare and rank the level of risks so as to identify management priorities.

Treat risks — develop and implement specific management plan to control or reduce the impact of the risks.

Monitor and review — monitor and review the performance of the risk management system and changes, which might affect it.

Communicate and consult - at each stage of the risk management process communicate and consult with both internal and external stakeholders concerning the process as a whole.

The sources of risk are divided into two broad categories:

Strategic — these are hazards and risks which relates to medium to long term goals and objectives of the authority. Such risk may be political, economic, social, technological, legislative, environmental, competitive and customer / citizen / stakeholder.

Operational — these are hazards and risks which managers will encounter in the work on a day by day basis, such as financial, legal, physical, contractual, technological or environmental.

In regard to highway liability, highway authorities have an absolute duty to maintain highways pursuant to S 41 of the Highways Act 1980 although a "special defence" exists under S58 of the Act. This allows authorities to successfully defend actions arising from accidents that occurred due to the condition of the highway where the authority can demonstrate it acted "reasonably". Clearly risk management is an integral element of being able to demonstrate reasonableness. All highway maintenance activities, whether the management or the operation, should be undertaken against a clear and comprehensive understanding and assessment of the risks and consequences involved. The highest profile risks affecting the highway maintenance service are those relating to the safety of the network and accident, injury or health risks to users including employees.

There is a wide range of other risks relating to network serviceability and sustainability including:

- network loss or serious failure
- operational
- environmental
- financial
- contractual.

The understanding and management of risk is fundamental to the effective management of highway maintenance. Risk assessment is fundamentally the structured and systematic expression and recording of collective good judgment based on the best available data.

2.5 LEGISLATION

Much of highway maintenance activity is based upon statutory powers and duties contained in legislation and precedents developed over time as a result of claims and legal proceedings. It is crucially important that all those involved in highway maintenance, including Council Members, have a clear understanding of their powers and duties, and the implications of these.

Even in the absence of specific duties and powers, authorities have a general duty of care to users and the community to maintain the highway in a condition fit for its purpose. This principle should be applied when developing policy and strategy.

In addition to a general Duty of Care, there are a number of specific pieces of legislation which provide the basis of powers, duties, and responsibilities relating to Highway Maintenance, regulating the environmental affects of operations, and Health and Safety:-

The Highways Act 1980

The New Roads and Street Works Act 1991

Road Traffic Regulations Act 1984, and the Traffic Signs and General Directions 1994

Road Traffic Act 1988

Road Traffic Reduction Act 1997

The Local Authorities (Transport Charges) Regulations 1998

The Transport Act 2000

Traffic Management Act 2004

Railways and Transport Safety Act 2003

National Parks and Access to the Countryside Act 1949

Countryside Act 1981

Wildlife and Countryside Act 1981

The Environmental Protection Act 1990

The Weeds Act 1959

Ragwort Control Act 2003

Rights of way Act 1990

Countryside and Rights of Way Act 2000

European Water Framework Directive 2000

The Clean Neighbourhoods and Environment Act 2005

The Environmental Assessment of Plans and Programmes Regulations 2004

The Health and Safety at Work Act 1974

Management of Health and Safety at Work Regulations 1992

Construction (Design and Management) Regulations 1994

There is also further legislation, not specifically related to highways, street and traffic functions, but dealing with wider community issues that may affect the service we provide: -

Crime and Disorder Act 1998 (Section 17)
Disability Discrimination Act 1995
Criminal Justice and Public Order Act 1994
Human Rights Act 1998
Freedom of Information Act 2000
Local Government Act 2000
Civil Contingencies Act 2004

In the development of policy and strategy the first priority will always be to ensure compliance with our statutory duties and fulfilling our duty of care.

3 MAINTENANCE STRATEGY AND HIERARCHY

3.1 PRINCIPLES AND OBJECTIVES

Highway maintenance will be undertaken with a systematic logical approach based upon a strategy developed in accordance with the principles of Best Value. Delivery of the strategy is dependent on the relationship between LTP , "Well-maintained Highways Code of Practice for Highway Maintenance Management", and the CSS Framework for Asset Management and the delivery of the operational aspects of maintenance. The principles of the strategy are:

- to deliver the statutory obligations of the Council
- to be responsive to the needs of users and the community
- to provide effective management of the highway network and maintain the asset value
- to support effective delivery of the statutory network management duty
- to support and add value to local transport objectives
- to support and add value to wider policy objectives.

The service provided by the infrastructure shall in future be coordinated within the Councils Transport Asset Management Plan (TAMP), which is available [here](#) on the Councils website..

These principles are incorporated into the maintenance regime with the three core objectives of:

- network safety
- network serviceability
- network sustainability.

These core objectives are to be set within a comprehensive asset management regime based on:

- effective risk management
- needs based budgeting

- competitive service delivery management.

These objectives will also provide the basis for establishing the outcomes with which performance can be measured. The framework, upon which both performance and continuous improvement can be measured, essential for Best Value requirements, is through the development of appropriate performance indicators, benchmarking and targets. These are discussed later in the document.

The component elements of the strategy are:

- a detailed inventory of all relevant components to be maintained
- a defined hierarchy for all elements of the network
- a robust framework of levels of service linked to core objectives.

For the strategy to operate effectively, these key elements need to be supported by:

- a comprehensive management system for inspecting, recording, analysing prioritising and programming maintenance works so as to optimise their asset management condition.
- A risk management strategy clearly identifying and evaluating the risks and consequences of investment decisions and measures to mitigate them.
- arrangements to finance, procure and deliver maintenance works in accordance with the principles of sustainability and Best Value
- arrangements to monitor, review and update as necessary, each component of the strategy and the performance of the strategy as a whole in delivering the core objectives.

A further key principal is that the strategy should support and add value to the Council's wider corporate objectives of:

- Jobs and the Economy
- Lifelong Learning and Skills
- Health and Care
- Environment and Housing
- Culture and Leisure
- Strengthening Communities

The maintenance strategy will be incorporated into all other highway activities in order for proper co-ordination to occur, thereby ensuring that future maintenance needs are fully considered. In this regard, a maintenance audit process will be set up and will include some or all of the following items for all highway schemes:

- What is the estimated design life?
- Is this design life compatible with the adjacent infrastructure?
- Are the design and materials suitable for the predicted traffic use?
- Can the materials be readily replaced throughout the design life?
- Can the materials be satisfactorily re-laid after utility works?
- Are the materials liable to fading or discolouration?
- Can the surfaces be cleaned?
- Can the infrastructure be easily accessed for maintenance purposes?

- Could tree planting be redesigned to avoid future obstruction to signs or visibility and consequent maintenance requirements whilst maintaining compatibility with the urban environment?

3.2 MAINTENANCE MANAGEMENT SYSTEM

A computerised maintenance management system is an essential tool in managing the large volumes of data associated with the highway network together with modelling analytically the needs, options and priorities for maintenance strategies and programmes. These systems are known as Management Information Systems.

The current system adopted in Hartlepool uses the "CONFIRM" suite of Management Information Systems which holds all Coarse Visual Inspection (CVI), Detailed Visual Inspection (DVI) and (Surface Condition Assessment of the National Network of Roads (SCANNER) survey condition data, in addition to all Highway Inventory.

In addition to the highway maintenance information the system also holds street lighting inventory and maintenance information.

Hartlepool condition and asset data is provided by both machine and visual surveys in accordance with national guidelines and specifications.

The current requirements for data collection are as follows, however these survey standards will change in line with national guidelines.

SCANNER

Principal A roads	100% of network— annual survey
Non Principal B roads	100% of network — annual survey
Non Principal C roads	100% of network — annual survey

GRIPTESTER —yearly cycle

100% of Principal Routes

Coarse Visual Inspection (CVI)

CVI surveys are carried annually out on all roads within the network excluding unsurfaced roads. The survey is also used to target carriageway schemes submitted for the 5 year programme.

Footway Network Survey

Maximum of a third of the network is surveyed annually and consists of a rolling program combined with known problem areas as indicated by Hartlepool Borough Council Inspectors.20

INVENTORY SURVEY

The data collection strategy is reviewed annually, and conforms or exceeds the recommendations defined in the new Code of Practice. The strategy will also have to take into account any additional inventory requirements as well as the data collection regime for Best Value Performance Indicators and local key performance indicators.

The automatic processing of UKPMS (known as the Automatic Pass) provides the key function of translating recorded pavement condition across the network to a prioritised schedule of treatment lengths with a recommended treatment option and associated cost for each length.

This processing draws upon both the physical data for the network — condition data, network and inventory information — and also the engineering parameters and rules, for example defining the relationship between pavement condition and treatment.

The analysis process of the selection and prioritisation of treatments involve a number of separate key elements which are:

- defects
- rating of defects
- condition indices
- condition projection
- system intervention levels
- treatments
- treatment selection rules
- prioritisation of treatment lengths.

3.3 NETWORK INVENTORY

Highway inventory is the collection and recording of the highway asset in terms of the number and locations of the items to be maintained. The following are examples:

carriageway	— length, width and surface type
gullies	— type and location
signs	— sign type, height, mounting bracket and location
road markings	— type and location
Streetlights	— column material, height, lantern type
bridges and structures	— spans, widths, and construction

A basic highway inventory is essential in order to allocate funds for the various activities, to calculate unit costs and to submit requisite information to Government each year on road lengths maintained, which is used for the calculation of Formula Spending Share and Revenue Support Grants. Moreover, there is a requirement under The New Roads

and Street Works Act 1991 to maintain information on traffic sensitive streets, structures of special engineering difficulty and reinstatement categories.

In order to fully meet the requirements of Best Value as well as establishing a cost effective and appropriate maintenance regime, a detailed computerised highway inventory is a pre-requisite. This would provide the required base data necessary for the assessment, prioritisation, programming and subsequent service delivery of a cost effective highway maintenance service.

Hartlepool have a fully computerised highway inventory system. We are currently in the process of verifying data held in order to establish a gap analysis. The Hartlepool Transport Asset Management Plan (TAMP) contains a full detailed breakdown of the major assets groups and current update frequencies of which each adheres to.

3.4 NETWORK HIERARCHY

A network hierarchy is a means of classification whereby the maintenance network is categorised on the basis of the volume and composition of traffic using it whilst recognising the difference in traffic levels between urban and rural roads. The hierarchy should also take account of risk assessment and the role of the particular section of the carriageway, footway or cycleway in the network.

The hierarchy is the foundation of a coherent, consistent and auditable maintenance strategy and is fundamental in determining policy priorities. It is the link between maintenance policy and implementation and will assist in determining standards for design and new construction.

It is important that hierarchies are regularly reviewed to reflect changes in network characteristics and use so that maintenance policies, practices and standards reflect the actual current use of the network. **Accordingly, the Council will review the hierarchies on an annual basis.**

The aim of the road hierarchy is to:

- allow programmes of inspections to be set to enable statutory duties to be fulfilled
- allocate resources according to the importance of the road within the network
- set policies and standards according to the importance of the road within the network.

It is the intention to use the hierarchy as an indication of the standard of repair required to keep the road in reasonable condition having regard to its function and the volume of traffic using it.

The network hierarchy is sub-divided into three sections to cover carriageways, footways and cycleways, and the local hierarchies for Hartlepool are as follows:

TABLE 1 - Carriaewav Hierarch

Category	Hierarchy Description	Type of Road General Description	Description
1	Motorway	N/A	N/A
2	Strategic Route	Trunk and some Principal "A" roads between Primary Destinations	Routes for fast moving long distance traffic with little frontage access or pedestrian traffic. Speed limits are usually in excess of 40mph and there are few junctions. Pedestrian crossings are either segregated or controlled and parked vehicles are generally prohibited.
3a	Main Distributor	Major Urban Network and Inter-Primary Links. Short - medium distance traffic	Routes between Strategic Routes and linking urban centres to the strategic network with limited frontage access. In urban areas speed limits are usually 40 mph or less, parking is restricted at peak times and there are positive measures for pedestrian safety.
3b	Secondary Distributor	Classified Road (B and C class) and unclassified urban bus routes carrying local traffic with frontage access and frequent junctions	In rural areas these roads link the larger villages and HGV generators to the Strategic and Main Distributor Network. In built up areas these roads have 30 mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings. On-street parking is generally unrestricted except for safety reasons.
4a	Link Road	Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions	In rural areas these roads link the smaller villages to the distributor roads. They are of varying width and not always capable of carrying two way traffic. In urban areas they are residential or industrial inter-connecting roads with 30 mph speed limits, random pedestrian movements and uncontrolled parking.
4b	Local Access Road	Roads serving limited numbers of properties carrying only access traffic	All other roads not included above. In rural areas these roads serve small settlements and provide access to individual properties and land. They are often only single lane width and unsuitable for HGV's. In urban areas they are often residential loop roads, back streets or cul-de-sacs.

TABLE 2 - Footway Hierarch

Category	Category Name	Description
1(a)	Prestige Walking Zones	Very busy areas of towns and cities with high public space and streetscene contribution.
1	Primary Walking Routes	Busy urban shopping and business areas and main pedestrian routes.
2	Secondary Walking Routes	Medium usage routes through local areas feeding into primary routes, local shopping centres etc.
3	Link Footways	Linking local access footways through urban areas and busy rural footways.
4	Local Access Footways	Footways associated with low usage, short estate roads to the main routes and cul-de-sacs.

TABLE 3 — Cycleway Hierarch

Category	Description
A	Cycle lane forming part of the carriageway, commonly 1.5 metre strip adjacent to the nearside kerb. Cycle gaps at road closure point (no entries allowing cycle access).
B	Cycle track, a highway route for cyclists not contiguous with the public footway or carriageway. Shared cycle/pedestrian paths, either segregated by a white line or other physical segregation, or un-segregated.
C	Cycle trails, leisure routes through open spaces. These are not necessarily the responsibility of the highway authority, but may be maintained by an authority under other powers or duties.

The carriageway hierarchy has been derived with reference to traffic flows but also taking into consideration risk assessment and the functionality of the particular section of carriageway in the network. Maps indicating the hierarchy of Hartlepool's highway network are shown in appendix 1.

3.5 MAINTENANCE CATEGORIES

As stated above, the types of activity that comprise the highway maintenance service are reactive, routine, programmed, regulatory, winter service and weather and other emergencies.

Within each type there are various categories that should be considered in relation to the core objectives of safety, serviceability and sustainability, and these are summarised as follows:

Reactive

- all elements — sign and make safe for safety purposes
- all elements — provide initial temporary repair for safety purposes
- all elements — provide permanent repair for safety purposes

Routine

- carriageways, footways and cycleways — minor works and patching
- drainage systems — cleansing and repair
- embankments and cuttings — stability
- landscaped areas and trees — management
- verges — grass cutting
- fences and barriers — repair
- traffic signs and bollards — cleansing and repair
- road marking and studs — replacement
- lighting installations — cleansing and repair
- bridges and structures — cleansing and minor works

Programmed

- carriageways — minor works, resurfacing or reconstruction
- footways — minor works, resurfacing or reconstruction
- cycle routes — minor works, resurfacing or reconstruction

Regulatory

- maintenance of highway register and definitive map
- co-ordination of road and street works (Traffic Manager responsibilities)
- charging schemes and permits for highway occupation (Traffic Manager responsibility)
- other regulatory functions — encroachment, illegal signs, parking licensing, etc

Winter Service

- pre-treatment
- post-treatment
- clearance of ice and snow

Weather and other Emergencies

- flooding
- high winds
- high temperatures
- other emergencies.

Within these categories there are specific types of maintenance works, which are defined as follows:

Resurfacing and Reconstruction (R & R) — larger scale structural maintenance works where a specific need has been identified, works can be planned and the estimated cost of the necessary works separately quantified.

Basic Maintenance — comprises smaller scale maintenance works with the exception of surface dressing schemes. Included are basic structural and winter service together with safety and environmental maintenance works which are not subject to cost criteria.

Carriageway Surface Treatments — the sealing and restoration of the running surface of the carriageway. Treatments include surface dressing, thin slurry seal and re-texturing of existing surfaces.

4 SERVICE DELIVERY

4.1 RESPONSIBILITIES

Responsibility for highway maintenance lies with Hartlepool Council as the local Highway Authority. The Highway Agency (delivered by Autolink) is responsible for the A19 within Hartlepool's boundaries.

All matters of policy, funding and standards of performance are the sole responsibility of the Hartlepool Council to specify and the implementation of any activity is the responsibility of the Council and its appointed service deliverers.

It is the statutory duty of the highway authority to maintain that part of the highway defined as being maintainable at public expense. This duty is presently consolidated in S 41 of the Highways Act 1980. Under S 56 of the Act any person may apply to the courts for an order requiring the highway authority to take remedial action in cases of alleged non-repair by that authority that may also face an action for damages resulting from failure to maintain the highway.

S 58 of the Act provides that in the event of an action it shall be a defence to show that the road was kept in a reasonable state of repair having regard to the traffic using it, the standard of maintenance appropriate to its use and public safety.

S 150 of the Act requires the highway authority to clear obstructions from the highway resulting from the accumulation of snow or from the falling down of banks on the side of the highway, or from any other cause. The Railways and Transport Safety Act 2003 introduced an amendment to S41 of the Highways Act 1980 which appears to extend the requirement to undertake pre-salting of the network to also include footways. The revision requires the highway authority to take such measures, as are "reasonably practicable" within the resources available.

Road openings in the highway executed by or on behalf of statutory undertakers under the provisions of the New Roads and Street Works Act 1991 (NRSWA) are backfilled and maintained by the organisation making them. The role of the highway authority is mainly that of coordinating and controlling road works and designating traffic sensitive routes and structures of special engineering difficulty.

The Council maintains the Streetworks Register, carries out a co-ordination role and regulates all activities on the highway. There is a wide range of other legislation affecting highway maintenance, either directly or indirectly, imposing powers or duties on highway authorities.

4.2 SERVICE DELIVERY ARRANGEMENTS

The principles of the current partnering arrangements for the delivery of the highway services in Hartlepool were approved by the Council as a means of delivering quality.

All future highway service delivery arrangements are reviewed so that they better reflect on outcomes focused services, based upon the principals of Best Value and sustainability.

The key principles of the overall strategy will be:

- trusting long term relationships
- responsive and effective service delivery managed locally

4.3 PROCUREMENT STRATEGY

The council is being driven from numerous directions to develop its approach to procurement, including national policy such as the National Procurement Strategy and the Gershon Efficiency Review, and local policy such as the Best Value Performance Plan and other council strategies and policies.

The requirements of these various documents have resulted in the Council's 2002 procurement strategy being revisited and revised.

4.4 CLIENT MANAGEMENT

The main roles of the client are:

- to advise the Council in respect of all matters concerning highway maintenance
- to represent the Council on highway maintenance issues
- to manage appropriate Council budgets and programmes
- to manage all highway maintenance contracts to effect service delivery.

4.5 ENGINEERING CONSULTANCY

An Engineering Consultancy service is currently provided both in house and, through a framework agreement, by private sector consultancy.

The Engineering Consultancy provides design services defined as follows:

Design Services — include the work necessary to provide support for individual schemes forming part of network management programmes of work.

The actual services included are: -

Design Services

technical audit

transportation studies
structures inspection, assessment and strengthening
other services.

The Engineering Consultancy contract is therefore wide ranging with some functions linked directly to highway maintenance and others with an indirect linkage. The performance of the consultants are assessed using the framework of performance assessment. Contract management arrangements include liaison meetings, progress reports, budgetary control and annual reviews of the service specification and operation.

4.6 PARTNERED WORKS CONTRACTS

The Tees Valley Authorities have combined to deliver savings through competitive tendering for use by the 5 Authorities.

The Council's Highways, Traffic and Transport Section (HTT) provide the general highway maintenance provisions. The services covered include:

- Highway Safety Inspections
- Basic maintenance, patching and repairs
- Maintenance of Traffic Signs
- Gully Emptying
- Grass Cutting
- Flood Damage Repair Works
- Winter Service
- Winter Service (Contingency)
- Emergency Sweeping
- Horticultural Maintenance

HTT manage the maintenance of the following:

- Road Lighting (Works)
- Road Lighting (Energy)
- Traffic Regulation Orders
- Bridge Maintenance
- Rechargeable Works

Through specialist service delivery contracts we deliver the following services

- Highway Condition Surveys
- Planning/Resurfacing/Reconstruction
- Specialist surface treatments.
- Surface Dressing (Non-Principal Roads)
- Surface Dressing (Principal Roads)

PART B STANDARDS

5 INSPECTION AND ASSESSMENT

5.1 INSPECTION CATEGORIES

The establishment of an effective inspection regime incorporating inspection frequencies, items to be recorded and nature of response supported by an assessment procedure based on risk probability is the key element in addressing the fundamental objectives of the highway maintenance strategy:

- network safety
- network serviceability
- network sustainability.

The regime will be applied systematically and consistently, and a standardised comprehensive recording system will be adopted so that the risk assessment procedure will be clear and transparent. Inspections and surveys will be undertaken under the following categories:

Safety inspections

Regular comprehensive inspections of all highway elements in addition to routine scouting of street lighting and illuminated signs and less frequent specialised inspections of Bridges, Structures and inspections for electrical safety — network safety

Service inspections

Detailed inspections appropriate to the requirements of particular highway elements for network serviceability together with inspections for regulatory purposes for network availability and reliability and less frequent inspections for network integrity — network sustainability

Condition surveys

Surveys to identify deficiencies in the highway fabric, which are likely to affect Network Value — network serviceability and sustainability.

The recording system for inspections and surveys will facilitate analysis such that a holistic view may be taken of maintenance condition and trends related to network characteristics and use.

Customer Enquiries

The system will also provide for recording service requests and complaints or other information from users or other third parties and will include what action or non-action is to be taken.

5.2 SAFETY INSPECTIONS

Safety inspections are designed to identify all defects likely to create danger or serious inconvenience to users of the network or the wider community. These defects are subdivided into two categories:

Category 1 — Category 1 defects are those defects which, following a risk assessment, are deemed to represent a danger or serious inconvenience to the public or which could result in significant damage to property.

Category 2 - All defects identified in safety inspections which are not categorised as Category 1 are automatically classified as Category 2. The commentary in 5.6 is also clearly applicable to defects classed as Category 2.

Safety inspections may identify Serviceability issues which are forwarded for further investigation and prioritisation. **The identification of Serviceability issues raised by Highway Inspectors carrying out safety inspections does not suggest that intervention of any kind is required or necessary within any given timescale.** Any necessary intervention will be determined by other criteria outside of the safety inspection regime and Highway Inspectors will ensure that all locations are kept safe at all times.

A safety inspection regime comprises the following elements:

- frequency of inspections
- items for inspection
- degree of deficiency
- nature of response.

Safety inspections are to be undertaken at the frequencies detailed hereunder to reflect the relative importance of the feature and the category of road, and shall normally be carried out by trained personnel on foot or from a slow moving vehicle.

The method for carrying out the inspections will be the subject of a risk assessment with the final decision dependent upon the outcome of the assessment. Teams of two operatives will be used where a risk assessment has shown this to be necessary.

Additional safety inspections of specific defects will be required in response to reports or complaints from Cleveland Police, other organisations or the public as a result of major incidents or extreme weather conditions.

All safety inspection records shall include details such as surface conditions etc and any unusual features of the method of inspection. The inspection will include 'nil' returns where appropriate and shall contain a review of the hierarchy at the time of the inspection.

Frequencies of Inspection

The 2016 Code of Practice specifies a particular inspection frequency regime as a starting point as shown in Table 4. Taking account of this regime, local requirements and parameters for Hartlepool, a modified frequency regime has been developed, shown in column 5.

Particular attention has been paid to linking carriageway and footway inspections to similar frequencies wherever possible in order that inspections of carriageways and footways can be undertaken together thereby creating economies and improving efficiency.

Frequencies for safety inspections are defined in 3.4 and are as follows:

Table 4

Feature	Description	Category	H.B.C. Frequency
Roads	Strategic Route	2	1 month
	Main Distributor	3 (a)	1 month
	Secondary Distributor	3 (b)	1 month
	Link Road	4 (a)	6 months
	Local Access	4 (b)	6 months
Footways	Prestige Area	1(a)	1 month
	Primary Walking Route	1	1 month
	Secondary Walking Route	2	3 months
	Link Footway	3	6 months
	Local Access Footway	4	6 months
Cycleways	Part of Carriageway	A	As for roads
	Remote from Carriageway	B	6 months
	Cycle trails	C	12 months

Whilst we endeavour to reach 95% of inspections within the allocated period this is not always possible, due to unforeseen circumstances

The frequencies of inspection tabulated above are consistent within the various categories of the base hierarchy as described in 3.4 above. However, taking into account risk assessments, it is clear that specific local criteria apply in certain circumstances which, because of their very nature and importance, may result in a change in the inspection frequency in those locations.

The factors which we have taken into account in determining whether special criteria apply include:

- access route — school / hospital etc
- special environmental considerations — noise, appearance etc
- special traffic zone — traffic calming etc
- winter service route
- vulnerable users or with special needs — old people's homes etc
- lorry route
- public transport route
- cycle network.
- Defect history of locality

All alternatives to the tabulated safety inspection frequencies must be documented within the appropriate system.

Items for Inspection

The list of highway inventory to be observed in a Safety Inspection for possible defects is as follows:

Item	Defect
Carriageway and Cycleway	pot hole/spalling, ridge, hump, depression/sunken cover or gap/crack
Footway	trip/pot hole/sunken cover, rocking slab/block or open joint
Kerb	misaligned, loose / rocking or missing
Verge	sunken area adjacent to and running parallel with the carriageway / footway edge or obstruction
Iron Work	Gaps within framework, level differences within framework, rocking / cracked / broken / worn / polished or missing covers
Flooding — where conditions allow	standing water, water discharging onto or flowing across the running surface, significant flooding of property
Drainage	substantial standing water adjacent to edge of c/way, blocked gully/kerb outlet or collapsed/ blocked/settled items or systems
Road Markings	Faded or worn markings
Road Studs / Eyes	Missing, void left in c'way, displaced items on c'way or defective studs / eyes.
Signs / Bollards / Lights / Traffic signals	damaged/misaligned items causing a hazard, missing items causing a hazard, lights/signals not operating correctly/malfunctioning, signals pointing the wrong way, signal lamp failure, exposed wiring, missing doors to lamp columns and electrical enclosures, items missing or items obscured/dirty/faded
Safety Fencing / Barriers	damaged/misaligned items projecting into c'way or f'way or structurally unstable items likely to cause danger
Hedges and trees	overhanging trees and vegetation or unstable trees and branches. Damage associated to tree roots.
Highway General	oil/debris/mud/stones/gravel likely to cause a hazard, illegal signs, obstructions on the highway, obstructed sight lines, ramps in c'way to aid vehicular movement, f'way damage caused by vehicular access where no vehicle crossing, scaffolding or skips likely to cause a hazard, unprotected building materials on the highway or abandoned vehicles likely to cause a hazard
Anything Dangerous	anything considered dangerous on the highway which could affect either highway users or the general public

Section B.4 of the Well-maintained Highways, Code of Practice for Highway Maintenance Management (October 2016) gives guidance on a schedule of deficiencies to be identified during safety inspections. The list is not exhaustive it is provided as a check list and is modified to suit local parameters.

General Information

Ironworks — This may necessitate repairs to, and the occasional replacement of, all types of gratings, covers, frames and boxes that are the direct responsibility of the highway authority. It may be necessary on occasions to repair or replace items that are the responsibility of other parties if there is a hazard to road users or pedestrians, to make such defects safe and to recover the costs incurred from the other parties.

The majority of covers, gratings and frames are situated in carriageways and footways but those in verges, particularly those verges that are regularly traversed by pedestrians or horses, should not be ignored and the appropriate risk assessed. It may often be difficult to decide whether a cracked or broken item is in real danger of collapse. If in doubt, it should be replaced, irrespective of its position.

Procedures have been agreed through HAUC and standard documentation exists to deal with reports or findings of utility apparatus, which is considered to be dangerous. The procedure entails the Highway Authority notifying by Email the details and location of the defective apparatus under a Section 81 notification, a means for the utility to acknowledge receipt (or refute responsibility if not their apparatus) within an agreed timescale, and the means for the utility to confirm actions taken to make safe the apparatus to the satisfaction of the Highway Authority.

Failure of this procedure in any way by the utility company will result in the Highway Authority acting in default and making safe the location on a rechargeable basis.

Defects in covers and gratings may pose particular danger to pedal and motor cycle users. It should be remembered that their occupancy on a carriageway will not always be limited to the nearside edge.

Highway Drainage — Standing water reduces safety if allowed to accumulate on trafficked surfaces of the highway. The effects of this are readily observable and the correct action should be taken, especially on high speed roads. In winter months a salt bund may be considered to be appropriate where watershed onto a highway cannot be prevented. This can be used as an interim intervention measure to create a saline solution to reduce the risk of ice forming on the carriageway.

Road Markings - To be effective, road markings should not be reduced or obscured by natural erosion and abrasion by chemical spill or by binder fattening particularly following surface dressing.

Signs / Bollards / Lights — Many signs are required to be lit and their legal status is affected if the illumination has faded. Other signs may be left in a dangerous condition after road traffic accidents which may affect other traffic or road users and require

attention. Exposed electrical wiring may also pose a problem and must be protected as soon as possible.

Requirements for street lighting relate to safety defects resulting from programmed inspections together with additional inspections which may be required in response to the Emergency Services, the public or resulting from extreme weather conditions.

Particular attention should be paid to damaged or defective lighting equipment since this may constitute an immediate or imminent hazard, especially where vehicular impact has occurred, or where the electrical condition is at fault or exposed. Multiple outages and outages at sensitive locations caused by any event should be considered for high priority action.

Lights and signs must also be checked for obscuration by overgrown trees, hedges etc. Regulatory signs obscured in this way represent a category 1 defect.

Traffic Signals — Modern signal equipment is expected to operate correctly without regular routine adjustments. The requirement of this section is in the event of failure which might otherwise render installations ineffective to bring back the installation on stream in line with the current standards.

Hedges and Trees — This applies to hedges and trees that are the responsibility of the highway authority together with hedges and trees that are the responsibility of others but which affect users of the highway or compromise the integrity of the highway structure.

Inspections can reveal signs of potential danger, such as thinning foliage and unseasonable loss of leaves, dying back of a substantial amount of branches, signs of fungi and bacterial disease. Normal healthy growth of hedges and trees can also give rise to hazardous conditions to road users by causing obstruction to visibility and movement.

Scavenging — This applies to the removal of any objects found within the highway boundary that causes an obstruction or hazard to highway users. Where the litter / debris does not constitute a hazard to highway users it should be treated by the Local Authority under the Environmental Protection Act 1990. Spillages likely to cause a hazard and clearances following road traffic accidents under existing service level agreements shall be dealt with by the Emergency Services with the inspector giving assistance where appropriate.

Response Times

The degree of observed deficiency and the nature of response are discussed below under risk assessments and category 1 and 2 defects. However, the categories of response time relating to the specified categories of defect and level of hierarchy are prioritised as follows:

- Priority 1 - those that require a 24 hour response because they represent an imminent hazard.
- Priority 2 - repair within 28 days

All other requirements arising out of the Safety Inspections are considered to be Service or Sustainability issues with no safety implications.

The presence of electrical equipment relating to street lighting, illuminated signs and bollards, and traffic signals requires special attention to ensure the safety of users and the community and detailed advice is contained in the Well-Lit Highways - Code of Practice for Highways Lighting Management. In addition to highway safety inspections, specialised inspections for electrical safety will also be undertaken at approved frequencies. Annual inspections are carried out of all electrical installations and electrical testing is carried out under a six yearly programme as required by the current regulations.

5.3 SERVICE INSPECTIONS

For carriageways, footways, cycle routes, etc, the safety inspection will identify serviceability issues which will be referred for further consideration. This ensures that the network is fully observed in terms of serviceability in line with the current defined hierarchy. For frequencies see clauses 3.2 and 5.2. These inspections when generated from other sources also support safety inspections in that they provide a further opportunity for identifying safety defects.

Service inspections also include inspections for regulatory purposes including NRSWA which relate to network availability and reliability as well as other inspections for network integrity.

Potentially dangerous defects identified during service inspections are to be assessed as being either Category 1 or Category 2 and rectified in accordance with the requirements of 5.6 and 5.7 below. It is likely, however, that the majority of defects identified by service inspections will be of the Category 2 type and repairs effected through either programmed repairs or absorbed into Resurfacing and Reconstruction (R & R) schemes.

The method for carrying out the inspections will need to be the subject of a risk assessment with the final decision dependent upon the outcome of the assessment. Teams of two operatives will be used where the risk assessment has shown this to be necessary, and where appropriate the inspections are to be carried out under traffic management.

The various elements undertaken under the service inspection regimes are

Carriageways, Footways and Cycle Routes.

The service inspection for this element can be in conjunction with safety inspections and can be incorporated as part of other visual inspections.

Highway Drainage Systems

In general inspection of drainage has proved problematic for a variety of reasons, including inaccurate records of drainage locations, uncertainty of ownership and lack of resources. In order to mitigate some of these problems, the council adopts a risk based approach to identifying the condition of the drainage network

Embankments and Cuttings / Retaining Structures

Significant embankments, cuttings and retaining structures are being defined and an inspection regime identified based upon the geological characteristics and the potential risk of slippages or rockslides. Service inspection arrangements will be based on specialist geotechnical advice, but should usually be programmed wherever possible to follow periods of heavy rain, severe frost or prolonged dry weather. A risk based approach will be adopted to identify any issues critical to network performance, after which an enhanced service inspection regime should be adopted.

Landscaped Areas and Trees

Highway trees contribute to amenity and nature conservation and in urban areas can enhance the space between buildings, reinforcing the area's character and appeal. Most trees should ideally have an arboricultural inspection every five years but this period may be reduced on the advice of an arboriculturalist. Default intervals is for arboricultural inspections at least every five years.

Fences and Barriers

Steel and wire rope safety fences and pedestrian guard rails should be inspected at regular intervals determined through risk assessment in respect of mounting height, surface protective treatment and structural condition, to ensure that they remain fit for purpose. Where appropriate accredited persons will undertake these inspections.

Traffic Signs and Bollards

The primary objective is to keep all traffic signs legible, visible and effective as far as possible at all times in relation to the road use and traffic speeds. The condition of non-illuminated road signs should be inspected in daylight, and also at night for degradation of colour, retro-reflectivity, deteriorating fittings, legibility distance, and average surface luminance, after cleaning. The frequency is to be determined by risk assessment but will also be a feature of Safety Inspections.

Road Markings and Studs

Inspections in respect of wear, spread, colour, skid resistance and retro reflectivity shall be undertaken for paint markings and for thermoplastic markings, at frequencies determined by risk assessment, Deficiencies in mandatory markings will be considered as a highway safety issue..

Road Traffic Signals and Pedestrian Crossings

Guidance on aspects to be inspected and on defect criteria is given in TD 24/97. For pedestrian crossings, scouting for illumination should be undertaken in conjunction with street lighting night-time inspections, unless otherwise indicated by risk assessment. A regular maintenance policy of between twelve and eighteen months is carried out on all road traffic signals.

Road Lighting

Service inspections of street lighting are not dealt with under the Highways Maintenance Plan, but are covered in a separate document titled 'Street Lighting Maintenance Plan', currently under development, based upon the guidance given in the 'Well Lit Highways —Code of Practice for Road Lighting Management'

Bridges and Structures

Service inspections of bridges and structures are not dealt with under the Highways Maintenance Plan, but are covered in a separate document titled 'Bridges and

Structures Maintenance Plan', based upon the guidance in the 'Management of Highway Structures — A Code of Practice' which is being produced separately.

Network Integrity

Although each element of each component within each category of network hierarchy might be well maintained within the framework of an overall asset management strategy, the network might still not deliver best value, as the asset might not be performing to optimum efficiency. Operational efficiency is primarily a network management consideration but aspects of it are closely related to the maintenance function. Such network deficiencies are unlikely to be noted as part of safety, or condition inspections, but are nevertheless relevant to network efficiency. It is therefore suggested that authorities undertake service inspections of network integrity at intervals determined by risk assessment, or by default three to five years, and that the outcome of such surveys be taken account of in planning of network maintenance and improvements. Consideration must also be given to the Traffic Network Management Plan when planning network maintenance and improvements.

5.4 CONDITION SURVEYS

Condition surveys are undertaken to ascertain information on the nature and severity of carriageway deterioration in order to determine the most appropriate maintenance treatment and hereby ensuring value for money. The frequency of the surveys are shown in 3.2

The survey methods available in Hartlepool include:-

SCANNER (Surface Condition Assessment of the National Network of Roads)
Previously described as TRACS — Type Surveys (TTS). Scanner surveys are automated high speed vehicular surface condition surveys which collect the following data: -
3-Dimensional Spatial Co-ordinates
Road Geometry
Survey Speed
Longitudinal Profile
Wheelpath Rutting
Texture Profile
Cracking (both in the wheel paths and for the whole carriageway)

Coarse Visual Inspection (CVI)

Visual survey carried out from a slow moving vehicle or on foot to collect basic defects in accordance with UKPMS requirements on the highway network. CVI surveys are carried out on all roads within the network excluding unsurfaced roads. The survey is also used to target carriageway schemes submitted for the 5 year programme.

GRIPTESTER

The griptester is used to measure the in service skid resistance of parts of the hierarchy. Refer to Skid Resistance policy.

FOOTWAY NETWORK SURVEY (FNS)

Footway surveys are carried out in accordance with UKPMS requirements on the footway network on a rotational basis and by annual survey.

5.5 RISK ASSESSMENTS

Risk management comprises two categories of risk, strategic and operational, as described in 2.4 above. Strategic risks are either corporate or departmental and therefore beyond the scope of this plan.

The various corporate risks under the risk management process can be found in the Risk Management Strategy and the departmental risk register.

Operational risks

Operational risks are risks which managers and staff will encounter on a day to day basis and may be: -

- physical - defects related to network safety or health and safety movement of operatives and staff
- professional - such as the ratio of reactive / programmed maintenance
- financial - such as budgetary control and programme management
- legal - related to possible breaches of legislation
- contractual - associated with the failure of contractors to deliver services to the agreed cost and specification
- technological - relating to reliance on equipment such as gritters
- environmental - relating to noise air pollution or by considerations which compliment existing surroundings.

Insofar as safety inspections and surveys are concerned, only the physical risks are relevant. This occasionally means that intervention for category 1 defects may not always be aesthetically pleasing.

The risks that are applicable to highway safety inspections clearly appertain to the items for inspection as defined in 5.2 above together with the risks inherent to the operatives in undertaking the inspections.

Each item has to be assessed for defect and risk severity, feature and category of hierarchy together with the location risk and then prioritised accordingly. Guidance on this process is contained in the "Hartlepool Council Highway Inspection Manual." The adoption of this manual, together with appropriate training of all inspectors will enable effective risk assessments to be undertaken on site.

5.6 CATEGORY 1 DEFECTS

Category 1 defects are those defects which, following a risk assessment, are deemed to represent a danger or serious inconvenience to the public or which could result in significant damage to property.

These defects are to be made safe or repaired within 24 hours from the time that the authority first became aware of the defect. Some will require immediate attention as described below.

Whenever category 1 defects are encountered they shall, if reasonably practicable, be corrected, made safe or otherwise protected by the rapid response gang. When a category 1 defect is identified within a larger area, only that part of the area which meets the criteria for category 1 defects shall be treated as a category 1 defect with the remainder being treated as a category 2 defect, except where this is impractical

to do so. Some category 1 defect repairs may be due to the activities of the utilities, which are governed by the requirements of NRSWA. If the reinstatement is still within its guarantee period and is outside its specified tolerances due to settlement, plucking out or other reasons, and within category 1 criteria, any costs incurred in making safe, and or repair, must be recovered from the undertaker and not charged to the highway authority. All costs must be charged in accordance with the Street Works (Recovery of Costs) (England) Regulations 2002. This is to be arranged by reporting all such defects to the Council's Principal Street Works Officer in the Traffic Section of Technical Services.

Response times for remedial action are categorised in 5.2 above and for category 1 defects are 24 hours because they represent an immediate hazard.

Some defects are potentially so dangerous that immediate action is required. These are defects which due to their nature and location represent a very serious risk to the public such as exposed electrical equipment, collapsed or missing covers or gratings in carriageways or footways, all of which must not be left unattended unless and until adequate barriers, warning signs or cones have been put out.

Items to be inspected for possible defects are defined in 5.2 above and the investigatory levels at which defect risks are to be assessed are specified in 5.8 below. When an investigatory level is reached, the risks appertaining to the requisite item have to be assessed for likely impact and probability from which a risk factor is calculated which will determine the likely course of action. Guidance on risk assessment incorporating impact, probability and risk factors together with resulting recommended remedial action for category 1 defects and priority 1 response is contained in the Risk Register in the "Hartlepool Council Highway Inspection Manual."

The appropriate course of action as determined from the risk assessment must be undertaken within the time limits specified. As some types of defect may be the responsibility of other departments within the organisation or indeed other organisations, the Council must ensure that appropriate arrangements are in place to effect these repairs in accordance with the requirements.

5.7 CATEGORY 2 DEFECTS

All defects identified in safety inspections which are not categorised as Category 1 are automatically classified as Category 2. The commentary in 5.6 above is also clearly applicable to defects classed as Category 2.

Response times for remedial action are specified in 5.2 above, and for Category 2 defects are to repair within 28 days.

The investigatory levels for all defects, whether Category 1 or Category 2, are shown in 5.8 below. It is solely the outcome of the risk assessment that defines the category. All

other requirements arising out of the Safety Inspections are considered to be Service or Sustainability issues with no safety implications.

5.8 DEFECT INVESTIGATORY LEVELS

The investigatory levels for defects arising from safety/service inspections are shown in the following table

Item	Defect	Investigatory Level
carriageway	pothole/ spalling depression rutting gap / crack sunken ironwork	With adjacent footway 20mm depth (75mm across in any horizontal direction) Remote with no adjacent footway 40mm depth (75mm across in any horizontal direction) 50mm (area 2 sq metres) 20mm 20mm depth (20mm wide) 20mm difference in level
Utility works	Crowning, trips, depressions	as NRSWA Code of Practice
pedestrian crossing	trip/pothole	15mm depth
footway (primary walking route)	trip / pothole / sunken cover rocking slab / block open joint tree root damage sunken ironwork	15mm depth (75mm across in any horizontal direction) 15mm vertical movement 20mm depth (100mm x 50mm horizontally) 15mm trip 15mm level difference
footway (others)	trip / pothole / sunken cover rocking slab / block open joint tree root damage sunken ironwork	20mm depth (75mm across in any horizontal direction) 20mm vertical movement 20mm depth (100mm x 50mm horizontally) 20mm trip 20mm level difference
kerbs	misaligned loose / rocking missing	50mm horizontally 15mm vertically yes
verges (in urban areas)	sunken area adjacent to and running parallel with c/way or f/way edge obstruction	depth 50mm
verges (in rural areas)	sunken area adjacent to and running parallel with carriageway edge sunken area adjacent to and running parallel with footway edge obstruction	depth 150mm depth 100mm
ironworks	gaps within framework (other than designed by manufacturer)	20mm

	level differences within framework rocking covers cracked / broken covers worn / polished covers missing covers	20mm 20mm vertical movement yes yes yes
flooding	standing water likely to cause a hazard substantial running water across carriageway substantial running water across footway property inundation	yes yes yes yes
drainage	defective grips, filter drains, catch pits blocked gully (silted above outlet) collapsed / blocked / settled items or systems	yes yes yes
road markings	faded or worn markings	Where a considered risk/hazard is seen to exist
road studs	missing hole left in c/way displaced item on c/way defective item	yes >20mm depth (75mm across in any horizontal direction) yes yes
signs/bollards/lights & traffic signs	damaged/misaligned item causing a hazard missing item causing a hazard lights/signals not operating correctly/malfunctioning signals pointing the wrong way signal lamp failure exposed wiring missing door to lamp column item missing Item obscured by whatever including trees, hedges, other signs etc Item illegible Signs slipped, or erected too low	yes yes yes yes yes yes yes yes yes yes <2.1m over footways <2.4m over cycleways <5.1m over carriageways
safety fencing and barriers	item damaged or misaligned causing a hazards unstable item or section	yes yes
Hedges and trees	unstable tree causing danger of collapse onto highways	yes

	overhanging tree leading to loss of height clearance over carriageway, footway or cycleway	<2.1m over footways <2.4m over cycleways <5.1m over carriageways
highway general	oil / debris / mud / stones and gravel likely to cause a hazard	yes
	street furniture missing / damaged likely to cause a hazard	yes
	illegal signs	yes
	obstructions in the highway	yes
	obstructed sight lines	yes
	ramps in carriageway to aid vehicular movement	yes
	f/way damage caused by vehicular access where no vehicle crossing	yes
	scaffolding likely to cause a hazard	yes
	skips likely to cause a hazard	yes
	unprotected building materials on the highway	yes
	abandoned vehicles likely to cause a hazard	yes
other dangers to the public	anything else considered dangerous	yes

In regard to defects specified in the above table, particularly those covered under the "highway general" heading, many are the responsibility of individuals or organisations and not the highway authority. Unless urgent action is required, the Inspector's course of action shall be to pass on the relevant information to the section or department which is responsible for overseeing that particular activity.

In addition there are other works undertaken by third parties, which are clearly their responsibility. It is the responsibility of the Inspector, wherever practicable, to ensure that the third parties are aware of any problem and undertake all necessary remedial action to resolve the problem. If the third party is known and unwilling or unable to rectify the problem, any costs incurred in remedial action shall be recharged to them accordingly

This also applies to private forecourts open to public access. Highway Inspection records should indicate anything considered to be a hazard in such locations and actions taken noted. Records should refer to letters sent, responses received and checks on actions taken. In the event that the land owner fails to take appropriate action or the land is unregistered, Inspectors are required to consider powers available to them under the Highways Act 1980.

5.9 SKID RESISTANCE

Policy

The Council's policy on skid resistance aligns current legal requirements, procedures and technology. **Working in joint partnership with the Tees Valley Councils, the Skid Resistance Policy is currently undergoing a major overhaul and any changes will be reflected in the following section below.**

6 CONDITION AND STANDARDS

6.1 GENERAL

Chapter 5 covered safety inspections and investigatory levels for Category 1 and Category 2 defects. This section deals with asset condition requirements for each element of the network and its contribution to safety, serviceability and sustainability. Standards are to be defined for the condition of each element of the network, developed through risk assessment, and factors necessary to meet the requirements for safety, serviceability and sustainability.

Where standards are not met targets will be set for attaining them and sustaining them in the long term. In some cases these standards will relate to statutory indicators, but others are locally determined. Locally determined standards take account of the views of users and the local community, and have regard to the advice of the Code. Standards formally adopted are published as part of a Transport Asset Management Plan (TAMP) and they will also be consistently applied and reviewed at intervals in the light of changing circumstances.

6.2 INVESTIGATORY LEVELS

Each element of the network have different condition requirements, a minimum one to satisfy requirements for safety, and higher ones, designed to meet local requirements for serviceability or sustainability, as part of the asset management strategy adopted by the authority. These are known as '**investigatory levels**' in the latest code of practice. Failure to reach the defined standard in most cases could give rise to a range of responses each of which needs to be further investigated, prior to action being taken. There are certain circumstances, primarily for safety reasons, where a higher priority response is necessary.

6.3 CONDITION OF CARRIAGEWAYS

The condition of the carriageway fabric can contribute to the core objectives as follows:

- Safety** Nature, extent and location of surface defects;
Nature and extent of edge defects;
Nature and extent of surface skidding resistance.
- Serviceability** Nature and extent of surface defects;
Ride quality of the surface.
- Sustainability** Surface noise attenuation characteristics;
Nature and extent of surface defects;
Nature and extent of carriageway deflection.

Road carriageway condition is identified by statutory indicators, which record the percentage of the road network where maintenance should be considered. There are

separate indicators for Principal Roads (NI168) and Non-Principal Classified Roads (NI169). The requirement to report to Government on the condition of Unclassified Roads has now been removed but continues to be reported at a local level. The definition of investigatory levels to meet requirements for serviceability will be a matter for local determination, in consultation with users. These may be codified within UKPMS. In this way, the use of UKPMS represents an effective means of delivering and implementing predetermined standards within finance available.

Maintenance of carriageways is undertaken under the three headings of:

- Resurfacing and Reconstruction (R & R)
- Surface treatments
- Basic maintenance

Resurfacing and Reconstruction

A 5 year rolling programme will be maintained with an Annual Review taking place during February and March each year. The Annual Review will provide opportunities for local priorities to be amended. In addition new schemes will be added to the programme for the new years thus maintaining a full 5 year programme.

All sites identified for treatment will be ranked, and the various treatments are as specified in the Highway Maintenance Specification.

When determining final programmes and priorities consultations will take place to ensure that complimenting treatments for road safety/traffic calming are included at the same time.

Any consequential works in connection with the following should be included in the scheme classification: patching, footways and cycleways, drainage, road studs and markings, surface course, safety fences, kerbing works, haunching, base course and cold milling.

However there is an option to evaluate the cost of preparatory works with in surface dressing schemes to enable other options to be assessed.

Surface Treatments

Surface treatments are non structural treatments of less than 15mm thickness, the various treatments are specified in the Highway Maintenance Specification

Basic Maintenance

Basic maintenance comprises routine reactive maintenance and smaller scale maintenance works. Surface dressing schemes are not included. All work, regardless of value, capable of being integrated into a scheme and planned, should be submitted for inclusion in the R & R programme.

These works comprise all patching and minor repairs including haunching carried out on both flexible and concrete carriageways, and are determined through safety or service inspections, local knowledge or reports from the public.

The objective is to repair defective areas of carriageway to maintain a satisfactory running surface and to prevent damage to the highway fabric by ingress of water and frost and highway safety is ensured by implementing continual programmes of work.

6.4 CONDITION OF FOOTWAYS

The condition of footways can contribute to the core objectives as follows:

- Safety** Nature, extent and location of surface defects;
Nature and extent of kerb and edging defects.
- Serviceability** Nature and extent of surface defects;
Extent of encroachment and weed growth;
The slipperiness of the surface;
The quality of the surface;
Integrity of the network.
- Sustainability** Convenience and ease of use;
Nature extent and location of surface defects;
Extent of damage by over-running and parking.

Footway condition is no longer an indicator required by Government but condition data relating to footways will be maintained so as to provide adequate records for the development of footway maintenance schemes. This data is collected as part of the Footway Network Survey (FNS).

The definition of investigatory levels to meet requirements for serviceability will be a matter for local determination, preferably in consultation with users, and are based on the standards, details and definitions held within the Rules and Parameters (RP) of the UKPMS.

Data can be managed to produce priority listings and indicative generic footway treatments. These generic treatments are predefined within the PMS and are triggered by the level of defects recorded within a section.

Maintenance of footways and footpaths is carried out under the two headings of:

- Resurfacing and Reconstruction
- Basic maintenance

Resurfacing and Reconstruction

Proposed treatments may include the provision of dropped kerbs in suitable locations and textured paving adjacent to crossing points at marginal cost during the course of works. Similarly, if the opportunity exists to facilitate vehicle crossovers at a reduced cost during planned works, occupiers will be notified of such opportunity.

It will also be important in determining priorities for footway maintenance to ensure that opportunities are taken to aid social inclusion, particularly improving accessibility for older and disabled people and also the use of prams and pushchairs.

There is a statutory duty on service providers under the Disability Discrimination Act 1995 to take reasonable steps to remove or alter physical features to improve access for disabled people, or provide an alternative method of making services available.

Although ensuring the safety of footways for users will be a priority, in some cases the presence of roadside trees may complicate the provision of footway surface regularity. In such situations appropriate technical advice should be sought from the councils arboriculture officer.

The council will aim for a 5 year rolling programme will be maintained with an Annual Review taking place during February and March each year. The Annual Review will provide opportunities for local priorities to be amended. In addition new schemes will be added to the programme for the new years thus maintaining a full 5 year programme.

Basic maintenance

Basic maintenance comprises minor reactive works on existing footways alongside roads or independent footpaths, and includes associated consequential works to existing kerbs and verges. Needs are assessed through the regular highway inspection regime, local knowledge and reports from the public. Highway safety is maintained by undertaking continual programmes of patching and minor repairs and to prevent damage to the footway by ingress of water and ice.

6.5 CONDITION OF CYCLE ROUTES

The condition of cycle routes can contribute to the core objectives as follows:

Safety	Nature, extent and location of surface defects; Nature and extent of kerb and edging defects.
Serviceability	Nature and extent of surface defects; Extent of encroachment and weed growth; The slipperiness of the surface; The quality of the surface; Integrity of the network.
Sustainability	Convenience and integrity of the network; Nature extent and location of surface defects; Extent of damage by over-running and parking.

There is presently no statutory indicator specifically identifying the condition of cycle routes, but guidance on investigatory levels for cycle routes is provided in TRL 535 and the Footway and Cycle Route Design Construction and Maintenance Guide AG26.

The definition of investigatory levels to meet requirements for serviceability will be a matter for local determination, preferably in consultation with users, and are based on the standards, details and definitions held within the Rules and Parameters (RP) of the UKPMS.

Maintenance of cycleways and cycletracks is carried out under the two headings of:

- Resurfacing and Reconstruction
- Basic maintenance

Resurfacing and Reconstruction

Network integrity is a particularly important consideration where cycle routes are segregated for part of their length, but intermittently rejoin the carriageway. In these circumstances a reasonably consistent standard of maintenance will be provided and attention paid to carriageway edge condition in the unsegregated sections. Where carriageway cycle lanes are established during planned works particular attention will be required to:-
ensure drainage gullies, valve covers, inspection chambers etc do not pose hazards to cyclists.

that the road surface is in good repair.
consideration of safety at junctions.
measures to prevent unauthorized vehicle access, but to still allow maintenance access.

Basic maintenance

Definitions, policies, objectives, programmes and investigatory levels are the same as for footways in 6.4 above

6.6 CONDITION OF HIGHWAY DRAINAGE SYSTEMS

The condition of highway drainage systems can contribute to the core objectives as follows:

- Safety** Accumulation of water on carriageways, footways and cycle routes.
Serviceability Accumulation of water on carriageways, footways and cycle routes.
Sustainability Polluted effluent from clearing of highway drainage should not be directed into watercourses;
Authorities have a duty to prevent nuisance to adjoining landowners by flooding and should also work with others in the wider community to minimise the future risk of flooding;
Inadequate drainage of the highway structure will reduce effective life and increase maintenance liability.

There are no statutory or local indicators identifying the condition of highway drainage systems. Local standards are to be developed based on fitness for purpose to provide the level of service required and assessment of the risk of this being compromised by failure of the system. The impact of drainage system failure will be greater on high speed roads, or in areas susceptible to flooding, and specified condition standards should reflect this. In such circumstances, the condition of drainage systems should require them to be free of obstructions at all times, with an appropriate inspection and cleansing regime to deliver this.

Highway drainage elements fall into five main categories:

- gullies, grips and ditches and ponds which may be obstructed by the growth of vegetation or damaged by traffic. In most cases the responsibility for maintenance of ditches will rest with the adjoining landowner;
- culverts under roads which may be affected by blockage, subsidence or structural damage;
- other piped drainage which may be affected by blockage or subsidence;
- sustainable urban drainage systems, which may require special maintenance attention for maximum effectiveness;
- surface boxes and ironwork for both drainage and non-drainage applications, which may be affected by subsidence or obstructed access.

Under these headings there are two distinct categories of drainage system maintenance and drainage cleaning / cleansing

Drainage system maintenance comprises:

- maintenance and replacement of existing carriageway drainage systems
replacement and realignment of kerbs for drainage purposes
- maintenance and replacement of culverts up to a diameter of 1.2 metres or structures with a span of up to 0.75 metres (culverts and structures exceeding these measurements are outside the scope of this Maintenance Plan)

- all drainage works not included in reconstruction, overlay, resurfacing or surface dressing
- maintenance to pumps and sumps is carried out by specialist contractors.

The objectives of drainage system maintenance are to maintain the structural integrity of existing drainage systems to prevent accumulations of water on the carriageway, to prevent the ingress of water into the pavement structure and to maintain the highway in a safe condition for road users and pedestrians.

Where a drainage system exists, it should be capable of removing water from the carriageway as it reaches a gully or grip up to a storm with a 1 in 30 return period. Where this is not the case and cleaning or jetting does not effect an improvement, the necessary remedial action should be taken as soon as possible

Drainage cleaning / cleansing comprises:

The testing, rodding and jetting of the highway drainage system. This includes drains, gullies, piped ditches, grips, carriageway drainage on structures and drainage of subways. The cleaning of drainage installed outside the highway boundary under licence or easement should be included.

The cleaning of gullies and catchpits or manholes which are the responsibility of the highway authority. As a guide this is all surface water drainage the sole purpose of which is to remove water from the highway; however this is not always the case. If in addition the drainage system carries roof water or water from private properties, that system is the responsibility of other authorities. In these cases, the highway authority is responsible for the gully and gully connections only.

The maintenance of ditches and grips through the removal of silt, vegetation growth and damage to allow free passage of water from the highway. The maintenance should be confined to those ditches which are the responsibility of the highway authority (in the main, ditches are the responsibility of the adjoining landowner). However S100 of the Highway Act 1980 empowers authorities to keep open ditches on land adjoining the highway.

The objectives of drainage cleaning / cleansing are to prevent water penetrating the foundations of carriageways and footways, to remove detritus from gullies or catchpits to ensure the rapid removal of water from the road surface, to maintain free flow conditions in all open channels and grips and to maintain self cleansing flows in the drainage pipes, catchpits and outfalls.

Areas at risk of flooding should be identified and recorded. Inspection of these sites will form part of the safety inspection regime. Priority should be given to inspecting and cleansing sections of system, which pose a high risk of flooding or disruption to the network. Supplementary checks should be undertaken during periods of heavy rainfall as resources allow.

As a consequence of limited resources and historically poor drainage system records it is not possible to undertake a programme of inspection for the entire highway drainage system. However, whenever any maintenance works are undertaken, a record of any findings of unrecorded infrastructure will be made and reported to the drainage asset manager for asset management purposes. Further investigation of incomplete drainage records should be undertaken at the earliest opportunity to enable accurate records of the system must to be compiled and added to the inventory.

6.7 CONDITION OF EMBANKMENTS AND CUTTINGS

The condition of embankments and cuttings can contribute to the core objectives as follows:

- Safety** Risk of loose material falling to injure users or damage facility.
- Serviceability** Risk of damage or service interruption.
- Sustainability** Damage or loss of habitat;
Interruption or pollution of watercourse;
Extent of damage and reduced life.

There are no statutory or local indicators identifying the condition of embankments or cuttings. Local standards are to be developed based on fitness for purpose to provide the level of service required and assessment of the risk of this being compromised by failure of the system.

The impact of embankment or cutting failure will generally be high in all situations, but particularly so on important high speed links, or where dwellings could be affected. In such circumstances, the condition of embankments and cuttings will require a robust regime of inspection, and possibly continuous condition monitoring.

Maintenance of embankments and cuttings covers the repair of earth slips and the provision of any necessary associated drainage and new retaining systems. Anchors, walls, soil stabilisation and similar works will be included.

The objective is to maintain cuttings and embankments in a safe condition and to provide or maintain associated drainage systems to ensure stability.

In higher risk locations, or where ground conditions are difficult, specialist geotechnical advice will be obtained.

6.8 CONDITION OF LANDSCAPED AREAS AND TREES

The condition of landscaped areas and trees can contribute to the core objectives as follows:

- Safety** Obstruction to user visibility and legibility of traffic signs;
Falling branches from trees;
Leaf fall from trees causing slippery surface;
Root growth affecting surface regularity.
- Serviceability** Potential for service interruption;
Quality of user experience.
- Sustainability** Landscape conservation;
Mitigation of climate change effects;
Support for habitat and biodiversity;
Problems of root growth for surface, structure and highway drainage.

There are no statutory indicators identifying the condition of landscaped areas and trees. Local standards are to be developed based on fitness for purpose to provide the level of service required and assessment of the risk of this being compromised by failure of the system. The probability of landscaping and tree failure will generally be low but is likely to increase as a result of climate change.

The condition of landscaped areas has major implications for all of the core objectives. The maintenance regime will therefore take particularly careful consideration to ensure that the necessary balance continues to be achieved.

The requirements for safety: vegetation either on verges, other parts of the soft estate or on private land, should not restrict visibility at junctions, access points and bends. Sight lines and minimum stopping distances should be kept clear and signs, lights, and marker posts should not be obstructed. It may also be necessary for vegetation to be cut back in order to enable inspections or surveys. Areas of highway grass that incorporate access to ducts, drainage systems etc may need to be cut about once in three years in order to maintain accessibility to these systems.

Condition standards and frequency of grass cutting on rural roads will be determined locally from risk assessment.

Swathes, bends and junctions are cut twice a year, commencing usually in mid to late April or early May.

Grass is cut to 1 swathe width from the edge of carriageway (approximately 1.0 metre).

Maintenance of Verges

This policy helps preserve biodiversity in rural verges, by providing different habitats. Areas of verge beyond the "one metre swathe" are generally left to grow provided that safety or access is not compromised. They are then cut back every third year to prevent woody growth from becoming established, which would make the verge inaccessible, and increase the risk of roadside fires. This work must be carried out in the autumn to allow wild flowers to seed before the cutting takes place.

In urban areas grass cutting practice needs to involve a different balance of highway safety, serviceability and sustainability. Usually, the first urban cut of the season will commence in March, with another 12 cuts taking place by the end of October. Mowing is carried out over the full verge width.

Urban verges are cut more frequently than rural verges. The aim is to keep grass shorter than 50mm, in order to avoid the more costly process of collecting cuttings.

Adjoining footways must however be swept.

However on Strategic roads the landscaping may be included in a special regime to enhance the approaches into town centres.

Other verge maintenance covers routine operations that may be required to keep the highway verge, central reservations and cutting and embankment slopes in a safe and tidy condition.

The objective is to preserve the width of the carriageway, footway or cycleway, and the policy is to undertake the minimum amount of works necessary commensurate with the objective.

Needs are based on historical data, complaints and the observations of the Divisional Engineer, and works will only be carried out after a site inspection.

The main activity under this heading is siding (the edge maintenance of carriageways, footways and cycleways) which may be necessary to prevent encroachment of grass and vegetation resulting in the reduction of effective width.

As a guide, siding can be considered under the following circumstances:

rural roads — only minimum of siding to be carried out on carriageways e.g. prior to surface dressing or renewal of edge markings
urban roads — siding of carriageway not normally required
footways — siding carried out to maintain width of footway
cycleways — siding carried out to maintain width of cycleway.

Tree Maintenance and Inspections

All Highway trees will be inspected regularly at suitable intervals to assess their health and condition and will be undertaken by suitably qualified persons, e.g. an arborist, which will include a hazard/risk assessment of trees in their location.

Inspections will identify essential tree maintenance works required to ensure trees do not cause a nuisance³ or danger to the highway.

All Highway Inspectors should report and /or seek expert advice in relation to any potential tree related defects or hazards identified during routine inspections.

The Highway Authority will maintain adequate records relating to its tree stock.

All arboricultural operations will be undertaken competently by suitably qualified operatives in accord with the relevant Health & Safety legislation and industry best practices.

The Highway Authority will undertake systematic maintenance of its tree stock including: Proactive Tree Maintenance Programmes.

Reactive Tree Maintenance works including 24hr Emergency Call Out Works.
Prioritisation of all scheduled tree maintenance works including essential tree pruning, felling, stump grinding/chemical treatments, replacement tree planting/establishment and reinstatement works.

Currently resources prevent inspections of every tree adjoining the highway within the Borough. Inspectors will receive training to assist them in assessing the condition of trees to identify trees posing a hazard as part of the safety inspection regime.

Weed Control

Weed control covers the routine spraying of kerbed roads and footways to prevent weed damage to kerbs, channels and paved areas.

The objectives are to prevent the growth and establishment of noxious and other weeds and to prevent damage to footways by the growth of weeds. All weed spraying should be carried out using approved pesticides all in accordance with the Control of Pesticides Regulations 1986. For all highway operations, a non-residual contact herbicide must be used, and currently the only weed killer which conforms to the Health & Safety Commission's Code of Practice and with the Environment Agency's requirements is glyphosate.

The policy is for the contractor to apply one application of glyphosate with additional treatments if required and need assessment is based on historical information as no comprehensive inventory exists.

Spraying should only be undertaken when favourable spraying conditions exist.

Sprays can also be used to eliminate weeds and control growth around posts carrying signs, along guard rails, along the edges of kerbs, growth of grass on the strip adjoining the edge of the carriageway and on central reservations. Further legislation is contained in the Ragwort Control Act 2003. The use should be the minimum compatible with the required results.

The Weeds Act 1959 requires authorities to take action to prevent growth of injurious weeds growing within the highway. The prescribed injurious weeds are:

ragwort
broad leaved dock
curled dock
creeping thistle
spear thistle.

Reference shall be made to the Code of Practice on how to prevent the spread of Ragwort, June 2004, published by DEFRA to apply best practice principles including risk assessment priorities.

Specialist advice should be sought to deal with these weeds.

In Hartlepool ragwort is not a significant problem and must be pulled and removed. However, highway inspectors should be able to identify all noxious weeds as well as Japanese Knot Weed and Giant Hog Weed.

The Council's Horticultural Team will have responsibility for service inspections of landscaped areas and will organise tree surveys as required. Landscaped areas will be inspected on an annual basis.

6.9 CONDITION OF FENCES AND BARRIERS

The condition of fences and barriers can contribute to the core objectives as follows:

Safety Integrity and location of safety fencing for vehicles and pedestrians.

Serviceability Risk of livestock disrupting traffic.

Control of pedestrian movements

Sustainability Appearance and condition of fencing.

There are no statutory or local indicators identifying the condition of fences and barriers. Local standards are to be developed based on fitness for purpose to provide the level of service required and assessment of the risk of this being compromised by failure of the fence or barrier. This assessment must be carried out by a properly trained inspector.

All high risk situations require a robust inspection regime with a commensurate high standard of condition. Safety fences will be maintained in a sufficiently sound structural condition to serve their function and not be dangerous to road users or pedestrians. All fences and barriers, whether for safety purposes or general use, are potentially important features and their overall appearance is an environmental consideration. They should be cleaned and painted when necessary and where safety fencing is provided with chevron markings, these should be dealt with in accordance with the cleaning regime for traffic signs.

6.10 CONDITION OF TRAFFIC SIGNS AND BOLLARDS

The condition of signs and bollards can contribute to the core objectives as follows:

- Safety** Identification of risk to users;
Separation of potential traffic conflicts.
- Serviceability** Contributes to ease of use;
Contributes to network integrity.
- Sustainability** Support of sustainable transport mode;
Contribution to local economy;

There are no statutory or local indicators identifying the condition of traffic signs and bollards. Local standards are to be developed based on fitness for purpose to provide the level of service required and assessment of the risk of this being compromised by failure of the system.

The following standards are recommended for the condition of illuminated and non-illuminated signs and bollards:
cleaning when required and at least annually;
brackets bolts and fittings should be tightened and adjusted at the time of service inspection;
painting of supports and frames when required but not exceeding 10 years interval.

The following additional standards are recommended for the condition of illuminated signs and bollards:
optical inspection and cleaning together with the inspection of sign supports every 2 years;
lamp changing at regular intervals to coincide with service inspections and cleaning.

It may be necessary to clean bollards and signs in heavily trafficked areas much more frequently than annually.

6.11 CONDITION OF ROAD MARKINGS AND STUDS

The condition of road markings and studs can contribute to the core objectives as follows:

- Safety** Route delineation in darkness and poor weather;
Potential for damage and injury if loose.
- Serviceability** Ease of use in darkness and bad weather;
- Sustainability** Support of sustainable transport modes;
Edge delineation to reduce edge damage;
Movement of wheel tracking to reduce localised damage.

There are no statutory or local indicators identifying the condition road markings and studs. Local standards are to be developed based on fitness for purpose to provide the level of service required and assessment of the risk of this being compromised by failure of the system. Guidance on the inspection of Road Markings and Studs is provided in CSS Guidance Note LATD 26/06.

The impact of failure will be greater for mandatory markings than others. Many road markings are used to give effect to regulatory provisions and it is important that their legal status is not affected by undue wear or damage. A high proportion of road markings are essential for road safety or fundamental to the implementation of integrated

transport policy, for example traffic calming schemes, bus priority measures and the delineation of cycle routes. If such markings are not kept in good order, the measures may lose effectiveness and the success of transport integration compromised.

White line markings on Strategic and Main Distributor roads and sites of high safety risk or with a relevant accident record, should be renewed when they are no longer adequate for their intended purpose. This is generally accepted to be when more than approximately 30% of their area becomes worn away. Standards for other routes should be based on assessment of the relative risks.

All mandatory road markings existing before resurfacing or surface dressing should either be masked during treatment or replaced as soon as reasonably practicable after the completion of work. If it is not possible to restore immediately in permanent materials, temporary markings should be used at sites where their absence is likely to give rise to dangerous conditions. Stop and Give Way marks should ideally be replaced permanently within 7 days, other mandatory lines within 14 days and other markings and road studs within 28 days of completion of work. During resurfacing 'No Road Markings' boards should be displayed until all markings have been replaced.

6.12 CONDITION OF TRAFFIC SIGNALS, PEDESTRIAN AND CYCLE CROSSINGS

The condition of traffic signals, pedestrian and cycle crossings can contribute to the core objectives as follows:

Safety	Separation of potential traffic conflicts; Key safety contributor for vulnerable road users.
Serviceability	Contributes to ease of use and efficiency; Contributes to network integrity.
Sustainability	Support of sustainable transport modes; Support for local economy.

There are no statutory indicators identifying the condition of traffic signals, pedestrian and cycle crossings. Local standards are to be developed based on fitness for purpose to provide the level of service required and assessment of the risk of this being compromised by failure of the system

The primary objective is to keep traffic signals, pedestrian and cycle crossings legible, visible and effective, as far as possible at all times, in relation to the road use and traffic speeds.

The following standards are applicable for signal control facilities:

- defects in operation should be treated as Category 1.
- for urgent faults emergency action should be taken within specified times; damage repairs within 24 hours; less urgent faults to be repaired within one week, or in agreement with the Technical Services Section
- warning signs should be erected if signals are likely to be out of action in excess of one hour, other than power supply failures.
- at certain critical junctions temporary traffic management procedures have been introduced for when signals are likely to be out of action in excess of one day
- failed lamps should be replaced within 24 hours.
- signal lenses, regulatory signs and VMS signs should be cleaned once per year
- flashing zebra crossing beacons should be replaced within 24 hours.

- school crossing patrol flashing lights should be repaired within 24 hours during term time.

The maintenance of traffic signals and controlled crossings is undertaken as part of a separate contract. The contract for the maintenance of Traffic Signals, Pelican, Puffin, Toucan Pedestrian Crossings, Variable Message signs, Route Monitoring and Assessment Equipment specifies frequencies of inspection and maintenance: -

Maintenance/equipment check — Annual and or opportunity
 Electrical Safety Test — Annual
 Bulk lamp change — Bi-Annual
 Conditional/Operational assessment — Annual

6.13 REGULATORY FUNCTIONS

Regulatory functions can contribute to the core objectives as follows:-

Safety minimising and signing of obstruction
Serviceability minimising congestion and disruption
 Sustainability inconvenience to disabled people
 heavy vehicle parking causes structural damage

Standards in respect of regulatory functions are governed largely by statute and can be the responsibility of other organisations or administered by other sections or departments within the authority. In such cases effective co-ordination and liaison is essential

Highways Act 1980

As the Highway Authority the Council has a duty, under the Highways Act 1980, to maintain the highway network to safe and serviceable standards ensuring that the public can use and enjoy the highway without obstruction.

New Roads and Street Works Act 1991

The New Roads and Street Works Act 1991 (NRSWA) is the legislation that enables utility companies to place and maintain apparatus in or on the public highway. Objectives of the legislation are that Highway Authorities and Utilities should cooperate with each other to ensure that disruption to all road users is minimised as far as possible, the integrity of the highway structure is maintained and that the safety of those using the highway is not compromised.

The wide reaching requirements of NRSWA includes a service inspection as identified in section 5.3.

Traffic Management Act 2004

The purpose of the Act is to 'keep traffic moving' by minimising congestion and disruption on the highway network. In this respect there is a statutory duty, as local highway authority, to 'Manage the road network with a view to achieving, as far as may be reasonably practicable having regard to other obligations, policies and objectives, the following objective:-

- securing the expeditions movement of traffic on the authority's roads network.
- facilitating the expeditions movement of traffic on roads networks for which another authority is the traffic authority.

The Council has appointed the Transportation and Traffic Manager as Traffic Manager under the regulations and as the first part of the enactment phase.

It is intended to enhance and extend current systems already in place to meet the forthcoming challenges of the new legislation in further phases.

Further regulatory and enforcement duties are placed upon the Council by the following Acts:-

- Railways and Transport Safety Act, 2003
- The Local Government Act 2003
- Road Traffic Regulation Act 1984
- Traffic Signs and General Directions 2016
- Road Traffic Act 1988
- Road Traffic Reduction Act 1997
- Transport Act 2000
- Wildlife and Countryside Act 1981
- Environmental Protection Act 1990
- Rights of Way Act 1990
- Countryside and Rights of Way Act 2000
- Health and Safety at Work Act 1974
- Management of Health and Safety at Work Regulations 1992
- Construction (Design & Management) Regulations 1994
- Disability Discrimination Act 1995
- Criminal Justice and Public Order Act 1994
- Human Rights Act 1998
- Local Government Act 2000

6.14 CO-ORDINATION OF STANDARDS

In setting standards for all aspects of highway maintenance services, authorities should have regard to the standards of adjoining authorities and those applying to the strategic network. It will be important to deliver consistency, wherever practicable, particularly in respect of Winter Service.

PART C FINANCIAL AND PERFORMANCE MANAGEMENT

7 PROGRAMMING AND PRIORITIES

7.1 GENERAL

A fundamental requirement of delivering Best Value is to implement effective systems for programming and prioritising highway maintenance activities. Ideally sufficient funding would be available to effect a wide range of maintenance options, but even with limited budgets some options are still likely to be available above and beyond statutory and safety obligations.

Systems for highway maintenance need to support the wider framework of corporate and departmental policies and their relative allocation of priorities. These can be summarised as follows:

Strategic Level, Including such matters as :-

- corporate priorities and objectives
- Local Transport Plan objectives and targets
- Best Value Performance Indicators and targets
- Public Service Agreement targets
- maintenance, network management and other local transport services

Maintenance Level, including such matters as :-

- core network objectives
- maintenance service activity
- maintenance service priority
- review against transport and strategic level priorities.

The establishment of priorities is an iterative process working through the strategic and maintenance levels and continuously reviewing to achieve Best Value.

7.2 PUBLIC ENGAGEMENT

As the main purpose of highway maintenance is to maintain the highway network for the safe and convenient movement of people and goods, engagement with the community to discover their views and priorities and to take account of them in the decision making process is clearly fundamental.

Statutory consultations on Best Value and comprehensive consultations on the Local Transport Plan have been undertaken, with specific consultations on highway maintenance which are carried out through the annual NHT Public Satisfaction Survey.

7.3 STATUTORY DUTIES

The highest priority for any highway maintenance activity is the compliance with statutory duties and safety obligations. Statutory duties are defined under various enactments with particular emphasis in the Highways Act 1980.

In the main, the statutory obligations in regard to highway maintenance cover safety implications of risks to highway users and these are covered under the safety inspection

regime in 5.2, risk assessments in 5.5, investigatory levels in 5.8 and Category 1 defects in 5.6.

Statutory duty to maintain is therefore covered under the risk management regime. The minimum level of highway maintenance funding must be sufficient to meet the statutory requirements.

7.4 BALANCING CORE NETWORK OBJECTIVES

The establishment of priorities has to take account of the relative priorities of the core network objectives of:

- safety
- serviceability
- sustainability.

As discussed above, safety objectives relating to fulfilling minimum statutory duties is the highest priority and must be met. All remaining objectives can be programmed and prioritised with account being taken of:

- safety implications
- risk assessments
- corporate and departmental policies
- maintenance policies
- views of highway users and the public
- size of maintenance budget.

7.5 BALANCING PRIORITIES BY TYPE

The broad priorities for the respective types of highway maintenance will generally be determined by outcome of safety and service inspections and structural condition surveys assessed through the risk management regime, the Authority's policies and the views of the consumer.

As part of the budget making cycle, it is important to establish priorities and programmes for each of the maintenance types as follows:

- **reactive maintenance** — attending to Category 1 defects and other urgent safety matters arising from inspections or user information
- **routine maintenance** — providing defined standards of serviceability
- **programmed maintenance** — providing coordinated sustainable schemes and projects based upon best value and whole life costing considerations.
- **regulation** — regulating occupation, interference or obstruction of the network
- **winter service** — providing defined standards of salting and clearance of ice and snow
- **weather and other emergencies** — planning for emergency response.

Priorities and programmes in respect of **regulation**, **winter service** and **weather and other emergencies** are largely determined by the level of specified service and therefore should not need any special consideration. However, the levels of service

should take account of possible budgetary implications and consistency where interfacing with neighbouring service providers.

With regard to **reactive, routine** and **programmed maintenance**, a structured approach to programming and priorities is required. The budget setting cycle should take account of the relative priorities of these types, having regard to historical conditions, and seek to increase the proportion of programmed to reactive maintenance. This should lead to a corresponding decrease in reactive maintenance in the longer term. The consideration of programming and priorities should take account of the following:

reactive maintenance essentially comprises the rectification of Category 1 defects Other urgent safety matters in accordance with the specified standards of response, and the priorities for action and response will be determined exclusively by risk assessment. This could include such options as signing, temporary repair or first time permanent repair.

routine maintenance provides defined standards of network serviceability maximising availability, reliability, integrity and quality. Although programmes are linked to the defined standards, priorities will be largely determined from service inspections, condition surveys, and user requests, combining both routine maintenance activities and other street related activities into a coordinated programme.

programmed maintenance seeks to deliver a sustainable outcome with added community value and provides value for money through minimising whole life costs. The ability to target maintenance so as to be able to repudiate 3rd party claims and reduce liabilities should be considered as a means of 'Invest to Save'

Priorities and programmes should be developed for carriageways, footways and cycleways in respect of the structure, the surface and the edge conditions. Priorities will be determined from structural condition surveys incorporating both machine based surveys and visual inspection surveys, taking into account skid and slip resistance. Where extensive traffic management measures are necessary for major maintenance schemes on higher category roads, consideration should be given to rescheduling other routine maintenance activities to take advantage of these measures and, if appropriate, taken into account in the planning and contract management process.

7.6 BALANCING PRIORITIES BY CATEGORY

Within each type of maintenance activity, the various categories need to be prioritised. For prioritisation, account should be taken of the Councils policies and standards, structural surveys and visual inspections, user complaints and consumer consultation as appropriate.

The categories within the various maintenance activity types are as follows:

- **Reactive**
 - all elements — permanent repair of Category 1 defects identified by safety inspections detailed in 5.2 and prioritised by risk assessment
 - all elements — sign and make safe items that cannot be repaired immediately but otherwise would cause danger determined by risk assessment
 - all elements — initial temporary repair for safety purposes determined by risk assessment.

- **Routine**
 - carriageways, footways and cycleways — minor works and patching arising from safety and service inspections and determined through risk assessments
 - drainage systems and iron works — cleansing and repair determined by service standards and largely safety and service inspections
 - embankments and cuttings — stabilisation repairs identified mainly by service inspections
 - landscaped areas — grass cutting defined by service standards
 - trees and hedges — management of overhanging or overgrown, diseased or unstable items or those causing obstruction identified mainly through service inspections or user complaints
 - scavenging and sweeping — removal of debris or spillages through safety inspections or user reports
 - fences and safety barriers — minor repairs identified through service inspections
 - road markings and studs — replacement identified largely through safety inspections and service inspections in accordance with service standards
 - signs and bollards — cleansing, repair and replacement determined through service standards, safety and service inspections and user reports
 - network integrity — operational efficiency determined through service inspections.
- **Programmed**
 - carriageways, footways and cycleways — Resurfacing and Reconstruction (R & R) or surface treatment defined by service standards and prioritised by machine based or visual inspection surveys.
- **Regulatory**
 - licenses and permits — defined by service standards
 - management of utilities and other regulatory functions — defined by legislation.
- **Winter Service**
 - pre treatment — salt storage, ice prediction system, forecasting service, grit bins and precautionary salting determined by service standards.
 - post treatment and snow clearance — determined largely by service standards with input from user reports.
- **Weather and other Emergencies:**
 - flooding, drought, high winds and high temperatures — remedial and safety measures largely determined by service standards with problems identified through the National Severe Weather Warning Service, highway inspections and user reports.
 - other emergencies — dealt with through the Cleveland Emergency Planning Unit or the Council's Emergency Plan(s) and led corporately.

8 SUSTAINABLE HIGHWAY MAINTENANCE

8.1 GENERAL

The UK sustainable development strategy is described in Securing the Future (DEFRA 2005) which includes priority areas for shared action as :-

- sustainable consumption and production
- climate change and energy
- natural resource protection and environmental enhancement
- sustainable communities

A procedure has been developed for sustainable development in highway maintenance. The sustainability core objective of highway maintenance is further defined in economic, social and environmental components:-

- minimising costs over time (whole life costs)
- maximising community value
- maximising environmental contribution

In the context of Best Value, it is important to set standards at levels which are sustainable and appropriate for the circumstances. Specifications should therefore be 'fit for purpose', being carefully considered and not set too high.

Notwithstanding the above, technical specifications and guidance are paramount in ensuring quality. Consistency in application will assist in supporting continuous improvement and providing a consistent and reliable base for benchmarking.

Materials Products and Treatments

Consideration shall be given to the preservation of the heritage of the locality by the selection of materials, products and treatments that reduce clutter, coordinate design and to preserve local character.

8.2 NATIONAL HIGHWAY SECTOR SCHEMES

All highway maintenance operations should be subject to a quality assurance regime through quality management systems. However, compliance with quality management systems does not necessarily guarantee quality materials, treatments or processes.

In order to address the issue of quality, the Highways Agency, CSS and TAG have developed a number of National Highway Sector Schemes (NHSS) which are intended to improve the consistency of the products certified under existing schemes and ensure that they satisfy all current purchaser requirements.

The Highways Agency, CSS and TAG have set up the Highway Authorities Product Approval Scheme (HAPAS) which provides a means for manufacturers and suppliers to obtain approval to the use of their proprietary products within agreed performance criteria.

8.3 TECHNICAL SPECIFICATIONS AND GUIDANCE

Sustainability issues must be considered when procuring highway maintenance works following National and EU directives.

8.4 QUALITY MANAGEMENT AND SECTOR SCHEMES

All service delivery procurement will encompass the requirement to include best value, quality assurance and equal opportunity to the required standard. Where possible the use of Framework Agreements' which comply fully with the above conditions shall be utilised in the interest of best value and to deliver Gershon savings.

Procurement of materials and treatments utilise, where available, NHSS that are administered by United Kingdom Accreditation Service (UKAS).

Proprietary products are procured by the use of the Highway Authorities Product Approval Scheme (HAPAS).

8.5 ENVIRONMENTAL MANAGEMENT

Maximisation of the environmental contribution made to highway maintenance is a fundamental requirement of highway service delivery contracts. Service deliverers should include in their Environmental Management Systems procedures to address the following environmental issues:-

- Noise and Vibration
- Dust, Emissions and Odours
- Flora and Fauna
- Ground conditions
- Water courses
- Material Use
- Waste
- Local Community
- Landscape
- Archaeology

Maintaining For Noise Reduction

Road traffic noise is a major environmental consideration. Whenever major maintenance schemes involving renewal or resurfacing are planned, consideration is given to a lower noise option.

The design and construction of highway maintenance including the contractors depot activities are subject to noise appraisal to ensure mitigation.

Materials Utilisation

Highway maintenance consumes significant quantities of materials. Increased scope for innovation is apparent.

The authority, its partners and agents, seek to maximise the following: -

- Use of recycled materials.
- Use of local materials to minimise construction costs.
- Sustainable purchasing considerations, minimising use of primary aggregates.
- Economies of scale by collaborative purchasing.

Waste Management and Recycling

The landfill tax was first introduced in October 1996 to encourage more sustainable disposal of waste. Minimisation of disposal to landfill from highway maintenance schemes clearly supports the Councils objectives. To accomplish this, the following practices shall be considered where practicable: -

- Retain, recycle or re-use materials on site.
- Maximise the value of the re-used material.
- Purchase recycled products wherever possible.
- WEEE Directive — safe disposal of electrical waste.

Pollution Control

Avoidance of air, water and ground pollution should comply with statutory requirements. The environmental inconvenience to the community shall be considered for all highway maintenance activities.

Temporary and permanent storage areas shall be subject to environmental appraisal to ensure that pollution is prevented.

Nature Conservation and Biodiversity

The Natural Environment and Rural Communities (NERC) Act, which came into force on 1 October 2006, placed a duty on all public authorities to have regard to conserving biodiversity in exercising their functions. The duty is set out in Section 40 and states that: "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity."

Road verges can have high value for nature conservation both in the species they contain and in acting as a link between other habitats. Where it does not conflict with other objectives or involve additional cost, road verges should be managed to maximise their nature conservation value. A Biodiversity Action Plan has been drawn up for road verges throughout the Tees Valley.

8.6 ENVIRONMENTAL SUSTAINABILITY

The range of issues relevant to the concept of environmental sustainability include:

- noise reduction
- materials utilisation
- waste management and recycling
- pollution control
- nature conservation and biodiversity
- environmental intrusion.

Noise reduction is a major environmental consideration and a specific issue in the Ten Year Plan for Transport wherein the Government intends to introduce low noise surfacing with the objective of reducing traffic noise for three million people living within 600m of trunk roads. In addition, there is to be a new national noise strategy as well as an EU Directive on environmental noise and these will include road traffic noise. Accordingly, whenever running surfaces are to be renewed or resurfaced during highway maintenance activities, the option of a lower noise surface should be evaluated, and in cases where there would be a significant benefit to the local community they should be carefully considered.

Materials utilisation is an important consideration for highway maintenance as substantial quantities of materials are required given the scope of annual activity.

Policies on materials purchasing and utilisation which may have cost implications need to be balanced against the environmental benefits likely to be achieved. However, wherever practicable, the use of the following should be maximised:

- products made from recycled materials to develop and support local markets
- local materials to minimise transport costs, support the local economy, and to maintain local character.

Waste management and recycling strategies should apply to all highway maintenance activities. Wherever practicable, these should seek to:

- retain and re-use materials on site in order to avoid environmental implications of transport and disposal

- maximise the value of the re-used material rather than utilise for low grade fill
- make use of "recycle in place" processes in appropriate circumstances
- ensure that any material that cannot be re-used or recycled is disposed of to licensed sites in accordance with statutory requirements. This will include silt and other solids arising from gully emptying and cleansing of oil interceptors.

Pollution control needs to take account of statutory requirements and advice from the Environment Agency and the Councils' Environmental Health Departments as appropriate. Reference can also be made to the 'Prevention of Pollution Guidelines' published by the Environment Agency.

Pollution can take the form of noise, air or water and should be mitigated wherever practicable. Where appropriate, this could include:

- phasing works to avoid sensitive periods and potentially difficult weather conditions
- siting of storage areas should take account of the possibility of pollution particularly those with the potential to pollute watercourses or groundwater
- diesel storage areas should have procedures for dealing with spills.

Nature conservation and biodiversity management requires specialist advice. Highway verges and soft landscaping need to achieve a balance between safety, amenity, nature conservation and value for money and this could be performed through biodiversity action plans and landscape management plans.

Certain named species and habitats are protected under UK and EC legislation and all highway maintenance works must comply with these requirements. Where statutory protected sites are within or adjacent to the highway boundary, advice should be sought from Natural England. Where Local Wildlife Sites or protected species are within or adjacent to the highway boundary, advice should be sought from the Council's Ecologist.

In the management of highway verges, consideration should be given to the following:

- balancing the need to preserve road safety with the need to preserve the natural habitat requirements in the vicinity of a Site of Special Scientific Interest (SSSI) or a Local Wildlife Site
- establishing roadside nature reserves where suitable sites exist
- areas of verge with specific planting that can be regarded as conservation areas where no routine cutting is to be carried out
- the timing of cutting operations that take account of the flowering and seeding of wild flower plant species
- management of trees in urban areas that take account of landscaping and environmental considerations.

Environmental intrusion is an issue that should be considered at all times. It reflects the environmental awareness of the service which should be taken into account as part of the planning conditions or operational requirements. Circumstances which can lead to environmental intrusion include:

- location, design, maintenance and operation of storage areas and depots or compounds.
- poorly managed materials and temporary chipping storage areas that can become illegal waste dumps

- excessive and redundant signing clutter
- perceived light pollution in respect of illuminated signs or street lighting.

9 FINANCIAL MANAGEMENT

9.1 SOURCES OF FUNDING

Available funding is determined on an annual basis through the Local Transport Plan Settlement and Formula Spending Share as approved by Members. It comprises both revenue and capital sources of funding allocated into basic maintenance and Resurfacing and Reconstruction (R & R) and defined as follows:

- **Basic Maintenance** comprises smaller scale highway maintenance works. This category includes basic maintenance and winter service together with safety and environmental maintenance works which are not subject to cost criteria. Basic Maintenance works are funded from the revenue allocation.
- **Resurfacing and Reconstruction (R & R)** comprises larger scale structural maintenance works in respect of reconstruction, overlay or resurfacing of both carriageways and footways where a specific need has been identified, works can be planned and the estimated cost of the necessary works separately quantified.
- For the purposes of monitoring expenditure and performance, **R & R** also includes surface treatments as a separate category. Surface treatments are non-structural treatments including surface dressings, slurry sealing, high friction surfacing, resin bonded surfacing, other bituminous bonded surfacing and re-texturing. Sites where preparatory work such as patching and haunching are carried out they should be classified as R & R schemes.
- **R & R** schemes will be financed from either revenue or capital funds depending on the availability of funding.

Each financial year, allocations are made on a historical budget setting with an inflation allowance. There is no provision for network growth.

9.2 FINANCIAL PROCEDURES

The financial procedures adopted by the Council are set out in the 'Hartlepool Financial Regulations' document.

The 'Financial Procedure Rules' sets out the requirements of the Council with regard to financial management and control in respect of those matters for which designated officers have delegated responsibility.

The Procedures are intended to give Officers guidance on the following matters.:

- financial responsibilities
- allocation of revenue funds for highway maintenance and virement of funds
- placing orders for works
- maintenance expenditure (revenue)
- management and support services
- rechargeable works — reinstatements, vehicular crossings and accident damage
- advance payment code
- private street works
- S38 adoptions of estate roads — inspection fee
- collection of inspection fee from developers under S106 and S278 and other such

- agreements
- temporary road closures
- on street car parking
- locally determined funds
- minor integrated transport schemes
- potential bad debts
- charges for licences and permissions
- claims made against the County Council/Agency Districts
- highways records and land charges
- New Roads and Street Works Act 1991

9.3 ACCOUNTING PRINCIPLES

Accounting principles for highway maintenance should be in accordance with CIPFA requirements with particular reference to:

- CIPFA Code of Practice on Accounting for Capital 1994
- CIPFA Statement of Recommended Practice on Accounting for Capital 2000 which supplements the 1994 Code.

The CIPFA 2000 document provides the following relevant advice in respect of highway maintenance:

- expenditure that should be capitalised includes acquisition, construction, enhancement or replacement of roads, buildings or other structures
- in this context enhancement means carrying out works which are intended to lengthen substantially the useful life of the asset, increase substantially the open market value of the asset or increase substantially the extent to which the asset can or will be used for the purposes of or in conjunction with the functions of the authority.
- under this definition improvement works and structural repairs should be capitalised, whereas expenditure to ensure that the fixed asset maintains its previously assessed standard of performance should be recognised in the revenue account as it is incurred. Unless expenditure meets these criteria to be capitalised, it should be treated as revenue.

9.4 FINANCIAL CONTROL

Neighbourhood Services and/or Financial Services to ensure each general maintenance function and each individual job of highway improvement or maintenance should be carried out to a required specification and agreed timescale and within the approved budget allocation unless otherwise agreed with the Director of Neighbourhood Services.

Moreover, under the terms of the corporate financial management arrangements the following criteria should be fulfilled:

- accountancy practices as described in 9.3 above to be followed
- highway expenditure to be monitored on a monthly basis and any possible overspends identified and reported to the Director of Neighbourhood Services at the next Budget meeting
- quarterly progress reports to be provided to the Director of Neighbourhood Services

incorporating actual plus committed expenditure compared with estimated expenditure

- adoption of further regulations or procedures as determined by the Director of Neighbourhood Services and/or the Chief Financial Officer to ensure adherence to Council's policies.

10 PERFORMANCE MEASUREMENT

10.1 BENCHMARKING

Benchmarking is a fundamental element in the delivery of Best Value as it enables comparisons to be drawn in respect of the performance of local authorities. It is a stimulus to continuous improvement and provides the means for achieving the "compare" element of the 4Cs of Best Value reviews.

The two main types of benchmark that need to be addressed in terms of achieving Best Value are:

- data benchmarking which involves the use of inputs and/or outputs for comparing performance, very often cost or measurement related
- process benchmarking which is a means of comparing and measuring processes, sequences or activities involved in service delivery with those of other organisations to identify how existing methods can be improved.

The participation of an authority in a benchmarking network (or club), which is both suitable and appropriate for its needs, is a recommended component in enabling performance to be properly measured and compared. It will also assist in promoting targets that stretch the organisation, but are both achievable and meaningful, and can demonstrate continuous improvement.

Tees Valley Highway Authorities are developing a benchmarking group and it is proposed to take account of the recommended performance indicators as stated in Appendix F of the Code of Practice.

10.2 PERFORMANCE INDICATORS AND TARGETS

In order to demonstrate continuous improvement, performance has to be continually measured and this is undertaken through performance indicators, standards and targets which are defined as follows:

- Performance Indicator — the measure of performance in exercising a function
- Performance Standard — the minimum acceptable level of performance in the exercise of a function and measured by reference to a performance indicator for that function
- Performance Target — the level of performance in the exercise of a function that is expected to be achieved over a minimum period of a year and measured by reference to a performance indicator for that function.

In respect of Best Value, performance can be measured through four basic methods:

- Input — the resources (human, material or financial) utilised in delivering the function or service
- Process — the methodology and procedure of committing the resources in the pursuit

- of fulfilling the function
- Output — the resultant effect (often numerical) of completing the process with the resource input
- Outcome — the ultimate impact on the community and the best way of measuring performance.

Targets should be set for every indicator, and for each indicator set for a minimum period of one year, with an optimum period of five years, as all services have to be reviewed every five years. Moreover, in regard to national indicators, Government targets for some, such as those reflecting cost-efficiency and quality, are being set such that authorities will have to reach, within a period of five years, the performance level of the top 25% of authorities at the time the targets were set.

In order for continuous improvement to take effect, the basic processes involving management, procurement and service delivery mechanisms require improvements in outputs, which will lead to improved outcomes in the Best Value performance indicators. Types of indicator that could fulfil the criteria for measuring performance are:

- Best Value Performance Indicators (BVPs)
- Local Performance Indicators
- general management (processes, procedures, support services)
- project management (time, quality, cost)
- client arrangements
- consultants (in-house, externalised, external)
- contractors (in-house, externalised, external).

In Hartlepool, performance indicators relevant to the highway maintenance service are as follows:

- BVPs
- Engineering Consultancy Indicators
- Local Performance Indicators

10.3 NATIONAL PERFORMANCE INDICATORS

The national best value performance indicators are set by Government and those reflecting service delivery are specified by DfT. Authorities have to measure all the indicators relevant to the service they provide, although the targets themselves are set locally by the authorities after taking account of Government guidance.

In order to ensure the best value performance indicators give a balanced view of performance, the Government has adopted five "dimensions" of performance. These are:

- strategic objectives: why the service exists and what it seeks to achieve
- cost/efficiency: the resources committed to a service and the efficiency with which they are turned into outputs
- service delivery outcomes: how well the service is being operated in order to achieve the strategic objectives
- quality : the quality of the services delivered, explicitly reflecting users' experience of services fair access together with ease and equality of access to services
- fair access: ease and quality of access to services.

The National Indicators (NI) that are applicable to highway maintenance are as follows:

- NI168 Condition of Principal Roads — derived from SCANNER survey
- NI169 Condition of Non-Principal Classified Roads — derived from SCANNER survey
- local indicator Condition of Unclassified Roads — derived from coarse visual inspection survey
-