

APPENDIX 1

**Southend on Sea Borough Council
Highway Infrastructure Asset Management
Plan**

June 2017



Table of Contents

Chapter	Pages
Introduction	4
2. Asset Management Policy and Strategy	9
3. Levels of Service	10
4. Measuring Performance	12
5. Asset Data	13
6. Data Management	15
7. Lifecycle Planning	16
8. Work Programming	18
9. Risk Management	22
10. Resilient Network	27
11. Financial Management and Valuation	28
Appendix A - Supporting Documents	
Appendix B - Forward Works Programme	
Appendix C - Lifecycle Plans	
Appendix D - Asset Data Analysis 2017	
Appendix E - Improvement Action Plan	
Appendix F – Risk Register	
Appendix G – Asset Management Performance Management & Continuous Improvement Framework	
Appendix H – Asset Management Competence Framework	
Appendix I - Process Classification Document/Forward Programme & Budget Setting	
Appendix J - Definition of Benchmarking Principles	
Appendix K - KPI Benchmarking	
Appendix L - Communication Plan & Engagement Guidelines	
Appendix M - Data Management Strategy	
Appendix N – Glossary of Terms and Abbreviations	

Executive Summary (or Foreword by Cabinet Member)

The Council's highway network is estimated to have a gross value of £811 million (April 2014 valuation). The operation and maintenance of this vital asset supports the Council's corporate vision by delivering the agreed level of service to all road users and by providing value for money.

The Council is under increasing scrutiny in the way that it meets its road user expectations, justifies the infrastructure investment and demonstrates how best use is being made of scarce resources.

It has been fully recognised that embedding asset management in the highways service as demonstrated by best practice is fundamental if the highway network is to continue to be 'fit for purpose'. We will be continually challenging and improving our asset management practices and actively seeking out national and international best practice.

The residents of and visitors to Southend expect safe and reliable journeys. The Council are actively engaging with road users and other interested parties to receive and understand their views about the highway service we are delivering.

A key function of the Highways Infrastructure Asset Management Plan (HIAMP) is to set out how we intend delivering an affordable service with the resources available. Our lifecycle plans cover a wide range of activities, from inspections, to routine and cyclic maintenance, and include structural maintenance and more substantial refurbishments and improvements to all the Council's highway assets.

The lifecycle activities set out in this HIAMP are for what we have classed as the critical assets. A number of these activities reflect best practice (for example, inspection and routine maintenance intervals) and are designed to manage the risk levels.

Other activities, such as structural maintenance to carriageways, are periodic in nature and dependent on a wide range of asset condition factors and other criteria. To estimate the maintenance need, lifecycle planning models have been used to reflect how our critical assets behave over time and assist us determine the future investment need.

Setting out the highway infrastructure lifecycle plans in this manner provides full visibility of the activities required to deliver a safe and reliable highway network. It also enables asset owners and senior decision makers to assess and challenge current practices, helping to identify areas where improvements and efficiencies could be made.

The HIAMP sets out financial plans required to deliver the lifecycle activities. The financial plans provide an indication of the level of investment that is required to deliver the agreed level of service for the critical assets. It is also fully recognised that there are considerable pressures on public finances which impact on these financial plans. As a result, we have developed maintenance strategies for our critical asset types in order to make best use of the available funds and ensure that the highway network remains fit for purpose.

Updating the HIAMP

The Council is committed to continually improving asset management practices and these will be reflected in future periodic reviews and updates of the HIAMP.

Introduction

1.1 Highway Network

The Council's highway network is over 800 km in length comprising of multiple highway infrastructure asset types, such as carriageways, footways, structures (including bridges and retaining walls), traffic signals, traffic signs, highway drainage and street lighting.

It is predominantly urban, covering the length and breadth of the Borough, consisting of strategic and principal (A) roads, non-principal (B&C) roads, unclassified estate, plus a number rural roads and footways. It is vital to the local economy, tourists and the community, carrying high volumes of commercial and private vehicles and in order for the Council to fulfil its potential, it is important that this network is effectively maintained.

The Council has a significant stock of aging highway infrastructure assets built during the post war era from the late 1950s through to the early 1980s, to which many are approaching or exceeded their design/service life, therefore requiring prudent management to minimise interventions and maximise the benefit of the asset.

The urban nature of the Council highway network means it is in constant demand and has to cater for all types of users. The network is crucial for the day to day functioning of the Borough; as a result, the condition and availability of its highway assets is of great importance and value.

The Council is committed to ensuring the highway network is maintained in a manner that supports its corporate vision, aims and objectives.

1.2 Highway Infrastructure Asset Management Plan

The Council's Highway Infrastructure Asset Management Plan (HIAMP) facilitates the implementation of good highway infrastructure asset management through a framework approach to deliver the highest service levels with the available resources. The HIAMP will enable the Council to build upon the existing asset management practices and procedures within the authority and create a continuous improvement framework.

The HIAMP will assist in the delivery of the Council's corporate vision, together with its statutory duties, customer expectations and address its funding limitations. The HIAMP has been developed utilising the knowledge, expertise and experience of senior officers and the highway infrastructure teams within the Council, with the support of external consultants; and links the strategic objectives and the operational activities of the authority.

This HIAMP is the vehicle by which the Council intends to provide a long-term highway infrastructure asset management framework that meets their statutory responsibilities and manages the highway assets to a service level that is affordable, achievable, efficient and

cost-effective. The HIAMP links the need for long term highway infrastructure investment and to the Council's strategic goals, risk policy and desired day to-day service levels of service.

Key to the HIAMP is the constant development and review of detailed lifecycle plans for each physical component of the critical highway assets and the corresponding financial planning and spending priorities. This HIAMP provides a framework for asset management improvement as the data collection systems and data analysis improves.

The Council have adopted long-term works programming and for the critical assets whole life costing principles in an effort to ensure that the most economic cost options are identified and used for the works programming and funding decisions.

Key elements of the Council's infrastructure asset management approach, and set out in this HIAMP include:

- Taking a lifecycle approach to the management of critical infrastructure assets;
- Developing cost-effective management strategies for the long-term;
- Providing affordable levels of service and monitoring service performance;
- Managing risks associated with highway infrastructure assets;
- Sustainable use of physical resources;
- Establishing continuous improvement in asset management practices;

The Council's HIAMP has been aligned with the Highways Infrastructure Asset Management Guidance (HIAMG) which is regarded as best practice guidance published by Department for Transport's Highways Maintenance Efficiency Programme (HMEP) and supported by UK Roads Liaison Group. The Guidance makes 14 recommendations and is based around an asset management framework (an adapted version for Southend is at Figure 2.1) approach to aspire to all the benefits from infrastructure asset management.

1.3 Scope of HIAMP

Effective highway asset management requires good quality data, long-term programming and whole life costing models providing cost options which inform the works programming and funding decisions processes. Key elements of the Council's infrastructure asset management approach includes its:

- Asset Management Policy and Strategy;
- Asset Management Communications Strategy;
- Asset Management Performance Management and Continuous Improvement Framework;
- Life-cycle planning approach to the management of critical assets;
- Affordable levels of service;
- Management of highway infrastructure risks;
- Sustainable use of physical resources;

- Continuous improvement in the delivery of the asset management service;

This HIAMP's sets out the processes used for the management of the highway infrastructure assets, highlights the present strengths and weaknesses of the current management approach and seeks ways Southend can improve its asset management service.

1.4 Asset Management Framework

The Council has developed the following asset management framework for all its activities and processes which are necessary to manage, document, implement and continually improve delivery of its highway infrastructure asset management.

The framework is summarised below.

Southend's Asset Management Framework



Figure 2.1 -Southend's Asset Management Framework

1.5 Asset Management Context

The asset management context includes a variety of relevant and influencing factors that need to be taken into consideration when determining the Council's expectations for the asset management service. These factors include: National transport policy, the Council's

vision and its local transport policies, the expectations of stakeholders together with its legal and financial constraints.

1.6 Asset Management Planning

The asset management planning sets out the key activities that are undertaken by the Council as part of their asset management planning process. These activities include:

- Asset Management Policy – the Council’s published commitment to highway infrastructure asset management and provides the link between the corporate vision and objectives and the asset management objectives;
- Asset Management Strategy – the Council’s published strategy on how the asset management policy will be delivered using the asset management framework, and includes all critical assets, and the Council’s commitment to continuous improvement;
- Asset Performance – the Council’s agreed levels of service and how the performance will be measured, reported, and actions taken to drive improvement;
- Data Management– the Council’s strategy for asset data management and collection, without which informed decisions cannot be made;
- Lifecycle Planning – the Council’s lifecycle plans for the critical assets to inform decision makers about optimum investments and impacts, when combined with investment scenarios and stakeholders desired levels of service;
- Works Programmes – the Council’s programme of works for each highway infrastructure critical asset;

1.7 Asset Management Enablers

Asset management enablers are the series of supporting activities that facilitate the implementation of the asset management framework. They include:

- organisational asset management leadership linking councillors, chief officers, asset owners, and all asset management staff;
- adoption of an asset management culture;
- effective communications with all asset management stakeholders;
- collaborating with all asset management stakeholders and suppliers to deliver an effective service;
- staff with appropriate asset management competencies and skills within the service;
- effective risk management processes for all critical assets;
- data management strategy;
- asset management performance framework;
- benchmarking asset management best practice with neighbouring highway authorities and best in class;
- collaborating with other highway authorities within Essex and the wider East Anglia;

- fostering a culture of continuous improvement and innovation in asset management practices and in works delivery;

1.8 Relationship to Other Documents

This HIAMP provides the linkage between the corporate vision and objectives and the detailed highway operational and business plans.

Other relevant key documents are:

- Highway Asset Management Policy and Strategy;
- Local Transport Plan 3 (2012 – 2026) (Revised 2015);
- Southend Borough Council Corporate Plan and Annual Report 2016;
- Performance Management and Continuous Improvement Framework 2017;
- HMEP Highways Infrastructure Asset Management Guidance (2013);
- Well Managed Highway Infrastructure – A Code of Practice. (2016);

1.9 Key Stakeholders

The highway network and all its individual elements is the Council largest and most valuable asset and in 2014 was valued at £811 million. Good management of these assets impacts directly on a broad range of stakeholders and users of the network including:

- Elected councillors;
- Council officers;
- Residents;
- Road, whether residents, those passing through or visitors;
- Statutory undertakers;
- Local businesses;
- Visitors/tourists.

The information generated by a HIAMP is designed to enable greater involvement by all stakeholders in the management of the highway infrastructure.

2. Asset Management Policy and Strategy

BS ISO55000:2014 (Asset Management) provides a succinct definition of asset management:

“Asset management enables an organisation to realise value from assets in the achievement of its organisational objectives”

The Council highway network is a fundamental part of the authority’s highway system and it is essential that it is effectively managed and maintained. The asset management framework approach aims to provide the process to improve the management of the highway assets ensuring the Council meets the needs of the community, while providing

support to the changing demands of businesses and supports the growth of the local economy.

In order to achieve this we have aligned the Highway Asset Management Policy objectives and delivery priorities with the corporate values and objectives. The Asset Management Strategy has been developed to deliver the Highway Asset Management Policy.

2.1 Asset Management Policy

The AMP is a high level document which establishes the Council's commitment to highway infrastructure asset management and demonstrates how the highway asset management objectives align with the Council corporate values and objectives. The Policy gives the asset management stakeholders visibility of how asset management supports the delivery of the corporate vision.

2.2 Asset Management Strategy

The Highway Asset Management Strategy is the Council's primary highway asset planning tool to ensure that the Highway Asset Management Policy is delivered and supports the wider objectives in the Corporate Plan.

The HAMS fulfils the following functions:

- It sets out the contribution to the wider objectives in the Corporate Plan, the Local Transport Plan and other strategies and plans at the local, regional and national level through the prioritisation of investments in maintenance of the highway infrastructure.
- It establishes the Council approach to prioritising, mitigating and managing critical risks associated with the highway network and ensuring that the network is resilient to major incidents such as extreme weather.
- It identifies, and where possible, quantifies the long term strategic highway asset planning risks that will affect the Council ability to deliver highway services in a sustainable fashion. These risks include construction price inflation, climate change and continued reductions in Central Government funding and the strategic actions that are needed to mitigate or manage these.
- It identifies the most cost effective way of achieving all of the above using forecasting models to enable the Council to select investment strategies and models to different maintenance activities that should minimise costs over the long term.
- It will form the basis of future LTP funding as the Government expects local authorities to have strategies and plans in place to justify future bids.

3. Levels of Service

The levels of service are developed for an asset, categorised under the service groupings and can be used to evaluate and measure performance.

Levels of service are:

“the agreed service quality for a particular activity or service area against which performance can be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental acceptability and affordability”.

Levels of service can be developed from both asset condition (existing / desired) and demand aspirations (i.e. what the asset is expected to deliver).

3.1 Why Use Levels of Service?

Levels of service are an integral component of the asset management process. They are used to define service delivery levels (or service options) for each asset type. The level of service are part of the criteria used to prioritise maintenance schemes, to monitor agreed performance measures and identify how the level of service are being delivered.

The Council levels of service will be used:

- to develop asset specific strategies to deliver the agreed level of service;
- to identify the costs and benefits of the agreed levels of services;
- as a measure of the effectiveness of the HIAMP.

Future developments of this HIAMP will seek to consult with customers of the proposed type and level of service to be offered and whether these align with the individual's expectations.

3.2 Current Practice

The Council adopted its Highway Maintenance Strategy in 2015 and it includes performance indicators (local and National) by which service delivery can be measured. The adoption of these performance indicators allows a greater level of accuracy and sophistication on the asset management performance.

3.3 Development of Levels of Service

This HIAMP contains initial target levels of service for each asset type and has been developed by considering the key factors that impact on both the operational and maintenance of each asset type. These target levels of service may include condition, demand or both.

The actual levels of service are determined through consultation with asset management stakeholders and includes legislative requirements, customer expectations, Council's corporate goals and objectives and best practice guidelines. In addition to these, levels of service will vary from asset type to asset type.

The initial levels of service were based on current practice and will be the subject of continuous monitoring and development. Annual reviews will be undertaken in order to review actual performance against targets.

4. Measuring Performance

4.1 Performance Management Framework (PMF)

The purpose of the asset management PMF is to support the Council in delivering its asset management priorities through a robust, transparent and repeatable process for recording, monitoring, analysing, and reporting performance for all its critical infrastructure assets.

A PMF, that links strategic and operational criteria, is fundamental to a holistic asset management approach. It enables the Council to assess and demonstrate the impact that different investment scenarios will have on the performance of the infrastructure network, levels of road user satisfaction, engineering/contract measures and condition targets.

In particular the PMF can:

- demonstrate actual performance against targets to all asset management stakeholders
- show the effectiveness of the spend on infrastructure assets

4.2 Importance of Performance Management

Successful asset management delivery requires the ongoing monitoring of performance in order to ensure that the agreed levels of service are being delivered. Performance management is important to the Council as it provides the ability to:

- Document the differences between actual and planned performance and identify the reasons for any differences;
- Prioritise and allocate diminishing resources effectively;
- Ensure value for money;
- Motivate and engage competent staff, and assign accountability;
- Identify and rectify poor performance at an early stage;
- Learn from past performance to help improve future performance;
- Increase public satisfaction and help improve services for service users;
- Implement action strategies to adapt performance.

4.3 Performance Monitoring

The performance of the highways service is benchmarked against a series of asset management performance indicators for the critical assets initially, with the intention of including the non-critical assets in time.

The asset management performance indicators assess the inventory data quality and coverage for each asset type identified and will be benchmarked against the 5-year action plan and improvement targets developed from the gap analysis.

Robust, high quality inventory and condition data allows the Council to monitor the impact of the HIAMP and review and implement changes if required.

5. Asset Data

The availability of good quality inventory data, condition data and supporting information is essential for asset management decision making. This requires the collection, and maintenance of robust, good quality asset data to analyse and report against present asset performance and the monitoring of progress towards achieving asset management targets.

The Council recognises that data is expensive to collect, analyse and maintain, therefore it has implemented a Data Management Strategy to help prioritise its capital funding for its works programmes and provide supporting evidence of its legal responsibilities. Condition of an asset generally relates to its structural integrity and is a key driver for future maintenance and renewals work.

5.1 Types of Data

The following asset data types are required:

- **Inventory:** - information on the quantity, location, size, type, age and key components make up of each asset component;
- **Condition:** - quantified and/or observed, a condition rating for a component or whole assets derived from either physical testing, machine based analysis or visual inspection;
- **Use:** - information on the use of assets in the form of information such as traffic counts, heavy vehicle routes, road classification etc.

Good asset data is the foundation on which all asset management processes are built; the availability of appropriate asset data allows all staff involved in the process to obtain an overall view and to apply a consistent management approach.

The Council's present position with respect to its key assets (carriageways, footways, structures, traffic signals, and street lighting) has been assessed as good, however it is recognised that there are gaps in the data, which will be addressed by the Data Management Strategy.

Asset data is required to support the following:

- effective monitoring of, and reporting on, the condition of critical infrastructure assets;
- life expectancy, before intervention of individual assets or asset components;
- asset management levels of service;
- asset management performance indicators;
- future investment scenarios;
- long-term forward works programmes and lifecycle planning;
- valuation assessments for each of the infrastructure assets and any calculation of asset depreciation.

5.2 Current Asset Data

The Data Management Strategy includes an analysis of the extent and reliability of the current asset data held and how to identify the existing data deficiencies. It is accepted that there is insufficient asset inventory data for some of the asset groups, most notably highway drainage.

The quality and quantity of the present inventory and condition data varies from asset group to asset group. Details of what data is currently available is discussed in more detail in each individual asset lifecycle plan (see Appendix D).

6. Data Management

6.1 Current Data Management Practices

The Data Management Strategy provides the current process and procedures to assess and validate the consistency, quality and completeness of data. Additionally, the Data Management Strategy outlines consistent processes and procedures for updating data. A robust Data Management Strategy ensures data is high quality, accurate with little or no gaps and provides high confidence in outputs derived from the data.

The inventory management procedures should include, inter alia, the following:

- Named asset owners responsible for the data for each asset group;
- Inventory verification/validation procedures;
- Updating and refreshing of data collection methods;
- Updating procedures for new works;
- Interaction with highway safety and other highway inspectors;
- Methods for updating the inventory;
- Identification and adoption of appropriate software.

The Council has a number of procedures in place for elements of the data, and is developing its Data Management Strategy to ensure data consistency. The Data Management Strategy will include validation procedures, quality standards and procedures.

6.2 Inventory and Condition Data Use

Inventory and condition data is required to support the following activities:

- Maintaining the highway inventory; so that we know accurately the extent of the highway assets being maintained;
- Routine maintenance management; so that we can demonstrate that safety inspections and reactive repairs are completed in accordance with the approved highway policies;

- Customer queries and service requests; enabling us to track customer queries and demonstrate that we have responded in accordance with our customer care requirements;
- Performance reporting; to monitor performance to a range of stakeholders in accordance with the performance framework.

Once fully implemented, the Data Management Strategy will improve the quality of asset data and it will assist in the development of our highway management practices. The improvement in asset data management will enable improved capability to:

- predict future needs; thus creating better coordinated and more cost effective plans;
- meet future Government requirements for asset valuation
- understand the risks associated with managing the road network, therefore allowing it to manage it better

In simple terms better data management will enable better and more informed decisions about our road network to be made, therefore providing a better value service.

7. Lifecycle Planning

Lifecycle plans demonstrate how investment and/or performance are achieved through appropriate maintenance strategies with the objective of minimising expenditure, and providing an agreed and affordable level of service over time.

Lifecycle planning can be applied to all highway infrastructure assets, however, application of lifecycle planning may be more beneficial to those assets that have the greatest value, require considerable maintenance investment, are high risk and/or seen as critical assets. In some cases, complex approaches may be appropriate and in these circumstances higher quality data and predictive modelling techniques will also be needed.

The benefits of lifecycle planning include the ability to support decision making through:

- long term investment scenarios and the development of appropriate maintenance strategies;
- the determination of the level of investment required to achieve and agreed level of service;
- the identification of future asset performance for different levels of investment and maintenance strategies.

7.1 The Lifecycle Planning Process

The Council is committed to implementing and maintaining a lifecycle planning approach to the maintenance of all critical highway infrastructure assets.

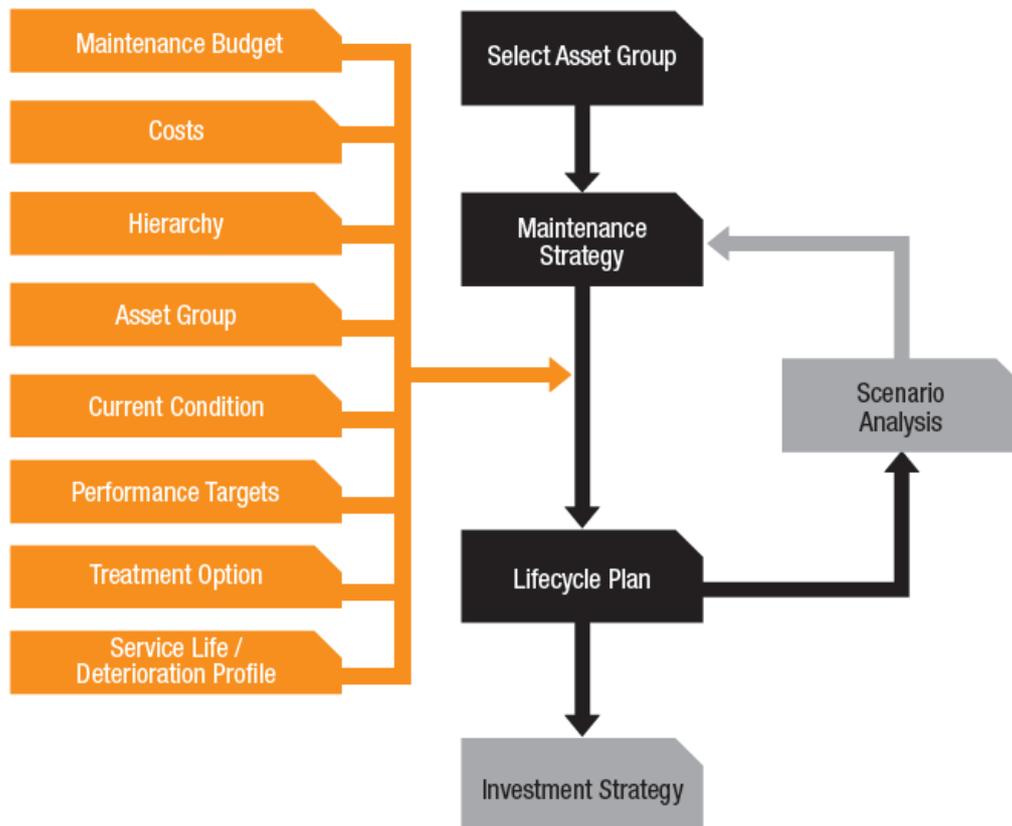
It is presently proactively developing lifecycle plans for most of its key assets including carriageways, footways, structures, traffic signals and street lighting

The outputs from the lifecycle planning scenarios will inform the Council forward investment decisions and support the case for highway asset investment. Outputs will feed into the Council's Performance Management Framework, influencing 'what if' questions such as 'how much budget is required to achieve the desired levels of service?', and, 'what level of service is affordable given the available budget?'

Figure 7.1, below, illustrates a lifecycle planning process that compliments a highway authority's Asset Management Policy and performance management framework. Development of a robust, realistic lifecycle planning process requires reliable and good quality asset data. This is using good practice including the HIAMG and the Institute of Asset Management's Asset Management Anatomy.

The Institute of Asset Management developed the Anatomy to provide an appreciation of asset management: what it is; what it can achieve; the scope of the discipline and a description of the underlying concepts and philosophy, and it aligns with ISO55000 Asset Management.

Figure 7.1 –Lifecycle Planning Process, HMEP Asset Management Guidance, figure 4, page 44



8. Work Programming

8.1 Introduction

The Council aspire to move towards a long term holistic forward works programme (FWP) which optimises whole life costs and integrates the individual asset type FWP's. The benefits of a long term holistic FWP are:

- Construction and operational efficiencies;
- Coordination of works leading to a reduction in possible congestion;
- reduced disruption to the public;

8.2 Current Works Programming

All of the asset types have individual work programmes covering more than one year, with support for a 3 year outline programme.

The individual asset type maintenance programmes are developed from asset condition data, priorities and budgets, resulting in a single year detailed programme of work. Carriageway maintenance projects are prioritised from reviewing the current network

condition using survey data (CVI, DVI, SCANNER and SCRIM condition surveys) processed through a Pavement Management System.

Lists of proposed schemes are developed for the different asset types – carriageway, drainage, footways, street lighting, safety schemes, and structures.

Co-ordination of these programmes relies on reviews of work planned for the year, finalised after the Council budget setting process. The adoption of a longer term work programme of, say 5 years, will support greater efficiencies in co-ordinating works on the highway. In addition, it will facilitate the identification of more cost effective solutions.

The current work programming process is shown below in figure 8.2:

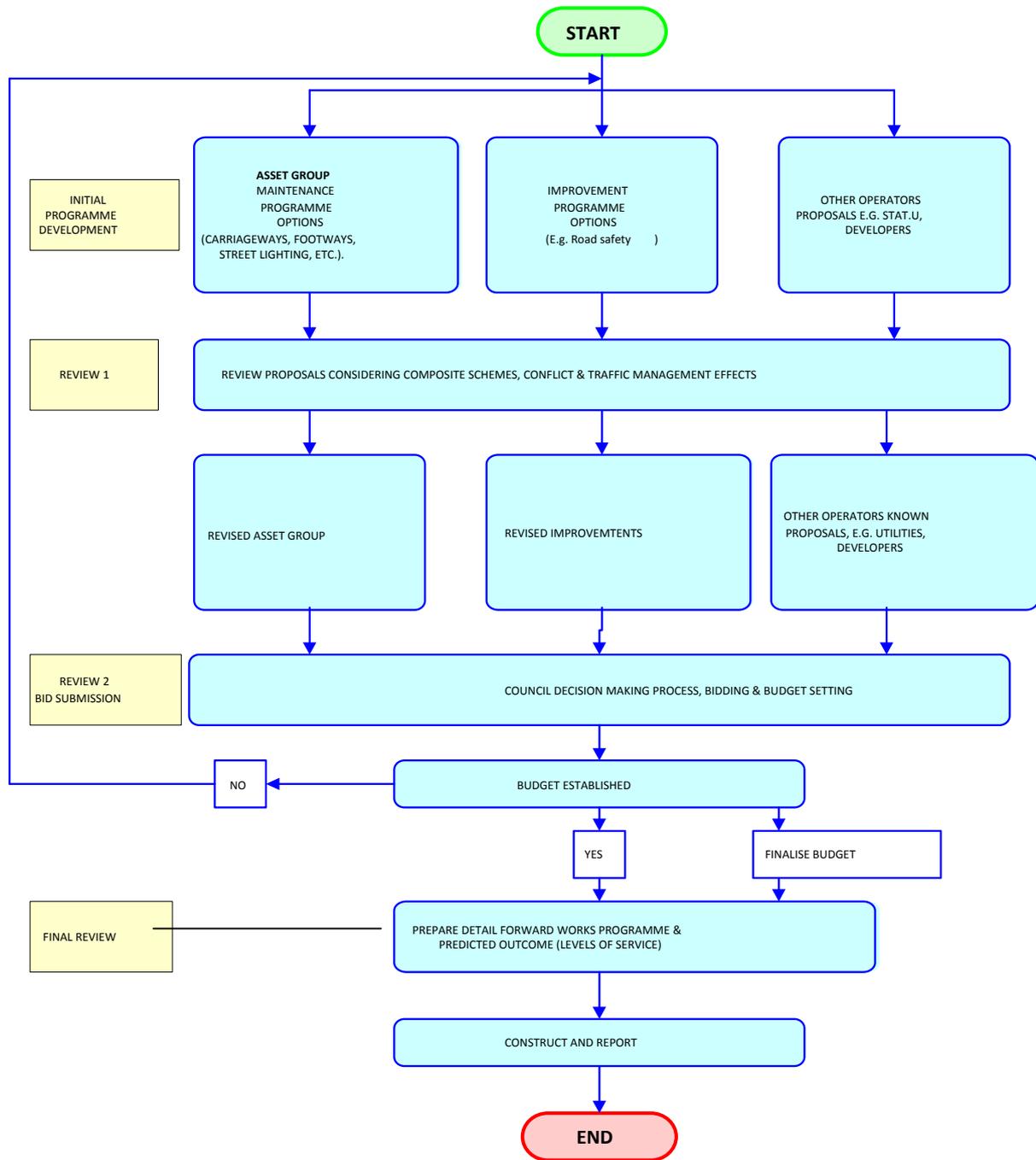


Figure 8.2 Annual Forward Works Programme Process

8.3 Development of a Forward Works Programme

Adoption of a 3 or 5-year forward works programme will support greater efficiencies in co-ordinating works on the highway and facilitate the identification of more cost effective solutions.

The Council proposes to develop a FWP process based on figure 8.3, below:

Figure 8.3 – Developing a Programme of Works, HMEP Highway Infrastructure Asset Management Guidance, Figure 6, Page 53



The Council will investigate whether to adopt a Whole Life Cost (WLC) and Value Management (VM) approach to develop and prioritise the FWP and the selection of the annual maintenance programme. The Council aims to have implemented a 3 or 5-year FWP by 2022/23. The FWP will be developed based on affordable and realistic levels of funding, and this will be reviewed if the actual funding levels available differ.

8.4 Scheme Condition Accuracy

The accuracy of each scheme's condition within the FWP will vary, depending on the time period that the scheme sits within the wider programme:

- **Year 1** – current financial year, work programme already agreed;
- **Year 2** – next financial year, recommendation of works for next round of funding. These schemes should stand scrutiny for economic viability and a genuine need for delivery before they become year 1 schemes.
- **Year 3 to Year 5** - represent a reasonable assessment of likely need, which will include condition and treatment solution options, to be confirmed as the schemes move up the programme.
- **Year 6 to Year 10** - are a best assessment based on age, design life, and condition and residual life. In future, these will be supported by the outputs from asset deterioration modelling.

The accuracy implications of the above assessment are shown in the following table.

Accuracy of programme items		
Years	Subjective Description	Treatment or Scheme Definition Level
1	Scheme will be implemented in year	Actual treatment
2	Firm recommendation	Specific treatment or scheme
3-5	Reasonable assessment	Treatment or scheme type
6-10*	An assessment of long term funding need	Generic treatment
* These years' schemes will require treatments and will be reviewed annually and will move according to scheme condition and funding levels.		

The forward works programme is developed from the data available, however as a result of data gaps and numerous variables, assumptions have to be made based on local engineering experience and expertise. It is not possible, therefore, to predict accurately the precise condition of an asset at any point over a 10 year period, however, it is possible and desirable to predict the scale and types of treatments needed to be carried out in future years on a network wide basis. Such predictions are necessary in order to identify long term future investment need and as a key input into asset valuation.

8.5 Current Work Programmes

8.5.1 Carriageways & Footways:

Current programmes of schemes generally cover a 12 month period with indicative schedules for a further 12 months. The programmes are based on the results of the various condition surveys and engineering inspections, with preparatory software formulating future programmes. It is expected that similar datasets and process will be used to generate a 5-year forward works programme.

8.5.2 Highway Structures:

A 2-year forward works programme has been put in place for all routine maintenance operations. The aim is to produce a 5-year FWP for highway structures using inspection results, estimates of life cycles and the age profiles of critical components. Greater use is to be made of bridge condition indicators (BCI) and the information generated from these.

8.5.3 Street Lighting - Programmed Replacements:

The forward works programme of replacement and improvement works has been driven by the LED replacement programme.

8.5.4 Signs and Safety Fences:

A works programme for safety fences is produced annually. Works for signs and pedestrian barriers are not programmed, however maintenance is conducted on these assets if required and are within the boundaries of a major maintenance scheme.

8.5.5 Traffic Signals & Pedestrian Crossings:

There is currently no annual programme of renewals and replacements. Works are identified for replacement/alterations as part of long term capital funding.

9. Risk Management

Risk management supports the approach adopted for making decisions through the asset management planning process and is covered in the Well Managed Highway Infrastructure, Code of Practice and ISO 31000, Risk Management (47).

A risk can be defined as an uncertain event which has an effect on the desired performance of an asset or a series of assets. A risk factor is the product of the severity of an event and the likelihood of its occurrence.

Well Managed Highway Infrastructure advises that good risk management requires identification of asset risks, assessing its impact and probability of occurrence. Risk management includes calculating the risk factors, defining the category of risk and timescales to rectify any potential defects to address the risk.

9.1 Southend Corporate Risk Management

The Council has an established risk management process, which is illustrated in the following diagram:

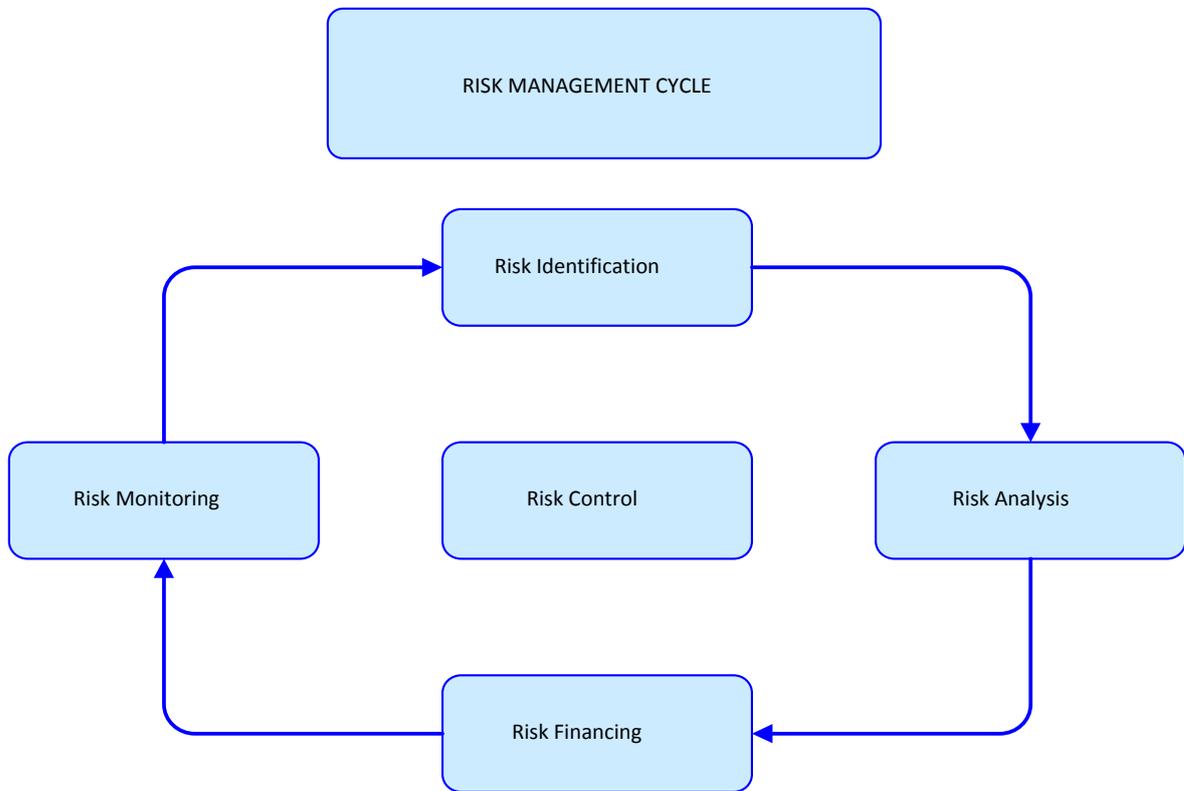


Figure 9.1 Southend Risk Management Process

9.2 Risk Management Process

The aims of the process include:

- Delivery of the Corporate vision and objectives;
- Avoidance of significant loss, damage or injury;
- Avoidance of damage to the Council's reputation;
- Optimisation of the benefits of innovation, and,
- To assist with any anticipated and the management of the consequences of changing social, environmental and legislative requirements.

This process is applied to the highways service.

The steps in the process are as follows:

9.3 Risk Register

9.3.1 Risk Identification

Each significant activity is reviewed step by step, investigating all aspects of the activity for risks; taking into consideration existing accident records, claim history and national guidance.

As part of this process we have considered each of the following five principal areas:

- **People** – asset management processes, the possibility of human error, and the chance of injury including from stress.
- **Equipment** - all the equipment used, from large machinery in construction to office aids, establishing the hazards associated with their use.
- **Materials** - chemicals in use or formed during work may be subject to assessment under the Control of Substances Hazardous to Health Regulations.
- **Environment** - includes noise, dust, light, ventilation, etc. and may involve effects on the environment from the works. There may, in addition, be issues surrounding the disposal of waste created by any of the processes.
- **Security** – Consider how we can protect vulnerable employees (especially lone workers), equipment, plant and premises from loss, damage and injury. The mobility/portability of items may require different treatments; if in doubt officers should refer to the Council's Risk Management and Insurance Service.

Additionally, the interaction of these five factors need to be considered since the majority of hazards are generally due to a combination of two or more factors. When planning schemes it is necessary to consider how these factors might impact on the delivery of the scheme.

9.3.2 Risk Assessment (in the Risk Management Context)

Risk assessment means quantifying how likely a risk is to occur and how damaging the effects will be if it does. Risk is not always bad; without innovation the organisation could stagnate. Risk must be viewed in proportion to the potential benefits of new ways of working, etc. Risk management is about getting the risk/benefit balance broadly right.

There is often confusion with the work based risk assessments required by current health and safety legislation. Although the process used is similar, risk assessment in this context is much wider than simply health and safety; it embraces political, financial, reputation risks as well as those potentially affecting the health and safety of the workforce.

Risk appetite is the extent to which the Council embraces risk management rather than tries to control, avoid or transfer it. An example would be the level of excess the Council is prepared to carry rather than to insure.

Combining the likelihood and severity allows the estimation of the significance of the risk and whether further effort is needed to manage it. Proportionality matters: the Council would not normally spend more on controlling risk than it would cost if the related event happens.

9.3.3 Defining Risk Levels (Severity)

The severity of a risk event is assessed in the following way:

A **high severity** risk may lead to:

- a fatality
- destruction/loss of essential buildings/resources
- non-provision of a vital service
- ministerial intervention
- prolonged adverse national media coverage over several months
- a big financial loss (say £1m, or enough to threaten the continuity of the service)

This is termed a **level 3** risk or one that will require action by corporate management.

A **medium severity** risk can lead to:

- life changing injury/ill health
- long-term loss of use of essential buildings/facilities
- significant disruption to provision of service
- adverse comments from MP
- some adverse national media coverage
- manageable financial loss subject to control(s)

This is termed a **level 2** risk or one that could be managed by the department.

A **low severity** risk may result in:

- minor injury or ill health
- short-term unavailability of essential buildings/resources
- minor short-term disruption of service provision
- adverse local media coverage
- minor financial loss

This is termed a **level 1** risk or one that could be managed by the budget holder.

9.3.4 Defining Risk Levels (Likelihood)

The likelihood of a risk event occurring is assessed in the following way.

High likelihood: If the event is very likely to happen in the next 12 months, i.e. a regular occurrence with the loss-causing circumstances arising frequently (daily or weekly). "is very likely to happen" - **likelihood 3**

Medium likelihood: If the event is likely to happen at some point over the next one to two years, i.e. the loss-causing circumstances arise occasionally (a few times a year). "is quite likely to happen" - **likelihood 2**

Low likelihood: If the event has never happened before or has happened but very rarely. "is unlikely to happen" - **likelihood 1**

9.3.5 Calculating the Risk (to Prioritise Necessary Risk Management Action)

Of necessity it is appropriate to concentrate on risks that could threaten delivery of an effective service. In order to establish this, the following process is followed:

Multiply the risk level (the severity of the event) by the likelihood to produce an overall score (based on the Risk Matrix shown below in Figure 9.2).

For example, high impact x high likelihood is 3 x 3 = 9.

Likelihood	High (3)	3	6	9
	Medium (2)	2	4	6
	Low (1)	1	2	3
		Low (1)	Medium (2)	High (3)
		Severity		

Figure 9.2 Risk Matrix

Action to control risks scoring 6 or more may require inclusion in the departmental or corporate risk register. Mitigating action may reduce risks scoring 3 and 4. For 1 and 2 ratings, there may be no need for immediate action. If the solution is inexpensive and easy it should be undertaken in any event.

Risk level should regularly be re-evaluated to take account of risk management action undertaken to reduce risk and consequent rating.

9.3.6 Risk Control

Controlling risk means identifying action(s) to reduce the likelihood, the impact, or both. These actions can be:

- **Preventative:** actions that would stop the event happening or reduce its impact - physically restricting access to hazardous chemicals, insisting on two signatories, implementing authorisation limits, protective equipment, use of sprinklers, etc.
- **Detective:** actions that will detect the event happening in time to allow the individual to stop the worst outcomes occurring - quality checks, alarms, exception reports, accident reports, insurance claims. Best of all is a "trigger event" that tells the individual when the risk is becoming more likely (e.g. statistically, if

graffiti/vandalism is increasing and is not being tackled, it is often followed by serious damage culminating in arson).

- **Directive:** a particular form of preventative control - procedure manuals, guidance notes, instructions, training. These say how to do things safely – but if they are not followed, the risks will still remain.
- **Modifying** risk means changing the activity (or the way it is done)
- **Transferring** risk means using an insurer to cover the cost of damage, or arrangements such as joint working, partnerships or contracting out. However, such arrangements always have a cost and need to be used with caution.
- **Eliminating** risk means stopping an activity because modifying it or controlling it would not reduce the risk to an acceptable level or would be unacceptably costly.

9.4 Risk Management Strategy

A Risk Management Strategy usually requires both departmental and corporate risk registers to be reviewed regularly. Items on the corporate risk register should be reviewed as required by the Management Board to ensure that those risks threatening the delivery of Council objectives are actively managed.

The register records an assessment of the potential severity and likelihood of the risk with the current levels of control in place. It then looks at what actions could be taken to reduce or manage the risks further. The risk is then reassessed and a senior officer nominated with responsibility for project managing the agreed improvements.

The revised risk assessment score allows the Management Board, to prioritise risk management action on those risks with the highest scores.

The current Corporate and Directorate Risk Registers are included in Appendix G.

A series of relevant risk registers exist as illustrated below. However currently, no service wide risk assessment has been carried out for all the highways maintenance service. It is intended that this will be undertaken, in line with the process outlined above, as a significant activity within the Council's Improvement Plan.



10. Resilient Network

Resilience in the context of the HIAMP is the ability for the highway network to recover from planned or unexpected events and return to providing the required level of service for stakeholders. It is about increasing the physical resilience of highway systems to extreme weather and other events, so when these occur the highway network continues to function.

10.1 Department for Transport Resilience Review

In 2014, the Department for Transport (DfT) undertook a review of the resilience of the UK highway network to extreme weather events. This followed a period of extreme weather in 2013/14, which saw high winds and heavy rainfall.

The key recommendation for local roads was:

“Local Highway Authorities identify a ‘resilient network’ to which they will give priority, in order to maintain economic activity and access to key services during extreme weather. Where Authorities have held formal reviews of the winter’s events, they should ensure that these are enacted; Authorities which were not affected should nevertheless continue to prepare themselves for future extreme weather.”

This recommendation aligns with the Council’s wider strategies, including the Winter Service Plan, Local Flood Risk Management Strategy, and the Climate Change Strategy for Southend 2020. The Climate Change Strategy sets out our corporate strategy for adaption to the future impacts of climate changes.

The Council detailed methodology for developing resilient highways network is explained in Resilient Network Report issued in 2016.

11. Financial Management and Valuation

This section describes the financial implications of this HIAMP. It forecasts the long-term operation, maintenance and capital financial requirements based upon the programmes included in the plan. It is recognised that while there will never be a strategy which warrants zero maintenance, there should be sustainable funding to maintain steady state condition of the asset as a minimum. This should also be accompanied with a clear investment plan which prioritises timely intervention at optimal intervals.

11.1 Sources of Funding

Maintenance of highway assets is generally funded from a combination of Capital and Revenue budgets.

Capital allocations are made by Central Government through the Local Transport Plan (LTP) process taking into account factors such as road length, classification, traffic figures and road condition data derived from the Road Condition Maintenance Data, published by DfT (Network Condition & Geography Statistics Branch) and from local condition surveys.

Revenue allocations are generally funded from a combination of local council tax, business rates, Central Government revenue support and other grants.

The Local Transport Plan settlement is apportioned to both principal and non-principal roads. The non-principal road funds are granted as a block settlement to reduce the maintenance backlog under the Governments 10 Year Transport Plan and are supplemented by revenue funds.

Other sources of funding include Government Grants, and Emergency Capital Funding from Council Reserves and other ad hoc sources.

11.2 Highways Maintenance Expenditure

The highway maintenance budget until recently has been based principally on historical budgets amended to take account of inflation and other influences on the network. Over recent years, however a significant increase in investment has been allocated to highways to provide a stimulus to network asset improvement.

How funding need is assessed - Current Practice

Funding needs for most highway assets is considered using condition assessment information, mainly for carriageways, footways, bridges, safety barriers, trees and street lighting, but there remains some assets where condition information is limited. Further work is required to ensure that this process identifies, in greater detail, the overall funding needed in the medium and long-term.

The current asset management approach for future improvement include;

- Extending condition information to cover all critical assets and to ensure it is fully utilised in decision making;
- A greater consideration of whole life costing with the necessary outcome that the works programmes are able to demonstrate that they are meeting best value principles;
- A requirement for new funding to be increased year on year in line with demands generated by, amongst other factors;
- New adoptions and improvement schemes;
- Increasing pressures from traffic growth;
- Effects of major development projects;
- Changes in regulations.

How Funding is Distributed – Option Appraisal

Allocation of annual funding has been based upon an historic basis supported by whole life costing, condition data, and life cycle planning approach.

The identification of costed options with affordable related levels of service and allows better informed choices to be made. This enables the Council to accurately assess the value of treatments to maintain assets.

Before undertaking this process it is important to identify those options that are unacceptable due to political, social, environmental or economic reasons, and to ensure that robust and fully inclusive levels of service are clearly defined so that the results of the process can be utilised to best effect.

'Initial' option appraisal can be carried out for a single asset or service in order to select the best option in the absence of any other constraints or influences. A 'higher-level' prioritisation, with its greater sophistication, takes into account the competing, and perhaps conflicting demands of the different services and assets across the network.

Capital investment on highways infrastructure was just over £15 million in 2016/17 with almost £16 million planned for 2017/18 and £15 million in 2018/19.

11.3 Department for Transport (DfT) & Local Government Plans

Since 2006 the DfT has used a formula based approach to deliver both the Highways Maintenance Capital Block and the Integrated Transport Block funding to local highway authorities. From 2015/16, the DfT introduced a new approach to the allocation of the Highways Maintenance Capital Block Grant.

The revised model is now based upon three elements;

- Needs based formula
- Incentive funding
- Challenge fund

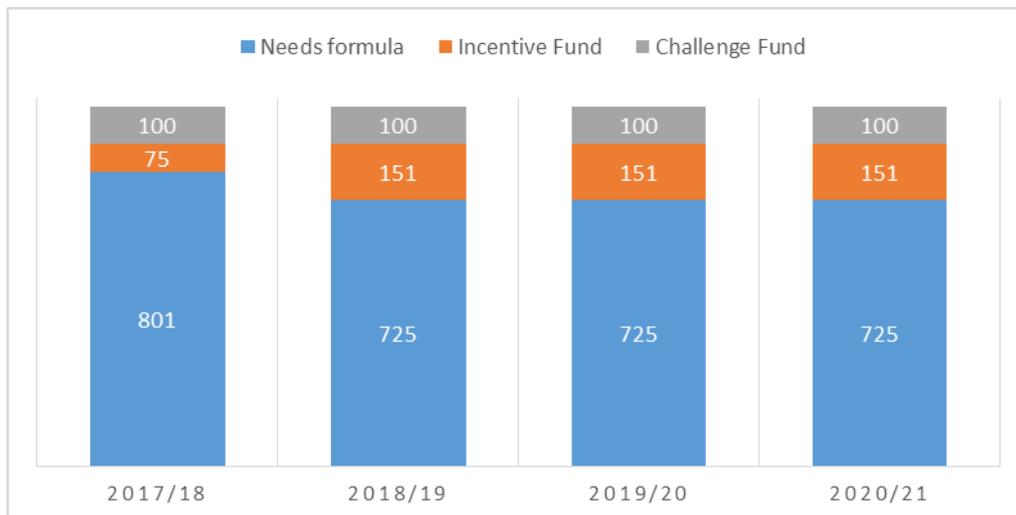


Figure 11 - 3 Local authority highways maintenance funding: 2017/18 - 2020/21

The DfT set aside £578 million for the incentive fund scheme; and requested that all highway authorities submit a Self-assessment Questionnaire (SAQ) to determine the authority's asset management Band Level. Highway authorities are allocated incentive funding based upon the Band Level determined by the self-assessment.

In January 2016 the SAQ evaluation assessed the Council as Band 2 for the 2016/17 incentive fund allocation, meaning that the Council received 100% of the incentive fund

allocation. If the Council remains in Band 2, the allocation will fall to 90% in 2017/18 and then to 70%, 50% and 30% over the following three years respectively. Achieving Band 3 will ensure that the Council continues to receive 100% of our allocation of the incentive funding in each and every year up to 2020/21. The table below details the funding available based upon our current banding, the last column of the table shows the financial impact of remaining at Band 2 for the duration of the funding period.

	Indicative incentive element by “Band” for self-assessment ranking (£'000)			Loss, if at Band 2 and not Band 3
	Band 3	Band 2	Band 1	
2017/18	116	104	70	12
2018/19	233	163	70	70
2019/20	233	117	23	116
2020/21	233	70	0	163

11.4 Future Needs

Demands upon the existing highway network will continue to grow as planned growth areas are developed. Southend’s road network will need to respond to various changes including climate change and the need for increased resilience to adverse weather. This HIAMP, predictive deterioration assessments and future maintenance strategies will need to take these factors into account. Although good progress has been made in recent years in improving overall condition, continued programmes of investment will be required in the future.

11.5 Asset Valuation

During each financial year, local authorities have been working towards compiling their Whole of Government accounts (WGA) returns as well as their own Statements of Accounts.

Whole of Government Accounts (WGA) is a set of financial statements for the UK public sector that consolidates the audited accounts of over 1,500 organisations to produce a comprehensive, accounts-based picture, of the fiscal position in any one year.

Up to 2017, local authorities have been recording the value of their highway infrastructure assets at historical cost within their accounts. However, in March 2017, CIPFA/LASAAC, the body responsible for the Code of Practice on Local Authority Accounting in the United Kingdom (the Accounting Code), made the decision not to support WGA for local highway authorities.

The Council has been working to provide depreciated replacement costs for its critical assets and as this work is done and does provide information on its highway asset values.

Appendices

Appendix A - Supporting Documents

Highway Infrastructure Communications Strategy

• Purpose of the Strategy

The purpose of our Highway Infrastructure Communications Strategy is to ensure that all the asset management communications we provide to our asset management stakeholders, are clear and informative about how we manage our highway infrastructure assets. Whether its performance management information, asset specific policies and strategies or long term investment modelling we want to receive feedback to inform and improve our ongoing service delivery. Our asset management stakeholders includes residents of Southend, interested user groups, our staff, our service providers and their respective supply chain.

We have developed this Communications Strategy so that we can:

- Establish effective lines of communication to be able to engage with our asset management stakeholders.
- Gather asset management customer intelligence so that it can be used to improve our asset management service.
- Improve our relationship and communications channels with our asset management stakeholders
- Demonstrate how we are delivering our asset management policy and thus our Corporate Values.
- Recognise that we have scarce resources and that those resources must be allocated effectively and that in maintaining our highway infrastructure assets we deliver value for money.

In developing this Strategy, it is our expectation that we will:

- Continuously develop and strengthen our highway asset management service through working with our stakeholders.
- Encourage individuals and communities to engage in our desire to improve and develop our asset management service.
- Provide up-to-date highway asset management information on all related matters.
- Demonstrate the effectiveness of our asset management service.
- Provide where required supporting information on why we make asset management decisions, especially when there are conflicting priorities.
- Keep people better informed.
- Highlight the pressures on our asset management service and the tools and techniques we use to deliver the service effectively.

Strategic Priorities

In 2015 we published our Council Plan and Annual Report setting out the Councils recent achievements, the need to make significant savings and looking forward for the next three years. It also contains our Corporate Values as set out below:

Living our Values

Our Corporate Values guide how we go about our work. They provide a framework for everything we do from day-to-day activities to key business decisions:

Excellence:	We aspire for excellence in our work
As one:	We work as one organisation responsible
Responsible:	We are all responsible for the performance of our organisation open & honest
Open and Honest:	We are open, honest and transparent, listening to other's views customer care
Customer Care:	Good customer care is at the heart of everything we do
Supportive:	We support, trust & develop each other

To support the successful delivery of our Corporate Values, it is important that we communicate and engage effectively on how we manage our highway infrastructure and includes having in place a clear asset management communications strategy that is aligned with these strategic priorities.

The key communication and community engagement priorities for Southend on Sea Borough Council are to:

- Use the most effective internal and external communications channels in which to invest our increasingly limited resources.
- Focus on being truthful about our highway asset management service and how we will protect the present and future value of the highway infrastructure assets.
- Increase the number of stakeholders who are better informed about our highway asset management service and the number who are more actively involved in commenting on how we develop the service going forward.

• General Principles of Asset Management Consultations

We will apply some general principles to our asset management consultations.

- There will be open involvement with all regardless of gender, faith, race, disability, sexuality, age and social deprivation.

- We will continue to co-operate with neighbouring boroughs and public bodies to ensure that all our highway asset management matters are appropriately addressed.
- We will seek views of interested and affected parties as early as possible.
- We will choose consultation processes which balance appropriately: cost and time constraints; community impact; and available resources.
- Our consultation and any publications will be clear and concise and avoid unnecessary jargon, without understating the complexities of any decision.
- We will inform those who respond to any consultation of any later stages in the process.

Asset Management Consultation Database

Over time, we will build up an extensive database of organisations and individuals wishing to be involved in our asset management consultations. Any individual or organisation wishing to be included may be added to the database at any time.

• The Highway Infrastructure Asset Management Plan (HIAMP)

The various documents that make up our HIAMP for a local highway authority is known as the HIAMP. Our HIAMP contains critical highway infrastructure asset specific policies and data relating to our respective critical asset condition and inventory. These policies are supported by evidence, generally in accord with national policies and affordability which are set out as the affordable levels of service for Southend.

Consultation is required at various stages in the asset management policy preparation,

The following approach applies to our Highways Asset Management Strategy:

Who we will consult

- Statutory organisations including adjoining councils, infrastructure providers and government bodies whom we consider may have an interest in highway infrastructure asset in Southend. Based on the subject of document we will consult the following groups as we consider appropriate:

Internal	Highway Asset Management Stakeholders			
	Responsible	Accountable	Consult	Inform
Staff	✓	✓		
Elected members	✓			
Other Directorates			✓	

Trade Unions			✓	
Cabinet members/Portfolio holders.	✓			
Scrutiny Committee		✓		
Ward members				
External				
Local road users			✓	
Residents and Communities			✓	
Local businesses			✓	
Local Media (Radio & print)				✓
Emergency services			✓	
Visitors to Southend				✓
Supply chain			✓	
Statutory Undertakers			✓	
Special Interest Groups			✓	
Schools			✓	
Voluntary and community groups			✓	
Adjacent highway authorities			✓	
Department for Transport			✓	
Highways England			✓	

When we will consult

- Quarterly – Each Quarter, when we produce our Asset Performance Report which will provide information on how we are managing our assets.

- Annually – In April each year we produce our annual report on the condition of our critical assets, the level of funding necessary to keep these assets in the steady state, and the actual level of funding been allocated. It will also set out the implications of the allocated funding long term on our critical highway assets.
- We will consult whenever we update our highway infrastructure asset policies.
- Following the consultation, we will proactively consider the responses received and either update the draft report appropriately then resend out for further consultation before publishing, or where the impact of the responses is minor, publish the report without further consultation.

How we will consult

- When appropriate and helpful we may publish a press release outlining our proposals before we commence consultation.
- We will contact appropriate organisations and individuals directly by post or electronic means.
- We will include with the initial notification either an internet link to the consultation documents on the SBC web site or send out a hard copy.
- We may leave consultation documents on display at locations open to the public such as council offices and libraries.
- We may publicise consultations by methods such as leaflets, newsletters, press releases, public notice, social media, existing forums, community events, public exhibitions, workshops and joining with other consultations where feasible and appropriate.
- All consultation documents will be available on our website, and this will include all supporting documents.
- We may provide a hard copy of a document as soon as reasonably practicable after it has been requested. Documents will be sold at a price reflecting publication costs.
- Consultees will be encouraged to respond to all consultations online via our consultation portal (www.southend.gov.uk/ldfconsultation) as this is the quickest and most effective method of responding.
- Response forms will be available electronically. Responses made via letter, email and petition not using the consultation portal format will also be accepted. However, we will encourage all consultees to use our proposed submission template.
- We will explain how consultation comments have been taken into account when the final document is published.
- Arrangements will be made, on request to make all documents available in alternative formats, including Braille, should this be required. All documents will be made available in other languages on request.

Delivering our Objectives

This strategy defines our communication objectives:

1. To ensure that our asset management communications activities are a reflection of the full diversity of our community and there is equality of access to our services
2. We all understand the contribution we all can make and are playing our part.
3. Recognising how we are increasing our efforts to understand what local communities are saying.
4. Give individuals more of a say in the services they receive
5. Listen to our stakeholders to better understand the best, most efficient way of delivering our services and thus satisfy all our customers
6. Provide support to all staff know so they abide by the standards of communication expected
7. To strengthen the reputation of Southend as an effective and efficient provider of high quality asset management services that deliver the agreed values and priorities
8. To ensure that all our communications are consistent and co-ordinated across all channels.

Appendix B - Forward Works Programme

Appendix C - Lifecycle Plans

Carriageways

Street Lighting & Illuminated Signage

Traffic Signals

Appendix D - Asset Data Analysis 2017

(Excerpt from Southend of Sea Borough Council – Highway Asset Management Strategy (January 2016))

What are Southend's Highway Assets?

Southend-on-Sea's highway infrastructure assets include:-

- 494km of carriageways and 874km of footways (next to the carriageway);
- 109 bridges, 14 subways and underpasses, 22 retaining walls and 15 large culverts (>1.5m width);
- 22,630 road drainage gullies
- 14,290 street lights, 3,004 illuminated signs and 833 illuminated bollards
- 196 traffic signal junction approaches and 172 pedestrian crossings
- 4,414 non-illuminated signs and 10,240 non-illuminated bollards

They collectively comprise the most valuable assets under our stewardship with a gross value of £811M (in 2014).

The term 'highway asset' is used to refer to highway and traffic management infrastructure because they provide important economic, social and environmental services and benefits to people living, working and travelling in Southend. As with all assets they require careful management to ensure that they continue to provide these benefits at the least possible cost.

Appendix E - Improvement Action Plan

Asset Management Improvement Action Plan

Action	Timescale	Review
Asset Management		
Complete the modelling and appraisal of investment options for carriageways	Autumn 2015	Autumn 2018
Development of investment models for footways	Autumn 2017	Autumn 2018
Develop Asset Information Management Plan	Spring 2016	Spring 2018 Annual review
TAMS Policy, Core Strategy, Prioritisation Framework and Carriageway Investment Strategy to be approved by Cabinet.	Autumn/Winter 2015	Autumn/Winter 2017 Annual review
Undertake a review of staff training needs in relation to the Institute of Asset Management competencies framework.	Spring 2016	Spring 2018 Annual review
Develop initial options and scope for Structures Investment Strategy	Autumn 2016	Autumn 2018
Develop full Structures Investment Strategy.	Autumn 2017	Autumn 2018
Supporting Documentation Review	Spring 2016 to Autumn 2017	Spring 2018 Annual Review
Resilience		
at	Autumn 2015	Autumn 2018 Annual review
Complete surveys of condition and connectivity of drainage assets on the A127	Autumn 2015	
Revise maintenance hierarchies for carriageways, footways and cycleway in line with the revised Codes of Practice.	Spring 2016	Spring 2017 Annual review

Undertake consultations with emergency services, Environment Agency and Anglian Water on the Resilient Network.	Spring 2016	Spring 2018 Annual review
Approval of Resilient Network by Cabinet.	Summer 2016	Summer 2018
Complete surveys of drainage condition on the Resilient Network in Critical Drainage Areas.	Autumn 2016	Autumn 2017 Annual review
Customer focus		
Produce a Stakeholder Communication Plan for the TAMS	Autumn 2015	Autumn 2017 Annual review
Benchmarking and collaboration		
Develop common approach to production of Whole of Government Accounts with Local Councils' Highway Investment Group	Autumn 2015	Autumn 2017 Annual review
Develop performance benchmarking with Local Councils' Highway Investment Group	Spring 2016	Spring 2017 Annual review

Appendix F – Risk Register

**Appendix G – Asset Management Performance
Management & Continuous Improvement Framework**

Appendix H – Asset Management Competence Framework

**Appendix I – Process Classification Document/Forward
Programme & Budget Setting**

Appendix J – Definition of Benchmarking Principles

Appendix K – KPI Benchmarking

**Appendix L – Communication Plan & Engagement
Guidelines**

Appendix M – Data Management Strategy

Appendix N - Glossary of Terms and Abbreviations

ADEPT - Association of Directors of Environment, Economy Planning and Transport

This is an umbrella organisation representing local authority county, unitary and metropolitan directors responsible for 'Place based' services.

APSE – Association for Public Service Excellence

APSE is a network of some 23,000 officers and councillors responsible for frontline services in local authorities in England, Northern Ireland, Scotland and Wales. APSE helps councils to share information and best practice.

Asset Management

A strategic approach which identifies the optimal allocation of resources for the management, operation, preservation and enhancement of the highway infrastructure to meet the needs of current and future customers.

Asset Valuation

The calculation of the current monetary value of an authority's assets purely in terms of their maintenance and replacement costs. It excludes therefore any consideration of the value to the community in terms of the economic and social benefits of providing a means for people to travel in order to work, socialise and live.

CIPFA - Chartered Institute of Public Finance and Accountancy

A professional body for people in public finance where public money needs to be effectively and efficiently managed.

Critical Assets

For the purpose of Highways Infrastructure Asset Management, Critical Assets are defined as Carriageways, Footways, Street Lighting, Structures (Bridges, Retaining Walls, etc.), Traffic Signals, Traffic Management Systems (Variable Matrix Signs, Traffic Signs, etc.) and drainage.

CVI - Coarse Visual Inspection

This is a coarse, rapid survey, usually carried out from a slow-moving vehicle, which allows authority's unclassified road network to be assessed each year.

Depreciation

The consumption of economic benefits embodied in an asset over its service life arising from use, ageing, deterioration, damage or obsolescence.

Deterioration

The change in physical condition of an asset resulting from use or ageing. Often displayed as a 'deterioration curve' in graphical form.

DfT - Department for Transport

Government department responsible for providing policy, guidance, and funding to English local authorities to help them maintain their highway networks, improve passenger and freight travel, and develop new major highway schemes.

DRC - Depreciated Replacement Cost

The current value of the asset, normally calculated as the gross replacement cost minus accumulated depreciation and impairment.

DVI - Detailed Visual Inspection

The DVI survey is more comprehensive than the CVI, carried out as a walked survey, with defects and inventory collected with a greater number of defect classifications.

HIAM – Highways Infrastructure Asset Management

LCRIG - Local Council's Road Investment Group

To develop and promote a fresh approach to highway asset management that engenders wider stakeholder involvement and focuses on investment outcomes for present and future generations. To develop new common methodologies to understand /communicate the true state of Highways Infrastructure to facilitate long term robust business plans and determine the correct level of investment for today and the future.

SaQ – Self-assessment Questionnaire

For 2017/18, each local highway authority in England (excluding London) is invited by DfT to complete a self-assessment questionnaire, in order to establish the share of the Incentive fund they will be eligible for in 2017/18. This includes those authorities who are currently deemed Band 3 from the 2016/17 round.

TAMS – Transport Asset Management Strategy

WGA - Whole of Government Accounts

Preparing the Whole of Government Account (WGA) was necessary to meet the undertaking in the Code for Fiscal Stability to produce consolidated accounts for the whole public sector on the basis of International Financial Reporting Standards (IFRS). Publishing audited WGA also improves the transparency of government's finances. It attempts to show in a single document what the government owes, owns, spends and receives. For now the process has been suspended.