

# Highway Infrastructure Asset Management Strategy 2015 to 2017



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**Strategy - October 2015**



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**Balfour Beatty**

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## Document Control

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Southampton HIAM Strategy 2015 to 2017 - v1.0 October 2015 (Draft for Approval)



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## 1

### Introduction

#### The importance of Highway Infrastructure to Southampton

Southampton's highway infrastructure provides an important and vital contribution in creating a city of economic growth and opportunity where everyone thrives. As well as meeting the needs of local communities and supporting the requirements of businesses, the local highway network supports a key national, regional and local transport hub. The location of Southampton at the centre of the Solent means that many trips within and across the Solent area pass through the city and its surrounding area. The City has a major international seaport, a key regional airport on its doorstep and is a major point of access to the Isle of Wight, all of which contribute to the economic health of the city. The local highway network is the most valuable publically owned asset managed by Southampton City Council. With a total replacement cost of £4.1 billion, the importance of effective and efficient management cannot be understated.

#### The benefits of an Asset Management approach

Asset Management is a strategic approach that seeks to optimise the value of highway infrastructure over its whole life. An effective Asset Management approach:

- facilitates better decision making by supporting engineering judgement with financial, economic and engineering analysis
- enables better understanding and management of the relationship between whole life cost and asset performance
- provides data and evidence for effective and sustainable investment and maintenance decisions

Effective long term planning and forecasting of asset performance can minimise and prevent expensive short-term repairs. Strategic asset processes ensure Southampton City Council are able to manage risk and maintain a highway environment that is safe and accessible for customers.

#### Asset Management Policy

The Southampton City Council Highway Infrastructure Asset Management Policy is a high level document which establishes the Council's commitment to Infrastructure Asset Management and demonstrates how this approach aligns with the Council Plan. The Policy is a stand-alone document and has been published alongside this strategy on the Council's website.

#### Asset Management Strategy

The Asset Management Strategy articulates the approach to efficient and effective Highway Infrastructure Asset Management and sets out how the Asset Management Policy will be delivered. It is informed by a highway asset management framework (the Highway Infrastructure Asset Management Plan), which establishes the activities and process that are necessary to develop, document, implement and continually improve highway asset management within Southampton. Aligned to the Council's objectives, this strategy seeks to follow the latest advice, including that arising from the Highway Maintenance Efficiency Programme (HMEP) led by the Department of Transport.

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## Southampton's City Wide Vision

The Council recognises that an asset management approach to the maintenance of the highway infrastructure will support the achievement of the Council's city wide vision: **prosperity for all**

*"We want to build on Southampton's unique sea city location with exceptional transport links, its strong position nationally for economic growth, excellent reputation for teaching and learning, strong business community, good regional specialist hospital, varied retail offer, night time economy, vibrant voluntary and student communities, and rich diversity and cultural mix.*

## Service and Contract Delivery Approach

Southampton City Council has a strategic partnering approach with a number of embedded formal contractual partnerships to deliver flexibility across the scope of operational services with:

**Capita** - Strategic Services Partnership (including Customer Services, IT, Procurement, Structures)

Commenced October 2007. Extended a further 5 years to September 2022

**Balfour Beatty Living Places** – Highways Service Partnership

Commenced October 2010 for 10 years with option of a five year extension.

**Balfour Beatty Living Places** – Citywatch CCTV and Intelligent Transport Systems Partnership

Commenced 2012 for 10 years

**SSE Enterprise Lighting** - South Coast Street Lighting Partnership (Private Finance Initiative)

Commenced April 2010 for 25 years

The services delivered via these strategic contractual partnerships have established a series of service and contract delivery objectives. The relationship between these objectives is shown in Figure 1.

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Strategic and Service Delivery Objectives (Fig. 1)

<b>Our Highway Infrastructure Objectives</b>	<b>Prevention and early intervention</b>	<b>Services for all</b>	<b>City pride</b>	<b>A Sustainable Council</b>
	<ul style="list-style-type: none"> <li>• Create safer highway infrastructure</li> <li>• Deliver right first time services and solutions</li> <li>• Stable investment for required service levels</li> <li>• Quality and reliable repairs and solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Services that reflect community need</li> <li>• Understand customer demands</li> <li>• Enabling Network Use</li> <li>• Support accessibility and mobility for all</li> </ul>	<ul style="list-style-type: none"> <li>• Create quality places to live, work and relax</li> <li>• Enhance street scene</li> <li>• Improve neighbourhoods</li> <li>• Provide infrastructure to support investment</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain Highway Infrastructure value</li> <li>• Promote innovation &amp; continual improvement</li> <li>• Collaborate to unlock key infrastructure</li> <li>• Reduce revenue costs</li> </ul>
<b>Our Highway Infrastructure Themes</b>	<b>Improved knowledge of the highway infrastructure</b>	<b>Well managed infrastructure services</b>	<b>Informed customers and stakeholders</b>	<b>Enable Network Use</b>
	<ul style="list-style-type: none"> <li>• Share information, insight and knowledge</li> <li>• Communicate with stakeholders and customers</li> <li>• Enable effective and informed decisions</li> <li>• Manage risk</li> </ul>	<ul style="list-style-type: none"> <li>• Capabilities and skills to deliver the service</li> <li>• Efficient, sustainable and effective services</li> <li>• Safe, attractive and accessible network</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain and improve customer focus</li> <li>• Increase service performance and customer satisfaction</li> <li>• High standard of customer care</li> <li>• Maintain best value</li> </ul>	<ul style="list-style-type: none"> <li>• Active stewardship &amp; operation of highway infrastructure asset</li> <li>• Support and enable reliable journey times</li> <li>• Respond to the needs of all user groups</li> </ul>
<b>Service Partnership Priorities</b>	<b>Safe</b>	<b>Serviceable</b>	<b>Affordable</b>	<b>Accessible</b>
	Provide a safe highway network	Ensure the serviceability of the highway network	Ensure maintenance of the highway network remains affordable	Allow the highway network to remain accessible (for all users)

## 2

## Asset Management Framework

Our strategic framework reflects the asset management cycle, enabling a flexible approach for different contract partners across all asset groups. The Plan Do Check Act cycle aligns with the ISO55000 Asset Management Standard and the 2013 HMEP Highway Infrastructure Asset Management Guidance Document. It supports the recommendations within and UK Roads Board Code of Practices (Well-maintained Highways, Well-lit Highways, Management of Highway Structures, and Management of Electronic Traffic Equipment).

The Asset Management Framework is shown in Fig. 3 and is summarised below:

### Context

The factors taken into consideration when determining the Council's approach to Highway Infrastructure Asset Management includes National and Local Transport policy, local vision, the expectations of stakeholders, and legal / financial constraints.

### Planning

The key activities that are undertaken by Southampton City Council and its partners as part of the asset management planning process include:

- **Policy** – sets out the commitment to highway infrastructure asset management.
- **Strategy** – sets out how the policy will be implemented within the Asset Management Framework. It provides context for levels of service, funding and decision making for the maintenance of asset groups in the short medium and longer term, and the commitment to continuous improvement.
- **Performance** – the levels of service to be provided by Southampton's highway infrastructure services, and how performance will be measured and reported.
- **Data** – the approach to asset data and information collection and management, to enable effective decisions to be taken.
- **Lifecycle Planning** – the approach to the maintenance for each asset group, considering predicted future performance based on investment scenarios and funding levels, maintenance strategies and desired levels of service, enabling informed decisions to be taken.
- **Works Programmes** – the development of rolling forward and annual programmes of work for each asset group prioritising planned future works over time.

Plan, Do, Check, Act Cycle (Fig. 2)





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## Enablers

Activities that support the implementation of the Asset Management Framework enable:

- **Leadership and Organisation** – commitment to the adoption of an asset management culture.
- **Communications** – the means of effectively communicating and collaborating with stakeholders.
- **Competencies and Training** – the development of highways staff delivering the asset services.
- **Risk Management** – identifying, evaluating and managing risks.
- **Asset Management Systems** – the strategy for the use of asset systems to support the data and information required to enable asset management.
- **Performance Monitoring** – benchmarking progress, and establishing a culture of continuous improvement and innovation.

## Programme and Service Delivery

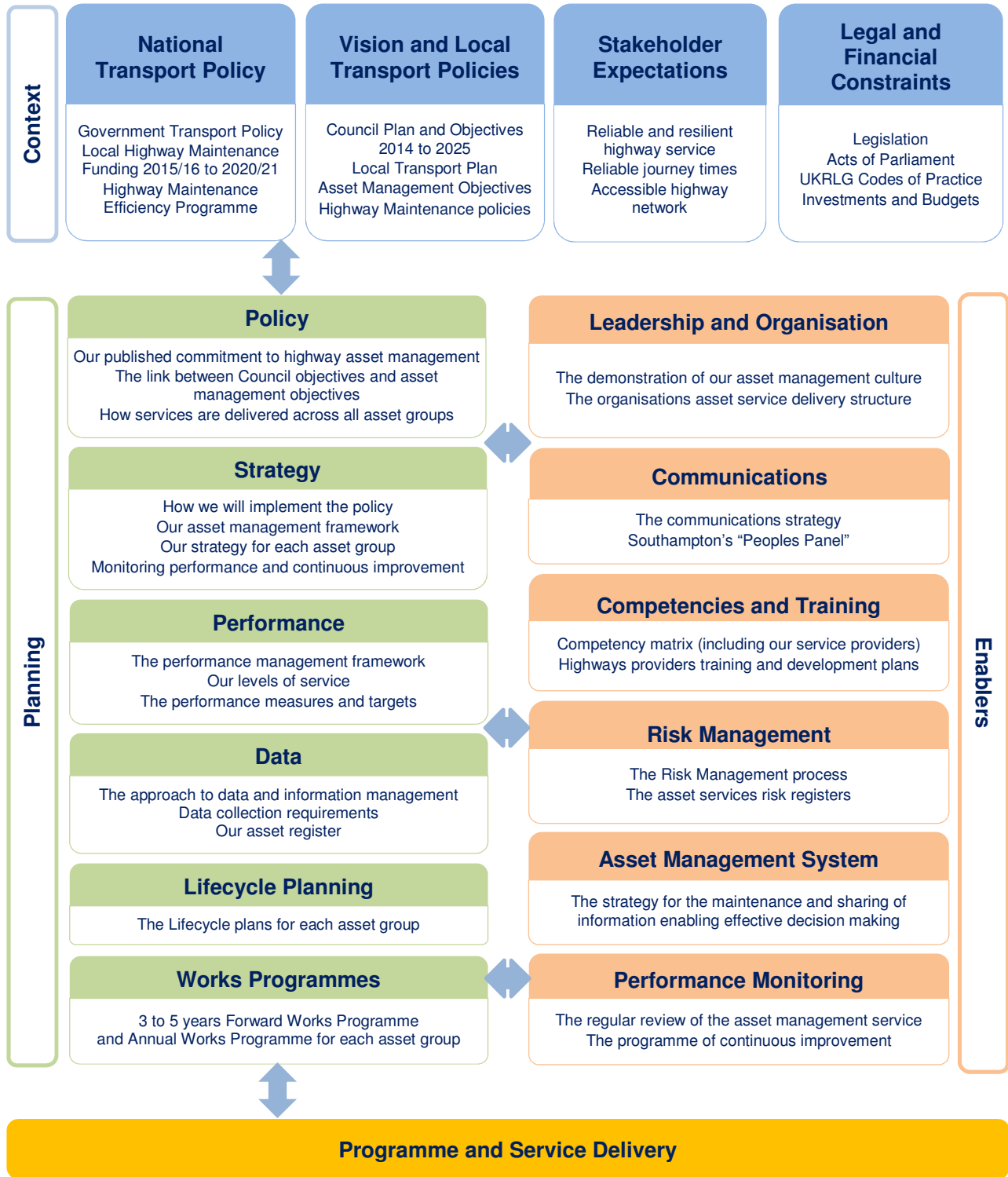
The delivery of effective and efficient works programmes for individual asset groups.

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Asset Management Framework (Fig. 3)



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## 3 Highway Infrastructure Asset Groups

### Highway Infrastructure Assets

This section summarises the existing highway infrastructure asset groups and their current condition. A summary of the maintenance approach for each asset type forms part of the Transport Asset Management Plan. It is important to understand the levels of service and future budgetary requirements from each asset group in order to successfully deliver a whole life asset management approach and strategy.

**Summary of Highway Infrastructure Assets (Table 1)**

Asset Group	Quantity	Condition & Maintenance
Carriageways (Urban)	587 km (4,141,224 sqm)	Approximately 6 % of the Principal and Non-Principal road network, and 18% of the Unclassified road network is identified as requiring maintenance
Footways and Cycleways (Urban)	942 km (1,928,879 sqm)	50% of the footway network is surveyed each year. Approximately 56% of the overall network in Southampton is identified as requiring maintenance
Structures	44 Road and footbridges 19 Steps and ramps 41 Subways 51 Retaining Walls	Regular and statutory inspections records maintenance needs for future maintenance funding considering the impact on the highway network as a whole.
Drainage	23,778 Highway Gullies 39 Culverts 22 Ditches 22 Surface Water Outfalls 24 monitored flooding hotspots	A cleansing programme of highway gullies with a targeted second cleansing is completed annually. Data from regular cleansing operations informs future drainage improvement schemes.
Street Lighting	23,348 Streetlights 608 Heritage Columns 466 Subway Units 98 Supply Feeder units 1,711 Illuminated Signs 10 Illuminated Bollards	The Street Lighting PFI has completed a 5 years of core investment from 2010 to 2015 replacing street lighting units and the majority of illuminated bollards with more efficient energy saving units. The PFI contract has now moved into a 20 year maintenance phase from April 2015.
Electronic Traffic Equipment	135 Signalised Junctions 92 Pedestrian Crossings 31 Traffic CCTV cameras 44 Variable Message Signs 330 Real Time Passenger Information Units	The traffic signals, Urban Traffic Control system and traffic camera monitoring services were outsourced in October 2012. Defects and faults are repaired on a reactive basis. Equipment is replaced as part of maintenance / improvement programmes.
Road Markings, Signs and Street Furniture	11.8 km Safety Fencing 24.7 km Pedestrian Barriers 8,832 Traffic Signs (Non-Illum.) 312 Grit Bins 19,061 Bollards, benches and Street Nameplates	Defects and faults are identified by the safety inspection regime and repaired on a reactive / programmed maintenance basis.



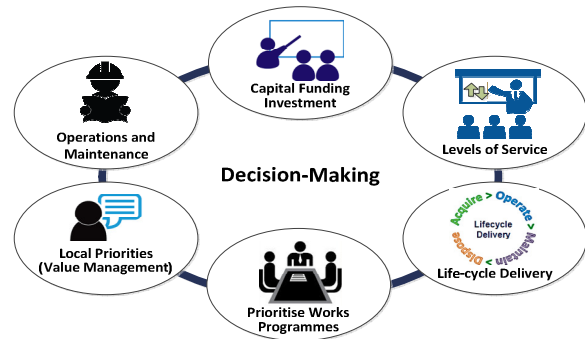
## 4 Asset Management Decision Making

Making effective decisions about when to maintain assets is reliant on acquiring appropriate knowledge and using it in a robust decision-making framework.

### Capital Funding Investment

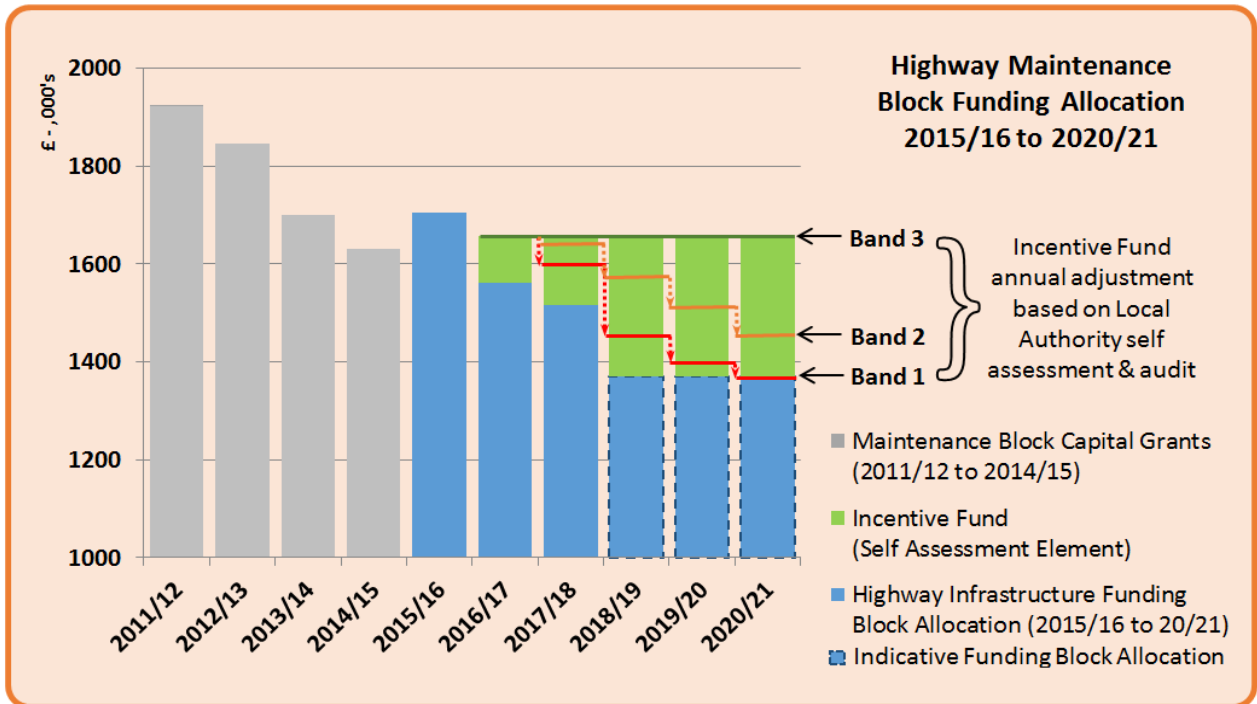
In 2014 the Government reviewed the Highways Maintenance Block 'needs' funding allocations for local authorities. Following consultation on highways maintenance funding the Department for Transport has allocated a proportion of the total funding to Roads, Bridges, Footways and Cycleways for the period 2015/16 to 2020/21 (Fig. 5) providing local authorities with forward visibility of highway infrastructure maintenance budgets. Southampton City Council operates a Street Lighting Private Finance Initiative which funds the maintenance of street lighting separately.

Decision Making (Fig. 4)



A total of £6 billion has been made available nationally between 2015/16 and 2020/21 for local highways maintenance capital funding. Of this, £578 million has been set aside for an Incentive Fund element to help reward local highway authorities who can demonstrate they are delivering value for money in carrying out cost effective highway maintenance. The Highways Maintenance Block Funding Allocation (2015/16 to 2020/21) for Southampton is £8.9 million. An additional £1.1 million is available over the 5 years to 2020/21 from the Incentive Fund.

DfT Block Funding Allocation (Fig. 5)



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## The Incentive Fund – Self Assessment

Southampton City Council are not competing with other authorities for this funding, but are demonstrating that efficiency measures are being pursued in order to receive the full amount of funding available from the Incentive Fund. The asset management maturity of the authority and therefore the value of the annual Incentive Fund element available for the City Council is assessed on the basis of a self-assessment questionnaire that focuses on:

- Asset Management
- Resilience
- Customer
- Benchmarking and efficiency
- Operational delivery

The cornerstones of the self-assessment include:

- Asset Management Policy and Strategy
- Communications Strategy
- Lifecycle Planning

Local authorities are expected to score well in these areas with a mandatory requirement to attain a minimum level of band 2 or band 3.

In July 2015, the initial Incentive Fund Self-Assessment for Southampton's Highway Infrastructure Services has assessed the Council as Band 1. Following the review of the Transport Asset Management Plan (TAMP), together with other planned service improvements, the Council anticipates that Band 2 will be achieved in 2016/17, with further progress towards Band 3 expected thereafter.

## Levels of Service

Levels of Service define how assets should perform in clear and effective terms that can be reported against stakeholder's expectations. Measures of performance cover tangible strategic, tactical and operational issues, such as physical condition of assets, speed of response, availability, as well as intangible issues such as amenity value.

By consider the existing condition of assets, best practice, strategic objectives, the availability of resources, statutory duties associated with certain assets' minimum performance levels, and engaging with stakeholders about service priorities we are developing and reviewing Levels of Service to:

- Ensure adequate focus is given to what is really important to the customer
- Measure the effectiveness of our approach to transport asset management
- Link the costs with the benefits of the services offered
- Provide a service that meets statutory obligations
- Ensure operational activities support the achievement of strategic goals

## Lifecycle Delivery

Decisions about the need for capital investment are based on the deterioration of the asset, optimum timing, choice of treatment, and overall need for replacement. Lifecycle analysis determines the timing of intervention thereby representing the lowest life cycle cost. It is recognised that developed Asset Management Plans that demonstrate optimised timing of treatment or replacement over the lifecycle of the asset provide best value. However the full lifecycle approach can be constrained by contractual or other factors to a shorter time frame, or external customer led influences, which require decisions to be risk based or by analysing local priorities and other value management criteria.

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Maintenance strategies considering different treatment options over the whole life of the asset will be promoted. These support the long term management of assets and underpin funding strategies to deliver the minimum whole life cost.

Lifecycle “Value” will be achieved by considering both the capital investment, and routine maintenance decisions to maximise the value obtained from assets over their whole life.

## Prioritising Works Programmes

The development of effective works programmes for individual asset groups is completed by:

- Identifying candidate schemes
- Prioritising works in each asset group / service area
- Select and optimise schemes for the Forward Programme
- Select schemes for the Annual Programme aligned to budget
- Delivery of individual schemes
- Monitoring of works to ensure they meet the approach to asset management

The **Forward Works Programme** provides robust and reliable information to identify the asset maintenance to be carried out within the next three to five years. The programme is used to support forward financial planning, and communicate planned maintenance to the elected members, local communities and the public.

The **Annual Works Programme** is developed and prepared from the Forward Programme each year during autumn for approval in March. It prioritises maintenance schemes based on available funding for delivery.

## Local Priorities and Value Management

The initial criteria used to prioritise and optimise the annual programme will take account of the condition and serviceability of the asset, alongside safety issues and local transport priorities.

Social, economic and environmental benefits, local community or user demands, and political priorities are also factors used to differentiate between which schemes are prioritised for limited budgets. These “soft” influences are identified using Value Management criteria. Agreed annually with elected members, the criteria are communicated within the local Transport Asset Management Plan. The level of influence, or weighting, each criterion has within individual asset group programmes will be periodically reviewed with the stakeholders.

## Operations and Maintenance

Pressure to reduce operational costs has increased in recent years and the need to demonstrate good value is a key objective for the Council. The principles that underpin maintenance decision making are a key element of the prioritisation assessment criteria. Operational and maintenance decision making is informed by a systematic inspection, assessment and recording regime. The provision of an assessment regime is reliant on the contractual arrangements with individual asset group service providers.

## 5 Asset Data and Information Management

### Asset Information Strategy

Through the use of appropriate tools which support budget and lifecycle management planning, asset data, information and knowledge are key enablers to the delivery of an effective Asset Management approach.

Asset Data Quality Plans relevant to individual asset groups are used to set out the proactive approach to the collection, recording and management of data and information. These define the activities undertaken to ensure that the data and information meets Southampton City Councils asset management requirements and informs effective decision making.

The Asset Data Quality Plan provides clear definitions for:

- **Asset Information Standards are used to defines:**
  - the data and information required,
  - where it is stored and managed
  - why it is required,
  - how it is collected and measured
  - the format it is required in
  - who it is provided by
  - when it shall be provided
  - the retention requirements
- **Asset Information Systems** are the processes, applications and IT systems utilized to automate the Asset Management processes and enable consistent support for decision making.
- **Data and Information Management** provides confidence in data quality. The data and information management regime measures :
  - Accuracy
  - Completeness
  - Consistency
  - Validity
  - Timeliness
  - Uniqueness

### Asset Data Storage and Management

Consistent and reliable asset information and data is essential for the City Council to make informed decisions and fulfil the service delivery requirements. There are a number of different asset management related systems in use across the Highways Service Partnership, Service Management and Street Lighting PFI Contracts including:

- Asset Registers – for Roads, Footways & Cycleways, Structures, Street Lighting, Traffic Signals etc.
- Pavement Management Systems, Structures and Bridge Management, Street Lighting databases
- Scheme / Maintenance, Lifecycle Planning and Visualised Asset Management Systems

### Critical Assets

Knowledge of critical assets informs the decision processes. Understanding the consequence of an asset failure requires consideration of safety, economic and environmental impact as well as an understanding of the function the asset performs. Critical asset are those that are essential for supporting the social and business needs of local and / or national economy.

Where critical assets and infrastructure are identified, adequate management of the assets, including appropriate investment proposals, are considered to ensure they are sufficiently resilient to cope with potential threats.

## 6

### Performance Monitoring and Continuous Improvement

Southampton City Council is committed to the development of good practice and continuous improvement. Monitoring of the Council's service providers forms an integral part of individual contract conditions, with strategic monitoring, performance measures and targets, data and information audits, and compliance monitoring.

#### **National Highways and Transport (NHT) Public Satisfaction Survey**

The Council value being part of the NHT Survey and have found the resulting information extremely useful. The NHT surveys are key to ensuring the Council delivers high value services that local residents demand. Using the results we gauge and assess performance in those areas that Southampton residents see as most important.

#### **Highway Infrastructure Asset Management Strategy Review**

This strategy and the Highway Infrastructure Asset Management Policy, will be reviewed annually, updated and re-published as part of the annual Environment and Transport Capital Programme spend report in March.





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