

Highways and Transport Asset Management Strategy December 2020



SURREY

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Purpose of this strategy:

As a Highway Authority, we have a duty of care to maintain the safety and accessibility of highway infrastructure that is kept at public expense. As stewards and custodians of the highway infrastructure assets, in accordance with the Highways Act 1980, we must demonstrate that we have provided adequate provision for their upkeep and safety as can be reasonably expected. We shall maintain the highway infrastructure assets with consideration to whole life costs, associated risks and alignment with our corporate objectives. This strategy sets out how we will deliver a service level against the Council's key priorities set out in our Organisational Strategy and Highways & Transport's role in helping deliver the Community Vision for Surrey in 2030.

Foreword

Managing a highway network the size of Surrey is complex and challenging. As Highway Authority and Lead Local Flood Authority, we are responsible for assets with a gross replacement cost of £10 billion (excluding land), including over 3,000 miles of roads, 1,800 bridges and structures and 3,520 miles of pavement. Most of the assets we look after are obvious to users (roads, pavements, cycle facilities, bridges, tunnels, street lights and so on). However, we also manage assets that are less visible, such as embankments and safety barriers. Few of our assets are in an 'as new' state and with a limited budget we must prioritise our work to achieve best value.

The network is heavily trafficked reflecting Surrey's high economic output, used daily by most of the travelling public for commuting, business, social and leisure activities. At a local level it also helps to shape the character and quality of the environment. The successful management of our highway infrastructure therefore plays a vital role in delivering the broader outcomes set out in the Council's overarching goals.

Our response to this has been to develop a 5-year strategic business plan, with a place-based approach and a strong focus on partnerships – particularly with the districts, boroughs and parishes. It has the needs of residents and users at its heart, to align everything we do. It sets out our priorities, how we will drive continuous improvement, maximise our opportunities and ensure we deliver the Council's [Community Vision for Surrey in 2030](#).



Figure 1: Katie Stewart Executive Director – Environment Transport & Infrastructure (ETI)



Figure 2: Cllr Matt Furniss - Cabinet Member for Highways



Figure 3: Lucy Monie Director of Highways and Transport

Asset Management Policy

Policy

The highway asset is the most valuable one under our control and is crucial to facilitate safe movement, which enables Surrey, as part of the South East, to be one of the largest net contributors to the UK economy outside of London. We have a key role to play in meeting the strategic goals set out in our corporate strategy. We will therefore ensure that we are supporting the Council's overarching aims, as detailed below. We will continually review our progress in this and take actions through our review mechanisms to identify improvement initiatives where necessary.

Introduction

Introduction to Asset Management Strategy

An Asset Management Strategy sets out an informed and considered approach to the maintenance and future investment decisions for all infrastructure we have responsibility for within the highway boundary.

Surrey's aim is to consider the needs and manage the expectations of our stakeholders. We will consider optimal allocation of resources and operational delivery required to achieve expectations over the asset lifecycle.

This strategy will outline and endorse the commitment to asset management principles required to deliver our strategic goals and the key improvement activities that need to take place to enable this.

Asset Management Objectives

Surrey County Council's Vision for Surrey in 2030 sets out our vision for people and places.

- Our ambitions for people are;
 - ❖ Children and young people are safe and feel safe and confident
 - ❖ Everyone benefits from education, skills and employment opportunities that help them succeed in life
 - ❖ Everyone lives healthy, active and fulfilling lives, and makes good choices about their wellbeing
 - ❖ Everyone gets the health and social care support and information they need at the right time and place
 - ❖ Communities are welcoming and supportive, especially of those most in need, and people feel able to contribute to community life
- Our ambitions for our place are;
 - ❖ Residents live in clean, safe and green communities, where people and organisations embrace their environmental responsibilities
 - ❖ Journeys across the county are easier, more predictable and safer
 - ❖ Everyone has a place they can call home, with appropriate housing for all
 - ❖ Businesses in Surrey thrive
 - ❖ Well-connected communities, with effective infrastructure, that grow sustainably

This vision needs to be delivered against the backdrop of increasing demand and reductions in revenue funding.

✦ Our Statutory Obligations and National Good Practice

We will develop our road & transport policies and plans to meet our statutory obligations. [Well-managed Highways Infrastructure: A Code of Practice](#) describes a number of legal requirements and Surrey has endorsed its use. This includes ensuring, so far as is reasonably practicable, that safe passage along Surrey's highway is maintained in accordance with Section 41 of the Highways Act 1980. In addition to the Traffic Management Act 2004 requirement to facilitate and secure efficient movement of traffic along our highway network.

In alignment with the [Highways Infrastructure Asset Management Guidance](#) document published by the UK Roads Liaison Group (UKRLG) and the Highways Maintenance Efficiency Programme (HMEP) in 2013, our approach brings together a range of factors that influence asset management priorities.

Further information and links to policies and documents can be found using the [Roads & Transport web page](#)

✦ Desired outcomes

The desired outcome of an asset management approach is to maximise value for money, ensuring informed investment decisions can be made, but also to manage risk and maintain a highway environment that is safe and secure and accessible for our customers, and to identify benefits from efficiencies. We will achieve our aim through effective record making and retention, monitoring outcomes including longevity of completed works. This provides us with real world performance data to better inform decision makers.

✦ Timescale / Process

Condition data and scheme construction records are recorded throughout the year so that we understand the condition of our assets. We use this data to understand how our assets are performing and produce deterioration models that forecast how the overall network condition will change based on different funding scenarios and treatment types. This modelling is used to inform budget setting conversations and helps us understand the impact of funding decisions.

How we prioritise our capital programmes is detailed in our [Capital Prioritisation Criteria Policy](#).

For each asset we identify a 5-year provisional forward programme of potential schemes. We first established the Horizon programme in 2013, this was a success and we have developed a second version with 5-year rolling scheme indication called Horizon 2 – more information can be found on the [Horizon – highway maintenance investment programme webpage](#) on the Surrey website.

Ahead of each financial year the annual programmes are confirmed and published allowing additional [Schemes for Consideration](#) to be added. Identifying these provisional programmes 5 years in advance helps improve communication between stakeholders and co-ordination of different work types. While this transparency benefits the public, it should be noted that programmes may be subject to change at any time if there are road space or coordination issues, or due to re-prioritisation of other works, or unexpected cost increases of other schemes.

We also need to ensure that what we do is aligned with the Council's Vision and delivering the broader outcomes contained within it. The Highways & Transport 5 year business plan runs until 2021 and sets out our high level ambitions and shows how what we do will ensure that Surrey's highway assets support the strategic objectives for the entire county. Delivery of the Business Plan is measured by the Performance Framework explained in the [Performance Management](#)

[Framework section below](#). Highways and Transport is part of the Environment, Transport & Infrastructure Directorate (ETI) and contributes to the ETI Directorate Plan.

The Case for Asset Management

When we talk about highway assets, we are most commonly referring to the roads, pavements, cycle facilities, bridges, traffic signals and streetlights¹ that you can see as you move around Surrey. We also manage several assets that are less visible to users, although they still play a very important role in the efficient operation of the highway network. These assets include embankments, safety barriers, and drainage. If the condition of any of these assets deteriorates significantly there will be a significant impact to the network. There are several smaller assets that we also focus on, for instance traffic signs and road markings; we are developing strategies to analyse these using a similar approach to other assets going forward.

Asset Management helps us to predict when each asset will deteriorate, and to identify when to intervene with lower cost preventative maintenance that will reduce lifetime costs, or alternatively when to replace the asset. Lifecycle planning tools for each asset are one of the mechanisms we use to achieve this.

Asset Management Framework / Relationship to other documents

In accordance with the guidance stated above, we have aligned our strategy to key documentation within the organisation to ensure that not only are we aligned to the corporate vision and strategic goals, but that the planning and enablers required are in place and operating effectively. Figure 1.0 below identifies these key elements and how they are aligned with one another.

¹ street lights have not been modelled as part of this strategy as they are managed by Skanska by way of a private finance initiative (PFI)

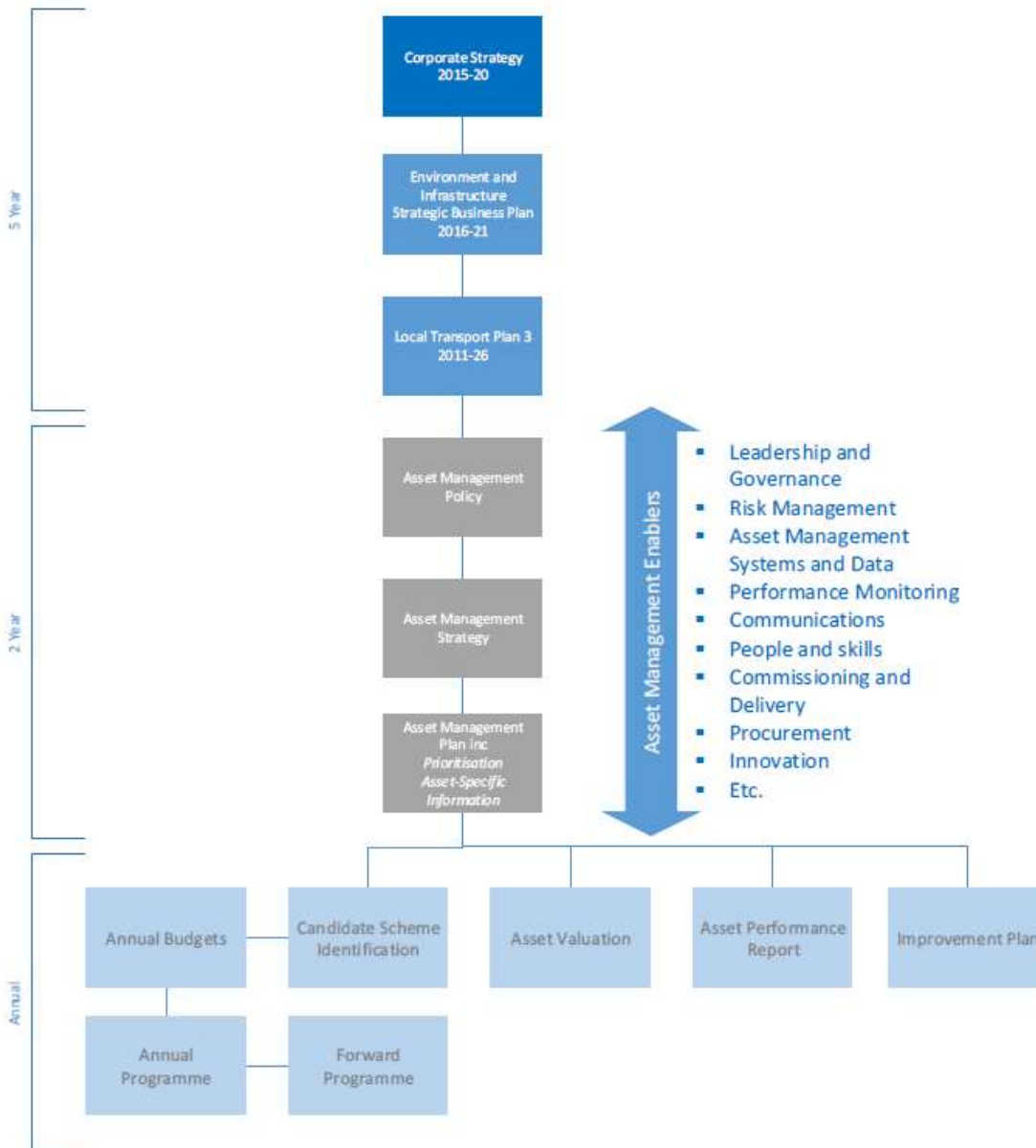


Figure 4: Asset Management Document Hierarchy

[The Community Vision for Surrey in 2030](#) sets the direction and context of the organisation and defines the Council’s priorities. Our Asset Strategy helps to deliver the following ambitions:

- Well-connected communities, with effective infrastructure, that grow sustainably.
- Journeys across the county are easier, more predictable and safer.
- Businesses in Surrey thrive.
- Residents live in clean, safe and green communities, where people and organisations embrace their environmental responsibilities.
- Everyone lives healthy, active and fulfilling lives, and makes good choices about their wellbeing.
- Children and young people are safe and feel safe and confident.
- stating we want children and young people to be safe and feel safe and confident and that everyone lives healthy, active and fulfilling lives, and makes good choices about their wellbeing.

The strategic business plan sets out how our activities align to the delivery of the corporate priorities and ensures that this drives what we do. The asset management strategy and policy

Highways and Transport Asset Management Strategy

support the delivery of the business plan and our Local Transport Plan in terms of the management of highway assets. They set out our approach to asset management, performance, data and lifecycle planning. We also provide links to supporting documentation where relevant.

For further information please see our [webpage about how we prioritise road maintenance](#)

Context

About Surrey

✦ Asset value, expenditure and backlog

Since 2013 Surrey County Council have carried out an annual valuation of our highway infrastructure assets based on the Chartered Institute of Public Finance & Accountancy (CIPFA) Code of Practice using the calculations developed by the Highways Asset Management Financial Information Group (HAMFIG). Using this methodology, the Gross and Depreciated Replacement Cost for Surrey's assets will be published in our Asset Summaries which are included in the individual Asset Plans kept on operational Information Management Systems.

Future Opportunities and Demands

✦ Changes in use patterns e.g. increased cycling

Surrey's highways are used daily by much of the travelling public for commuting, business, social and leisure activities. How we prioritise our investment must take our users' needs into account. Our teams monitor the changing use of our network by each user group. This data, along with records regarding Road Safety and highway claims is used to understand changing use of the network. This includes considering vulnerable users and their changing propensity to access our infrastructure.

✦ Cycle Facilities and Active Travel

Several teams across Highways and Transport are stakeholders in management of cycle facilities which includes planning and delivering new cycle facilities and undertaking safety inspections of the highway, frequency of which is determined by The Highway Hierarchy Definition Policy. [The Hierarchy Policy](#) defines how important we think each road, footway or cycleway is based on usage.

Following review of [LTN 1/20](#) and [Gear Change](#) by the Department for Transport a review of cycling and Active Travel in Surrey has been undertaken. A recommendation has been made for an Active Travel Strategy to be written. If this recommendation is approved this strategy would be a daughter document of the Local Transport Plan (LTP) aligning all elements referenced above including - design, development and maintenance of cycle facilities and LCWIPs. Further reference to the LTP can be found in the section [Service Wide Alignment](#).

✦ New technology, information sources, Innovation

The ever-changing technological landscape means that new technologies are always emerging. These will be monitored, tested and implemented where possible to help enable service enhancements and cost reduction. Examples outlined in Surrey's Digital Business Case include:

- Establish cross-cutting digital solutions for staff, residents, and partners
- Implement technical solutions identified and co-designed with services which support the realisation of benefits detailed in other transformation business cases
- Exploit opportunities to join-up data, scale solutions and improve sustainability of services
- This will be enabled by developing a number of the capabilities and dimensions of a digital council;
- Online/web, automation/Artificial Intelligence/Robotics, Information and insights from data and analytics, Tech/app enabled new business, Tech-enabled services for residents, Social media platforms and content

Surrey is in a unique position of having our own materials laboratory who work collaboratively with external & internal partners to facilitate the trial of new innovations. We are seeking to maximise various industry related opportunities with partners and will provide enablers when procuring works or services to allow the development of technologies such as AI (Artificial Intelligence).

As part of Surrey Highways Partnering Timetable 2020-21 the Innovation Development and Improvement Strategy has been introduced with the following aims:

- Driving through value for money
- Making the right asset investment decisions
- Improving safety and efficiency through better use of technology, materials and processes

The strategy plans to identify best practice, innovation and opportunities through 6 groups that report to the overseeing Innovation Development and Improvement Board for scrutiny, assessment and approval of ideas. The groups are as follows:

- Materials and Operational Delivery Forum
- Highways Future Technology Forum
- Systems and Data Forum
- Partnering Timetable Delivery Team
- Sustainability Working Group
- Monthly Contract Review Board

How is the service funded?

✦ DfT funding mechanisms

Maintenance and improvements to our highway assets are funded from our capital budget, which is largely made up of two grants from central government – the [Maintenance Block Grant](#) and the Integrated Transport Grant. The current method of allocating the maintenance block grant has resulted in more certainty over the funding we can expect to receive over the course of the parliament however grant alone is not enough to halt the deterioration of all our highway network assets.

The government has introduced the [Local Highways Maintenance Incentive Fund](#) element to the grant which directly links our funding to the ability to demonstrate sound asset management. Highway Authorities are ranked as Band 1, Band 2 or Band 3, with Band 1 being those judged to be the worst performing. Band 1 authorities will receive a 15.5% reduction in highway maintenance funding by 2021. In terms of the funding Surrey receives this would mean a reduction in funding of nearly £8 million over this period if we are rated as Band 1 and £4.3 million as Band 2. Surrey have achieved Band 3 status in 2017, 2018, 2019 and 2020 and therefore have maximised the grant funding available.

✦ Revenue vs capital

By having a clear understanding of the forecast asset deterioration, we can assess how different levels of funding can impact on this condition forecast. Some assets will require significantly greater investment to improve their condition than others. The balance between capital investment (work that provides long term maintenance/improvement e.g. resurfacing a road) and ongoing revenue investment (shorter term improvement e.g. cleaning gullies) must also be understood.

By providing initial capital investment the longer-term revenue investment is likely to be reduced, potentially reducing the whole life cost of the asset. Conversely, if the asset is deteriorating but does not receive capital investment, it is more likely that ongoing revenue costs are greater, leading to a potentially greater whole life asset cost.

We must ensure that we balance the revenue and capital spend to ensure we are delivering the best value for the residents of Surrey. If capital investment is not supported by adequate ongoing revenue spend then the initial investment value may be reduced. Similarly, if high levels of revenue spend maintaining assets that require capital investment may lead to higher disruption on the network.

✦ Other borrowing

The overall financial position of Surrey County Council means that we need to carefully consider whether we can make the long-term commitments to borrowing that were made in the Strategic Partnership for Horizon 1. There are some competition-based aspects of funding (see our [Department for Transport capital funding page](#)) and we aim to maximise our available funding through any bidding opportunities available to us, however there is less certainty of funding in this area.

We also consider wider priorities set by national and local bodies. Local Enterprise Partnerships (LEPs) present one of the most significant sources of capital funding. Their priorities reflect the national policies set by the Department of Transport and Highways England. It is important that, where appropriate, we align ourselves with these priorities, ensuring that we act at the forefront of best practice.

The council will assess on an individual basis the various merits of further borrowing to support 'Local Contribution' requirements needed to support the bid process whilst continuing to access this type of funding.

✦ Commercial funding sources

Surrey will explore and include mechanisms within our procurement systems to maximise potential and share proceeds of innovation.

How are we organised?

✦ Leadership – including AM governance and processes

In support of our core asset management activities, we will be undertaking a number of internal activities to enable our asset management team to deliver effectively. In using the [Highways Infrastructure Asset Management Guidance](#) document published by the UK Roads Liaison Group (UKRLG) and the Highways Maintenance Efficiency Programme (HMEP) we have identified a number of opportunities for improvement and will also utilise standards set out in [ISO 55000](#), which identifies key principles to consider in implementing an effective approach to asset management.

Our projects and initiatives to deliver this are focused on the following outcomes:

- ❖ Creating clear lines of decision making and delegated responsibilities
- ❖ Having a clear and agreed plan in place, with changes justified through a controlled process
- ❖ Measuring performance against a set of benefits and monitoring using detailed and regular KPIs
- ❖ Ensuring the asset management team is linked up effectively to internal and external stakeholders
- ❖ Maximising utility gained from the systems across the organisation

✦ Skills, competencies and Resources

The service is also undergoing a change programme to ensure it has the capability and skills that supports the delivery of its 5-year Strategic Business Plan. This includes:

- ❖ Functional organisational design based on a commissioning approach to create more outcome-based services
- ❖ Directorate wide performance framework and benefits mapping to evidence the delivery of our business plan and the Council's vision
- ❖ Development of a skills strategy that is tailored to our long-term business needs, creates opportunities for development recognises talent and improves staff retention
- ❖ Customer Service Excellence accreditation
- ❖ Create a culture of continuous improvement, collaboration and joint working
- ❖ Support our managers to ensure staff are committed to the council's values and behaviours.

These initiatives support a range of improvement activities identified by the asset team, including (ranked in order in terms of the magnitude of change required):

- ❖ Performance – benefits mapping aligned to performance measures and realisation, audit programmes and link to others
- ❖ Investment & Budgeting – Create SLAs, integrate budgets together, base decisions on whole life capital costs, exert more change control, justify decision making, bidding for future funding, asset teams to control budgets

- ❖ Capability – collaboration, flexible and dedicated resource, more control
- ❖ Process – senior engagement, agreement, consistency, link teams together, action list, change control, processes
- ❖ Communications – web page, Q&As, workshops, meetings, communicate remits of each team, wider stakeholder engagement, champions of the network
- ❖ AM Systems/Technology – integrate asset systems to link together, records, simple system
- ❖ Policy & Strategy – Allow for changes, define responsibilities, ensure senior support
- ❖ Data – conduct more surveys and use the data in decision making

We conducted a Maturity Assessment with the team to support the identification of these initiatives and identify the key areas of priority for improvement in the short to medium term.

How is the service delivered?

✦ Review and improvement of delivery arrangements

Delivery of our service is continually monitored and improved by the asset and delivery teams in partnership with our contractors. Scrutiny Boards are held monthly to monitor performance under the following titles:

- ❖ Making the Network Safe
- ❖ Keeping the Network in Good Condition
- ❖ Improving Network Availability
- ❖ Winter Service
- ❖ Resident Engagement

22 KPI (Key Performance Indicators) are reported each month by the scrutiny boards. These boards scrutinise the KPI results to ensure that each service is being delivered as it should be. The boards also do financial monitoring each month to identify any in-year risks to spend, as well as updating Early Warning and Programme Risk Registers to identify risks requiring escalation through the governance structure. Failures are discussed and analysed, and remediation plans are put in place and monitored where identified. Failures over time are recorded and tracked to help identify any ongoing trends that need addressing. These scrutiny boards play a key role not only in monitoring KPIs but also planning and implementing improvements to the systems and processes used to deliver the service.

Each board produces a summary report each month that is reviewed by the Monthly Contract Review (MCR) Board.

The business plan for the service is underpinned by the Highways and Transport Service Performance Management Framework. This sets out a series of performance measures across all our activities which will be used to demonstrate that we are achieving the objectives of the business plan and delivering the Council's corporate goals. The results of these metrics are scrutinised by the Service Scrutiny Board each quarter. Performance is scrutinised, and plans put in place should any area of the service be falling below the intended performance. It allows us to identify risks to service delivery and highlight opportunities.

Included within the framework is a series of measures against the delivery of the asset management strategy. These will be used to monitor our progress against the delivery of the objectives set out in the strategy on a number of levels.

Sitting above the Highways & Transport Performance Framework is the Corporate Leadership Team (CLT) Performance Framework which draws on some of the H&T KPIs.

Communication and Engagement?

✦ How do we consider stakeholder needs?

Public opinion of our assets is shaped by the experience they provide to residents, communities and businesses. It is important to strike a balance between meeting customer needs and applying good engineering principles to achieve best value and maximise the life of Surrey's assets.

Significant work is ongoing with Local Committees and the Community Partnership Team to improve visibility of information for residents and network users through public online maps and dashboard reporting tools – with a focus on accessing information from the [Roads & Transport webpage](#). These tools will contribute to and complement the Highway newsletter communications. Improvements in data management, automation and integration between systems is enabling information to be provided to the public more frequently, reliably and consistently and requiring less officer time.

The 2016 15-year Asset Strategy undertook extensive engagement with Council Members, public and private sector partners and Surrey residents to understand their respective priorities. This helped us decide how to best allocate our asset maintenance budget and identify where there are opportunities to improve outcomes for Surrey.

In 2019 a number of business cases were taken to the Capital Programme Panel (CPP) recommending increased capital funding for highway assets based on deterioration modelling and scenario testing work undertaken. These demonstrated how increased funding would provide better value for money, improved network user satisfaction and a reduction in risk. Increased funding was approved.

We will continue to consult with stakeholders, and the extent of future engagement will be determined.

✦ Engagement and feedback

National Highways and Transport Public Satisfaction Survey (NHT) data is invaluable in identifying the preferences of customers, with analysis conducted to identify key drivers for overall levels of satisfaction with the Highways network. The survey is conducted across residents of several councils on an annual basis. We recognise the value of this feedback and the ability to understand how we are performing relative to others. The results provide indicative themes of where the council is making a positive impact and where further work is required. Surrey's overall satisfaction levels with regards to highway maintenance and condition issues within the survey are generally below the national average and have shown a decrease since the end of Horizon 1 following a period of improvement during Horizon 1. This could be seen to demonstrate that while our overall strategy may be ensuring that we are spending the funding levels we have in the most appropriate way, the levels of funding available are not providing the level of investment that our customers would like.

In the latest survey we ranked 20th out of 27 County Councils that took part for overall satisfaction across the survey which suggests there are improvements that we need to make.

Highways maintenance comes out as a clear priority, with drainage, pavements and road safety also high priorities for maintaining service levels.

This is important to understand in managing the asset network as a whole. Budget constraints limit what can be spent across the entire network. Available spending must be balanced across asset types based on need. By having a clear view of what level of service is required of each asset we can make more informed views on how best to allocate funding across the network.

✦ Role of elected members

We regularly engage with our senior Members and officers through attendance at Local Committees and Scrutiny Boards allowing their views to act as another factor in shaping our strategy.

It is important to balance both sources of information against each other as well as using empirical data such as condition data and knowledge of deterioration patterns in order to make the most appropriate decisions for the highway network.

✦ How this informs setting service level targets and decision making

Putting the needs of service users first is central to asset management. In practice, this means prioritising our efforts based on those activities that provide the greatest value to Surrey residents. In developing Surrey's Highways Maintenance Asset Management Strategy, we have sought to engage with as wide an audience as possible and obtain information from a range of sources in order to better understand how highways assets contribute to achieving better outcomes for Surrey.

These sources include:

- ❖ Customer insight and resident satisfaction surveys undertaken by Surrey County Council – including customer contact centre trends
- ❖ Member's feedback on local priorities
- ❖ Feedback from staff
- ❖ National Policy and Priorities from partners such as the Department for Transport and Highways England
- ❖ Regional Priorities set out by District and Borough Councils, Local Enterprise Partnerships and neighbouring County Councils
- ❖ National and Regional highways surveys (e.g. NHT)
- ❖ Surrey County Council's Corporate Goals

How do we manage risk?

We have adopted a risk-based approach to all aspects of highway asset management as recommended in Well-managed Highways Infrastructure: A Code of Practice (October 2016). Our method requires the gathering and processing of evidence to inform further investigation when quantifying risk. If enough data does not exist to inform decision making, then the need and options will be assessed and prioritised. Data collection may be put in place or data procured if considered necessary.

We have developed and maintain risk registers at a Corporate, Directorate and Service Level as well as at an operational and project level for teams. These risk registers are maintained and recorded on our Information Management System (IMS) with regular monitoring and reviews.

In addition, our asset modelling is conducted by the Asset Owners who consider short- and medium-term risks or known legislative changes and costs within their deterioration calculations, as

well as the benefits of moving to new technology sooner, a recent example being the acceleration of LED bulb replacements in Traffic signals.

Operational risks to the service are managed through the Business Continuity Plan (BCP). The Winter Service Policy and Severe Weather Plan mitigate the risk from severe weather and set out what the service will do.

Considering the environment And Sustainability

In line with the Surrey Community Vision 2030, reducing the environmental impact of highway works and striving for sustainability is an important focus of the service. A key tool helping with this is the One Planet Action Plan (OPAP) sustainability group which has members from both Surrey County Council and our main Highway Contractor. The plan identifies and addresses actions under the following 10 work areas and targets:



Figure 5: One Planet Action Plan

The group is following through many actions and workstreams, the following are most significant from an Asset Management perspective:

- Carbon production assessment of each activity within the service to identify highest impact and target reduction efforts
- A Scheme sustainability assessment tool has been designed to provide visibility of the carbon cost of schemes by building up the individual carbon cost of the proposed materials, waste, haulage and lifecycle to give a baseline carbon cost of a scheme.
- Trials of materials with potential to reduce environmental impact, for example: Road marking materials that use 75% less thermoplastic, Warm mix asphalt, road surface preservatives,
- LED street lighting roll out

At a scheme level consideration to the environment is achieved using Environmental Impact Assessments as part of scheme project management. The environmental impact of works undertaken on each asset type is considered and will be captured in the Asset Summaries which are owned by the asset leads, The Asset stakeholder groups provide an opportunity to engage collaboratively to review opportunities and agree policies & standards for routine activities.

The effects of climate change on our highway assets have already been seen during several wet and windy weather events in recent years. Our longer-term approach to highway asset management will also need to consider what effect climate change may have on investment priorities and lifecycle costs of our highway assets.

Our Asset Management Process

Asset Management process overview – timescales, annual cycle (diagram)

One of the key drivers to the successful delivery of the business plan is the service wide embedding of our 15-year Asset Management Strategy. Surrey was one of the first authorities to develop an Asset Management Plan in 2005 (STAMP) and since 2014 the Asset Strategy has been refreshed every 2 years. This strategy is aligned with best practice set out in the [Highways Infrastructure Asset Management Guidance](#) published by the UK Roads Liaison Group (UKRLG) and the Highways Maintenance Efficiency Programme (HMEP), including

- ❖ Consulting with members and users to determine their priorities
- ❖ Continuing with the completion of a physical network inventory and assessment of current condition
- ❖ Undertaking depreciation modelling of all our assets over a 15-year period
- ❖ Assessing the impact of different states of condition of our assets on the Council's key priorities

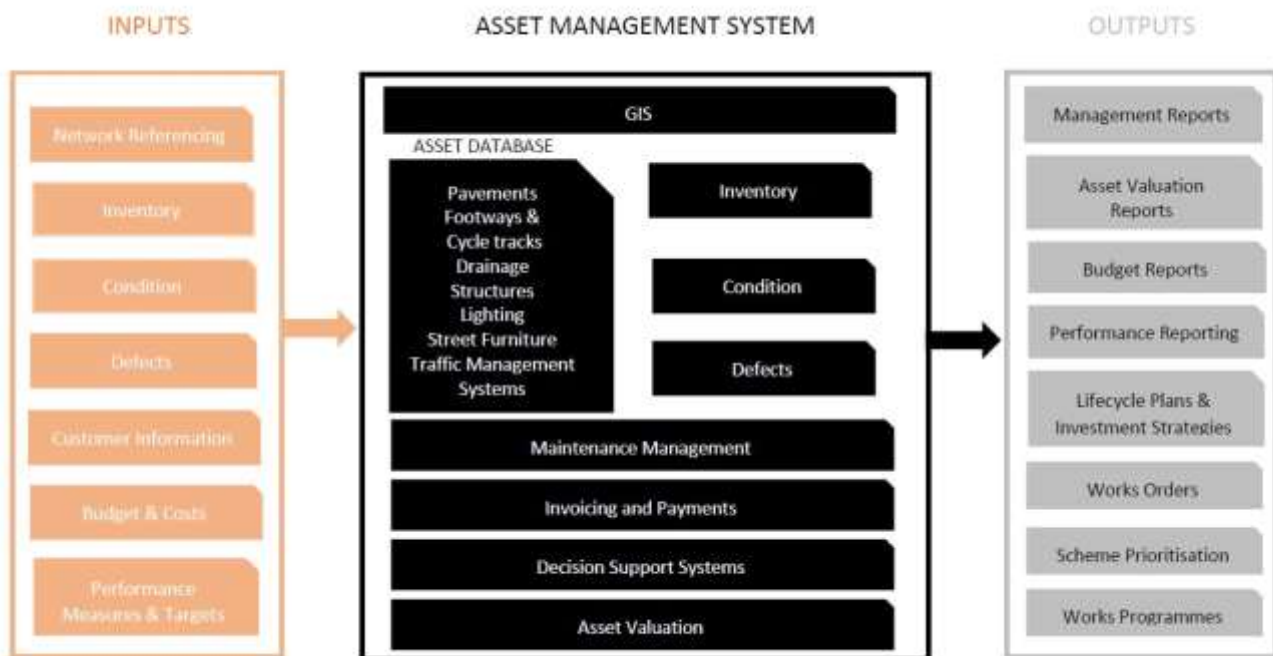


Figure 6: Asset Management Process

How do we plan investment?

- ✦ **Forward work programme – short, medium and long term**

We already have a proven track record of the application of sound asset management principles delivering value for money. In 2012 17% of Surrey's road network needed structural repair. We developed the innovative Horizon programme to reduce the length of the network in need of structural repair to 12% over 5 years by resurfacing around 10% of the worst condition roads. At the time that Horizon was conceived, annual programmes of work were the norm in the highways industry; working in partnership with our Highways contractor we recognised the benefits that a long-term programme of works would bring. For example, the potential for contractors to give discounts due to long term continuity of works and ability to develop specialist programmes of work,

improved short and long term co-ordination opportunities and improved provision of information to the public. Horizon 1 delivered its critical success factors and with Horizon 2 beginning in 2017 we were able to consider a different investment strategy applying the same successful procurement principles but looking at longer term programmes for other key assets such as bridges, traffic signals and pavements. What we can achieve is of course dependent on the level of funding we receive.

✦ Service level targets

Service levels will be determined through monitoring and reacting to feedback and performance statistics. Surrey will strive to sustain a high-level insurance claim repudiation rate. This will be used as an important driver in setting service levels.

✦ Funding and Budget allocation

The strategy is modelled over a 15-year period, but we recognise that things can change over time; we could get a greater or lesser budget share than anticipated from the DfT competition-based elements of the Maintenance Grant or council priorities could change.

The modelling we carry out assumes normal deterioration patterns, and no allowance has been made for any significant damage caused by severe weather events. In the event of a severe weather event, if central government and/or the council do not provide additional funds, the programmes of work described in this plan will be suspended to deal with any unforeseen damage to the network.

We review our budgets annually in line with corporate budget setting arrangements and refresh our modelling every 5 years in line with our strategic business plan review timetable. The level of funding received will determine whether a steady state, managed decline or improvement strategy will be pursued for each asset.

As described in the section [How We Consider Stakeholders needs](#), in 2019 a number of business cases were taken to the Capital Programme Panel (CPP) recommending increased capital funding for highway assets based on deterioration modelling and scenario testing work undertaken. These demonstrated how increased funding would provide better value for money, improved network user satisfaction and a reduction in risk. Increased funding was approved.

How do we decide how, where and when to do maintenance?

✦ Includes planned, cyclic and reactive maintenance

In delivering our strategy, we have developed a series of documents that set out how we will allocate funding to target the areas that require the most focus. The documents discussed below support the achievement of this objective and are updated annually to ensure we are adapting to ongoing changes in the condition of our network and the priorities of users.

Scheme Identification To ensure capital funds are spent in the most effective way, robust systems for scheme identification and assessment are required. The Capital Prioritisation Policy is part of the Asset Management Framework (AMF) and sets out the criteria used for scheme selection. We decide how to utilise the allocated budget using this approach to prioritisation, ensuring that we remain focused on delivering the goals and objectives set out in this strategy.

Annual Programmes Surrey's major maintenance is planned in advance and several programmes have been devised to support our strategic aims to maintain our highways assets. Our annual programme sets out all planned work for the year ahead and provides a baseline against which we can periodically assess performance to ensure we are delivering as required. We have made our annual programmes available on a borough-by-borough basis on the [Horizon – highway maintenance investment programme web page](#).

Forward Programmes Forward programmes look to build greater resilience into the network, providing a preventative approach to highways asset maintenance. We have taken an innovative approach to plan further in advance than just for the year ahead, setting out the schemes we are currently considering in a provisional programme across the next five years. This ensures that we are proactive in our approach and can make informed decisions for the future. Of course, the programme will be subject to change dependent on how far we are achieving our goals and being flexible is a key element in delivering our strategy.

✦ Service Wide Alignment

The Asset Strategy links to high level policies and plans as shown in the Asset Management Framework (AMF) diagram above. Our intention will be to utilise progress from developing our Asset Systems and Data Management to help improve service wide alignment. In particular aligning our strategy for individual assets with objectives and vision within statutory documents such as the [Local Transport Plan](#) LTP and the other strategies and plans that form part of it:

- Asset Management Strategy
- Congestion Strategy
- Cycling Strategy
- Electric Vehicle Strategy
- Freight Strategy
- Local Transport Strategies and Forward Programmes
- Low Emissions Transport Strategy
- Parking Strategy
- Passenger Transport Strategy Part 1 Local Bus
- Passenger Transport Strategy Part 2 Information
- Rights of Way Improvement Plan
- Surrey Rail Strategy
- Travel Planning Strategy

Where possible the Asset Strategy will contribute to corporate objectives such as the proposed Active Travel Strategy (if the recommendation for this is approved), the [Climate Change Strategy](#) and target to be carbon-neutral by 2050 Some of Highways & Transport contributions towards reducing carbon are outlined in the [Considering the Environment section above](#). The Asset Strategy aims to co-ordinate with the LTP and where appropriate support in delivering its key outcome objectives:

- ❖ To achieve net zero carbon emissions across Surrey by 2050
- ❖ To encourage social mobility and ensure no-one is left behind
- ❖ To support Surrey's growth ambitions and enable businesses and people to prosper
- ❖ To create thriving communities with excellent health, wellbeing and quality of life for all residents

✦ Cross-Asset Alignment and Co-ordination

Co-ordination of works programmes internally and with other organisations is a key focus of Surrey Highways & Transport. Cross-service groups of asset stakeholders discuss and plan opportunities to improve how asset types are managed. Asset summary documents capture how each asset is managed. Mapping and data management systems are used to share information between teams and groups to facilitate early co-ordination and planning of works and to maximise opportunities for co-ordination and deliver value for money and reduced disruption.

✦ Inspections/survey and other condition and performance data

As the authority responsible for the condition of Surrey's Highways network, our primary duty is to protect users of our network, by keeping the network safe and ensuring appropriate protections are in place to reduce the risk of harm. This can mean conducting proactive work that may not be seen as a priority to residents in order to reduce risk and costs.

Some assets are more visible than others. For example, people tend to notice defects in the highways more regularly than safety barriers or drainage. Drainage defects only become apparent when there is a situation requiring their efficient operation. However, this does not mean that they should be deprioritised. It is important that all assets meet, at the very minimum, statutory safety conditions.

To understand how much work is needed to maintain Surrey's assets requires a good understanding of the current condition and how this is expected to change over the short, medium and longer term. We have used a wide range of asset condition modelling tools to analyse and understand what the demand will look like for each asset class.

As explained in the '[New technology, information sources, Innovation](#)' section above, we regularly review emerging technologies and best practice to consider whether the surveys and work types that we undertake are best value for money.

Two trials have started in 2020 with suppliers of software that use image recognition and machine learning to identify safety and condition defects. It is hoped that these will make collection of data quicker, more consistent, and reliable and should free up officer time to focus on analysis of issues rather than collection of data. This should provide better value for money. The results of these trials will be included in the next Asset Strategy update in 2022.

✦ Risk-based hierarchies and resilient network

In order to adopt a risk-based approach Surrey has defined its network hierarchy to inform priorities. Our policy for allocating Hierarchy status and review has been approved by cabinet. Many activities contribute to us maintaining a resilient network, for example:

- The 'A Roads+' salting network made up of top priority roads to be treated in case all Priority 1 routes cannot be treated due to resource or salt shortages.
- A critical infrastructure map is planned and being developed to help decision making of Duty Managers during emergencies, and for use by others identifying but not limited to:
 - Bridges susceptible to flood damage,
 - Flood plans and temporary flood measures
 - Pumping stations
 - Roads liable to flooding,
 - Roads at risk of damage during hot weather,
 - Locations susceptible to fog

- Slope hazard sites
- Flood zones
- Highways England diversion routes
- Location of Variable Message Signs (VMS)
- Locations of schools and emergency services
- Emergency services preferred routes
- Height and width restrictions.

✦ Lifecycle analysis

In order to ensure that we are spending the funding available for highways most efficiently, we carry out lifecycle modelling for all our key assets. This information is used alongside information we collect from stakeholders including county council members and the public to propose budget strategies to the council's Cabinet.

✦ Prioritisation including cross-asset trade-offs, risk management and softer factors

We use analysis of the priorities of highways service users alongside current and forecast condition of our assets and identified risks in order to determine what service levels Surrey Highways and Transport needs to provide.

To support our decision making, as previously described we engage with council Members, public and private sector partners and Surrey residents on their priorities. We use this analysis to identify which parts of the network require the most attention from a service user's perspective, the priority areas for further investment and the level of service that residents want from the network. All these things are essential in shaping the asset management strategy and funding plans.

The allocation of our asset maintenance budget is based on this analysis and on opportunities to improve outcomes for Surrey i.e. improving wellbeing or resident experience by effectively allocating our funding across the asset network.

In prioritising the funding applied to each asset we must also understand the impact different levels of funding will have on each asset. Some assets will only require a relatively small amount of funding to significantly improve their condition. Whilst this may be a large percentage increase in funding the actual amount required may be small in comparison to other assets. Conversely, other assets may require significant amounts of investment to drive any tangible improvement in condition, but this may be seen as a relatively low percentage increase due to the already high budget.

Modelling and 'What if' scenario testing helps us to prioritise where money is spent and get value for money, identifying where we are able to redistribute funding without having a significantly adverse effect on an asset type in order to improve condition in other areas.

Performance Management Framework

✦ Service Levels, performance measure and targets

How we plan our maintenance work is a key element of our asset management strategy. To do this effectively we need to understand the varying needs and expectations of our residents and service users as these will reflect our service delivery standards.

To keep the whole network in its current condition will require approximately £35m capital investment per year over the next 15 years. However, standards for highways assets will vary according to their use and the risks involved.

If, for example, the condition of well used pavements needs to improve to ensure safe passage and encourage sustainable transport for commuters, school children, leisure walkers; the allocation of funding to this asset will also need to increase, which will mean having to reduce spending elsewhere. By setting standards appropriate to the use of specific parts of the network we are better equipped to understand and meet the demand and user priorities for each asset type in the most efficient way.

✦ Benchmarking and efficiency (MSIG)

Surrey is committed to the development and implementation of good practice and benefits from lessons learnt at National, Regional and Local levels. Officers from Surrey County Council regularly contribute to and attend:

- ❖ National and regional conferences;
- ❖ The Chartered Institute of Public Finance and Accountancy (CIPFA) Highways Asset Management Planning Network
- ❖ SEASIG (South East Area Service Improvement Group) Customer Service Group
- ❖ The South East 7 Alliance
- ❖ National Traffic Managers Forum
- ❖ Annual Local Authority Road Maintenance Survey
- ❖ Local Authority Bridges Groups

Furthermore, Surrey is committed to the sharing of knowledge and experiences in implementing asset management with other Highway Authorities across the Country. To this end, officers from Surrey present examples of good practice nationally at workshops and conferences and are active members of many knowledge sharing and improvement forums;

- ❖ UK Roads Board
- ❖ Road Condition Management Group (SCC Chair)
- ❖ Local Councils Road Innovations Group (LCRIG)
- ❖ Case study on Asset Data included in UKRLG Highway Infrastructure Asset Management Guidance
- ❖ South East Traffic Managers Group
- ❖ South East Permit Scheme Governance Board (SCC Chair)

✦ Annual AM assessment and progress report

Using the baseline developed in our asset data, we develop forecasts for future condition based on the level of investment provided. This is reviewed on a 5-yearly basis (or more regularly if there are significant changes to available budget levels) to assess any under- or overperformance for each asset against the needs of the users. Where this is the case, lessons learned are gathered to understand why this has occurred and suggested activities to either improve the situation or maximise an opportunity with a view to reducing whole life costs of the asset.

This enables future forecasting to be completed more effectively and provides improvements to accuracy. Where assets are shown to be consistently underperforming, more detailed diagnostics are completed to understand why and to develop remedial activities specific to that asset. We work with partners to identify innovative solutions to challenges, constantly seeking to increase the value to the residents of Surrey.

There are monthly works scheduling progress meetings to review the delivery to plan and the updated condition forecasts are reviewed at board level annually, where changes are agreed. Any changes to the strategy are reflected in adjustments in investment priority.

Asset Systems and Data Management

A clear Systems and Data Management Strategy is important for record keeping, analysis and decision making, and to help facilitate effective decision making across the service and council. Good business processes and a good systems strategy will help improve communication and collaboration while reducing silo working.

A new Highway Maintenance Contract will be starting in April 2022 and this presents a good opportunity to produce an updated IT Systems Strategy for Highways and Transport. The focus of the IT Strategy is as follows:

- Rationalisation of all systems and data management across the service
- Having as few systems as possible, but as many as necessary in order not to compromise functionality
- A focus on integration and automation of processes
- Flexibility to incorporate and capitalise upon emerging technologies
- Improved communication and efficiency of data management
- Improved internal and public visibility of works and other information

A number of innovations are being trialled as described in the [Inspections/survey and other condition and performance data](#) section above, as well as the [Considering the environment And Sustainability](#) section.

A further innovation workstream is pursuing use of sensors and Internet of Things connected devices. This project is looking into the following opportunities:

- Pothole Detection
- Road Temperature Sensors
- Live Traffic Reporting
- Road Condition Reporting
- Streetlight Dimming

Continuous Improvement

✦ Management Reviews

We will continue to understand the user needs for highways to ensure the strategy is correctly focused, as well as remaining aligned to wider Council and corporate priorities. We will work to prioritise those activities understood to increase public satisfaction, maintain our customer focus and ensure that everything we do is aligned to the needs of highways users.

We will take an engaging approach to delivering our plans and updating the strategy, ensuring we hear your views before making significant changes. The strategy will be reviewed every 2 years and aligned to the 5-year business plans developed for the service. We will continue to integrate into our thinking information from the NHT survey, customer satisfaction surveys, the customer contact centre and other sources of engagement. By doing so the asset management strategy will remain relevant and aligned to the changing needs of Surrey. Progress will be published on our website and all users will be able to actively engage in the formation of the ongoing strategy.