Sunderland City Council

Highway Asset Management Policy and Strategy 2021-26

Policy Statement

Sunderland's highway assets represent the most valuable asset group for which Sunderland City Council is responsible, with an estimated value in excess of £2.3bn. Our roads, footways and cycle tracks are vital arteries that allow people and goods to move within and beyond the city. The highway network supports businesses, and provides effective access to work, schools, hospitals, and leisure facilities. An effective highway network is fundamental to the three priority areas within which the council is most able to positively influence outcomes for Sunderland, its residents, communities, and businesses:

- **City:** Growing the economy of Sunderland, regenerating the city, leading place shaping and maximising the cultural offer and ensuring a high quality and sustainable living and working environment
- **People:** Ensuring Sunderland's residents are safe and have greater access to excellent education, skills, and employment, a broad range of cultural opportunities, and good health and wellbeing opportunities. Protecting Sunderland's vulnerable children and adults
- **Council:** Being an effective commissioner and collaborator to ensure that we can sustain the services that matter

Our policy is to adopt asset management best practice as a cornerstone of maintaining, managing and improving Sunderland's highways against a backdrop of continued governmental financial constraints. Implementing effective asset management will ensure that we can:

- Correctly identify the assets we have.
- Know the extent and condition of our assets.
- Understand what highway users expect of our assets in terms of condition, availability and environment.

The highway asset makes a valuable contribution to our priorities around growth; in particular:

- exploiting the economic advantage we have in the automotive and advanced manufacturing sector;

- organising to promote the agglomeration of innovation and enterprise which focuses on micro, small and medium enterprises;
- pursuing physical regeneration that increases, improves and replaces current office/commercial stock, provides housing, investment and renewal and better connects Sunderland within the region
- Providing ubiquitous connectivity, wired via fibre in the ground and wireless across the airwaves

We will adopt and implement asset management best practice to meet the statutory obligations placed upon us by central government and take a long-term view to manage Sunderland's highways effectively and efficiently. We will consider the costs and benefits of the options open to us to develop long term strategies for highway management to make the best use of the funds and resources at our disposal.

We will monitor our performance to ensure that we deliver the services the city demands and strive for continuous improvement. We will provide annual reports to demonstrate progress and our contribution to the future success of Sunderland.

Councillor Graeme Miller
Leader of Sunderland City Council

Document Control

Revision:

Version	Date	Author	Change Description
V0.9	22/12/2020	B Tyrrell	Incomplete Draft
V1.0	17/02/2021	B Tyrrell	Issued
V1.1	07/04/2021	B Tyrrell	Traffic Signals section added, asset status table added and other minor changes.
V1.3	29/04/2021	B Tyrrell	Updated Improvement Actions and added reference to North East Transport Plan.
V1.4	19/08/2021	T Smith	Consolidated comments following internal council consultation

Table of Contents

Introduction

The local highway network is the largest and most visible community asset for which local authorities are responsible. The highway network is used daily by most city businesses, residents and visitors and is fundamental to a Dynamic, Healthy and Vibrant Smart City. It helps to shape the character and quality of the local area and makes an important contribution to the City Plan 2019-2030 and the vision for the city that by 2030 Sunderland will be a connected, international city with opportunities for all.

Asset management is a strategic approach that seeks to optimise the value of highway assets over their whole life. Sunderland City Council recognises that by taking an asset management approach to its local highway maintenance, investment can be targeted on long term planned activities that reduce expensive short-term repairs and alleviate the strain on revenue budgets. This approach not only maximises value for money, ensuring informed investment decisions can be made, but also manages risk and maintains a highway environment that is safe and secure and accessible for our customers.

Asset Management Policy

The Sunderland City Council Highway 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 City Plan 2019-2030 and the North East Transport Plan 2021-2035.

Asset Management Strategy

This Highway Asset Management Strategy sets out how the Asset Management Policy will be delivered. It has been developed as part of the overall Highways Infrastructure Asset Management Plan (HIAMP) and supersedes the former Highways Asset Management Plan (HAMP 2015-2020). This Strategy sets out how the council will best manage the Highway Network, taking into consideration customer needs, local priorities, asset condition and the best use of available resources balanced against risk of service failure and the likely future demand for services. It also ensures that both short- and long-term needs are appropriately considered, whilst delivering a minimum whole life cost approach to our Highway Assets. It is aligned to the Themes and Commitments set out in the City Plan 2019-2030 and support the North East Transport Plan.

The Asset Management Strategy will support the three Themes in the City Plan 2019-2030 below:

A DYNAMIC SMART CITY, by 2030 we will have:

- a lower carbon city with greater digital connectivity for all
- more and better jobs
- more local people with better qualifications and skills
- a stronger city centre with more businesses, housing and cultural opportunities
- more and better housing

A HEALTHY SMART CITY, by 2030 we will have:

- reduced health inequalities enabling more people to live healthier longer lives
- access to equitable opportunities and life chances
- people enjoying independent lives
- a city with great transport and travel links
- cleaner and more attractive city and neighbourhoods

A VIBRANT SMART CITY, by 2030 we will have:

- more resilient people
- more people feeling safe in their homes and neighbourhoods
- more residents participating in their communities
- more people visiting Sunderland and more residents informing and participating in cultural events, programmes and activities.

In addition to the City Plan 2019-2030, the Asset Management Strategy must support the North East Transport Plan 2021-2035. The first region-wide Transport Plan sets out the transport priorities for the seven local authority areas in the North East comprising Durham, Gateshead, South Tyneside, Sunderland, Newcastle upon Tyne, North Tyneside and Northumberland. The objectives of the Transport Plan are:

- Carbon-neutral transport
- Overcome inequality and grow our economy
- Healthier North East
- Appealing sustainable transort choices
- Safe, secure network.

Asset Management Framework

Sunderland City Council has developed a Highways Infrastructure Asset Management Framework that is based on the recommendation made with the 2013 HMEP Highway Infrastructure Asset Management Guidance and the 2016 Well-Managed Highway Infrastructure: A Code of Practice. This plan summarises all activities and processes that are necessary to develop, document, implement and continually improve our approach to asset management.

The context for highway infrastructure asset management in Sunderland includes a variety of factors that need to be taken into consideration when determining the council's expectations for the highway service.

Planning

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

- **Policy** – Sunderland's published commitment to highway asset management.
- **Strategy** – Sunderland's published statement on: how the policy will be implemented, the implementation of an asset management framework, the strategy for each asset group, and the commitment to continuous improvement.
- **Performance** – The levels of service to be provided by Sunderland's highway service and how performance will be measured and reported.
- **Data** – Sunderland's strategy for data collection and management, without which informed decisions cannot be taken.
- **Lifecycle planning** – Sunderland's lifecycle plans for each asset group which when combined with funding levels and desired levels of service enable informed decisions to be taken.
- **Works programmes** – Sunderland's rolling programme of works for each asset group.

Enablers

Enablers are a series of supporting activities that support the implementation of the Asset Management Framework. They provide a means of: developing organisational leadership and the adoption of an asset management culture; a means of effectively communicating

and collaborating with all stakeholders; the development of the competencies and skills of all highways staff, an effective means of managing risk; a strategy for the use of asset management systems; a means of measuring the performance of the asset management framework; a means of benchmarking progress and collaborating with other highway authorities, and above all, fostering a culture of continuous improvement and innovation.

Asset Management Framework:

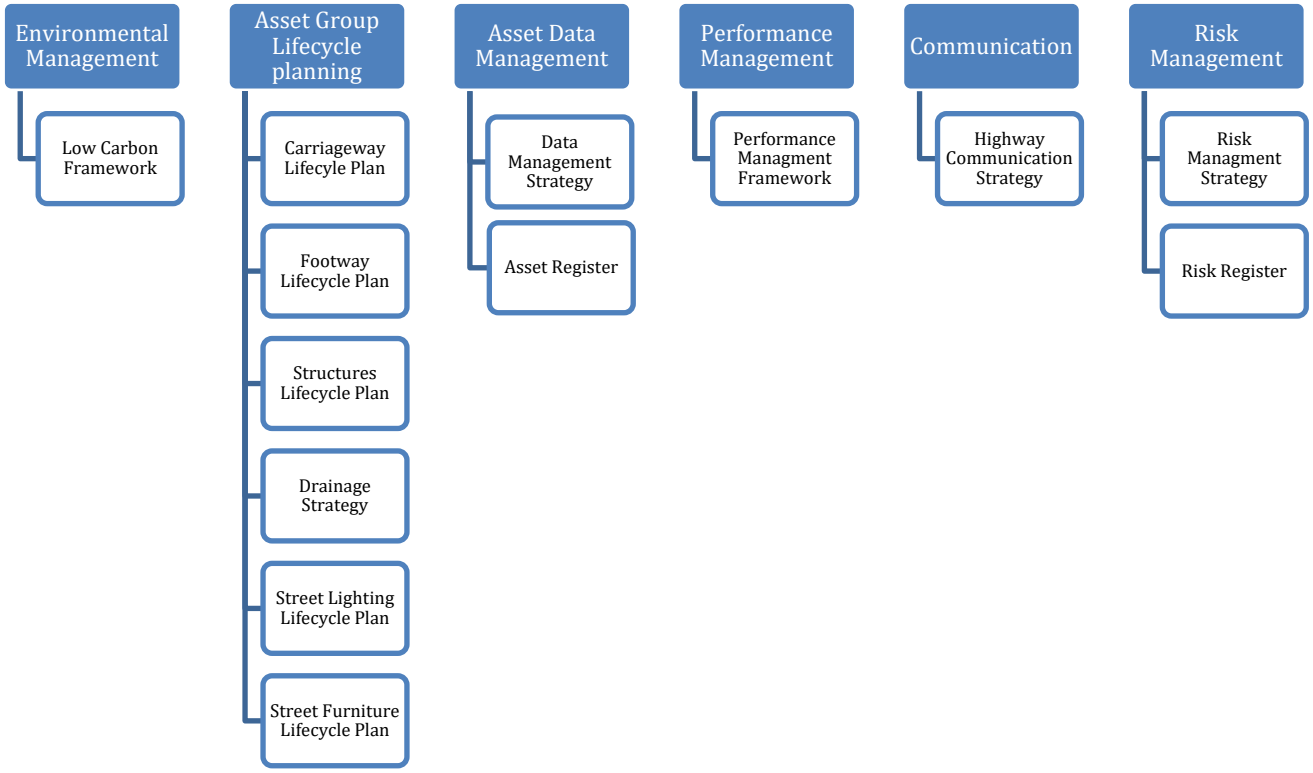
Asset Management Policy

Sets out the Policy of how the highway services will deliver against Sunderland City Council Objectives

Asset Management Strategy

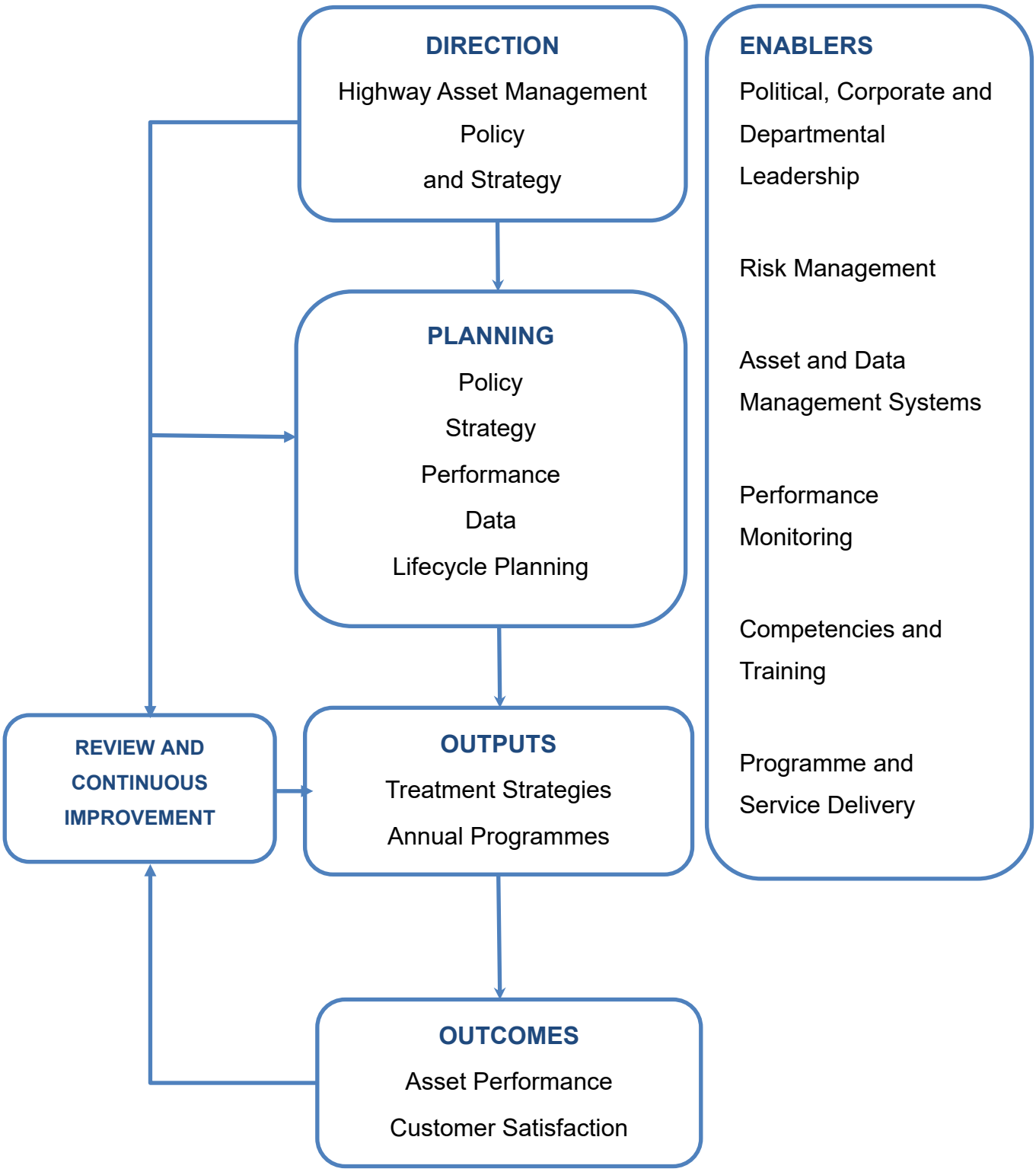
Sets out the approach to manage the highway service to meet the requirements of the Asset Management Policy.

Documents that support the Asset Management Policy and Strategy:



Delivery

The delivery component of the framework sets out how the highway service will be delivered.



Strategy for Main Asset Groups

The highway network is divided into key asset groups however should be considered as an integrated set of assets when developing highway infrastructure maintenance policies. Below is a summary of the assets maintained by Sunderland City Council by quantity and asset value (Gross Replacement Cost).

Asset Group	Quantity
Carriageway	1,277 (km)
Footways and Cycleways	1705.47 (km)
Structures	408
Highway Drainage Linear Items	41 (km)
Highway Drainage Items	44,697
Street Lighting	58,076
Traffic Signals	157
Street Furniture Items	9,933
Street Furniture Linear Items	101.8 (km)

Table 1 - Summary of assets included in the Strategy as of January 2021.

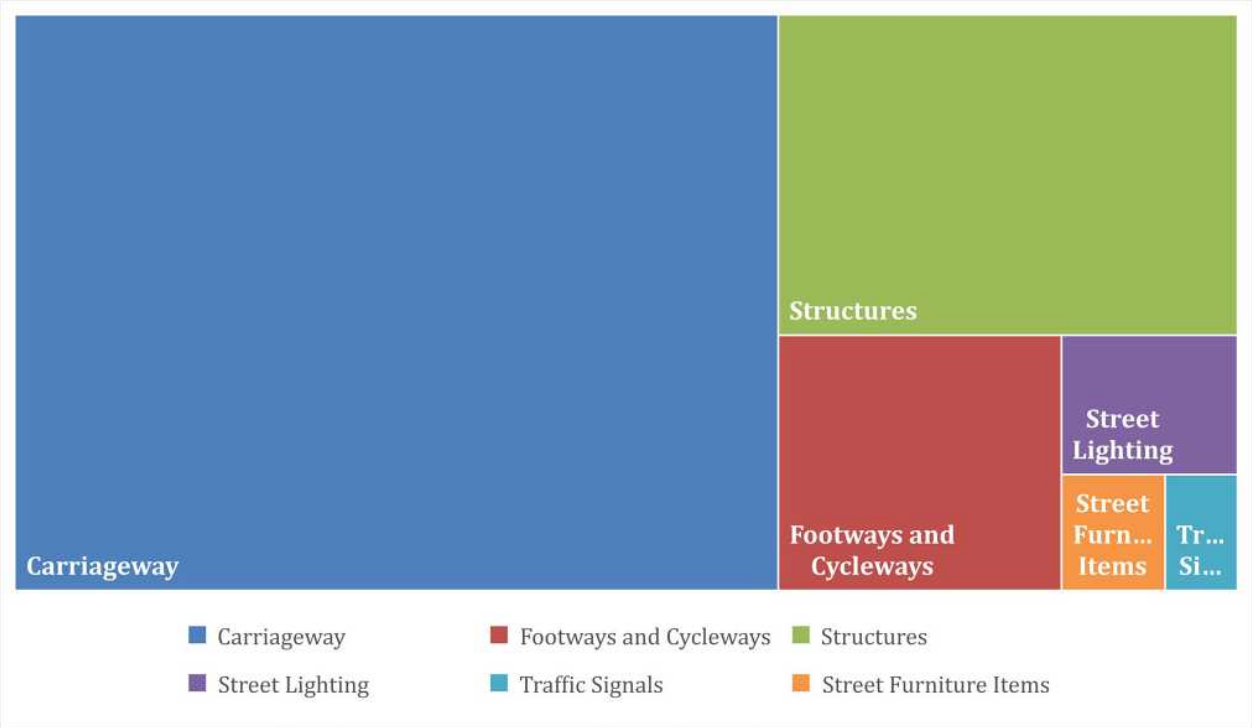


Figure 1 - Asset Value in £'s by Asset Type Gross Replacement Cost)

The tree map above shows the relative value of assets according to asset type based on the CIPFA asset valuation methodology, where drainage is included within the carriageway asset valuation. Based on Whole of Government returns 2018-19.

Highway Asset Hierarchy

The network hierarchy is essential for the management and maintenance of the network. The hierarchy considers current and expected use, resilience, and local economic and social factors such as industry, schools, hospitals, and other associated factors.

The carriageway and footway asset hierarchy has been reviewed in line with Well Managed Highway Infrastructure and is used as a tool to help ensure that highway maintenance activities are effectively prioritised and associated risk considered.

Feature	Category	Reference	Frequency
Carriageway	Strategic route	C1	monthly
	Main Distributor	C2	monthly
	Secondary distributor	C3	monthly
	Link road	C4	6 monthly
	Estate/Local Access Roads/Back lanes	C5	Annually
Footways	Prestige walking zones	F1	monthly
	Primary walking routes	F2	monthly
	Secondary walking routes	F3	3 monthly
	Link footways	F4	6 monthly
	Local Access/Minor Footways	F5	Annually
Cycle ways	(a) Part of Carriageway	A	As for carriageway
	(b) Cycle Track, Shared Cycle/Footway – aroute for cyclists not contiguous with the public footway or carriageway or a shared cycle/pedestrian path	B	As for footway/annually

Table 2 - Table: Carriageway and Footway Hierarchies, including Inspection frequencies as detailled in the Code of Practice for Highway Safety Inspections

Carriageway

As part of the previous HAMP, a carriageway lifecycle plan has been developed and updated to include investment scenarios to model current condition, local treatment options and expected rates of deterioration. Different investment levels are assessed to demonstrate the projected performance outcomes. This has enabled a greater understanding of the investment levels required to achieve the desired levels of service. As a result, Sunderland City Council has increased its capital investment in the carriageway asset to mitigate the increasing levels of deterioration on the network.

The condition of the carriageway asset is measured through annual condition surveys and inspections to inform the annual works programme. This information is used within the lifecycle planning to determine the different treatment options and the projected condition improvement on the network that is expected. Historical rates of deterioration are applied, based on previous years condition results to project how the network is expected to behave in future years. Maintenance budgets are applied to the modelling to show the overall performance levels expected, based on different investment levels.

Carriageway inventory lengths are shown in the figure below by DfT classification and environment (urban/rural), based on the same asset groupings used within the lifecycle plan. Carriageway hierarchy is used to define the inspection frequency and is being integrated as part of the carriageway works plan prioritisation.

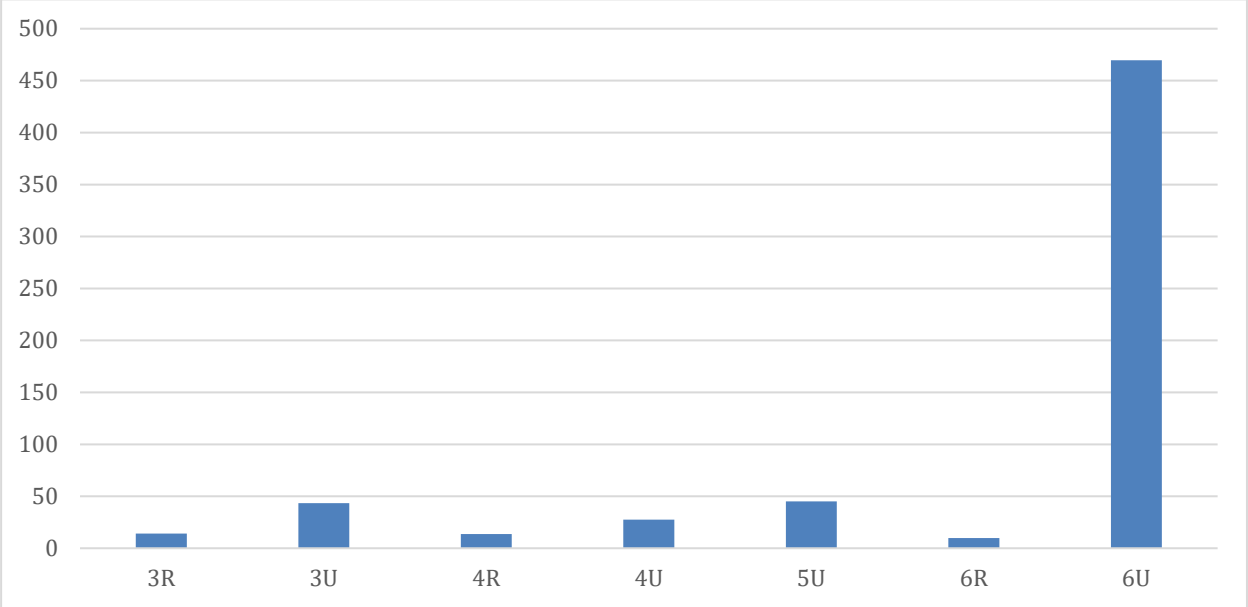


Figure 2 –Carriageway length in km's by DfT class 3 (A roads), 4 (B roads)), 5 (C Roads), 6 (Unclassified Roads) and U/R (Urban/Rural).

Repair of potholes and other carriageway defects arising across the network is delivered using revenue resources, although the available revenue resources have been reduced, this has been supplemented using capital resources. This is not deemed a long-term solution for the ongoing management of reactive repairs. Increased investment in the capital spend is expected to reduce the overall reactive spend required, by improving the overall condition of the carriageway, reducing the expected number of defects and potholes that are likely to occur on the network and improving the network resilience.

In the previous HAMP, it was identified that carriageway defects were not recorded in a manner to allow reactive data to be utilised within the planned maintenance prioritisation. One notable improvement to asset management processes is that defects are now recorded with the easting/northing location, meaning areas of defect clusters can be recorded and identified, as shown below:

Figure 3 – defect cluster analysis in Horizons Asset Management Software

Defects and reactive repairs have been integrated as part of the planned maintenance, by identifying defect clusters alongside annual condition surveys. This helps to identify areas of high defect repairs to prioritise for planned maintenance and reduce the ongoing reactive costs to the council. By employing an asset management-based approach and

improving the coordination of road maintenance and improvement activity, the council will aim to reduce the amount of reactive maintenance, improve the condition of the network and the overall network resilience as a result.

There have been significant improvements since the development of the previous Asset Management Strategy to manage the carriageway asset. The council is committed to continually improve this process as new technologies and asset management best practice develops over time.

Footways

The footways are critical assets supporting access and mobility for people in Sunderland. Securing continuous improvement in the safety and serviceability of footways is necessary to encourage active travel. Well maintained footways aid social inclusion, particularly improving accessibility for vulnerable people and support the Local Cycling and Walking Infrastructure Plan for Sunderland (LCWIP).

A footway lifecycle plan has been developed based on a 10-year investment period in a similar manner to the carriageway lifecycle plan, to determine the most cost-effective footway treatment programme across all the footways on the network. The lifecycle planning analysis criteria is based on current condition, local treatments and rates with different investment profiles applied. Footway inventory lengths by surface type and hierarchy are shown below:

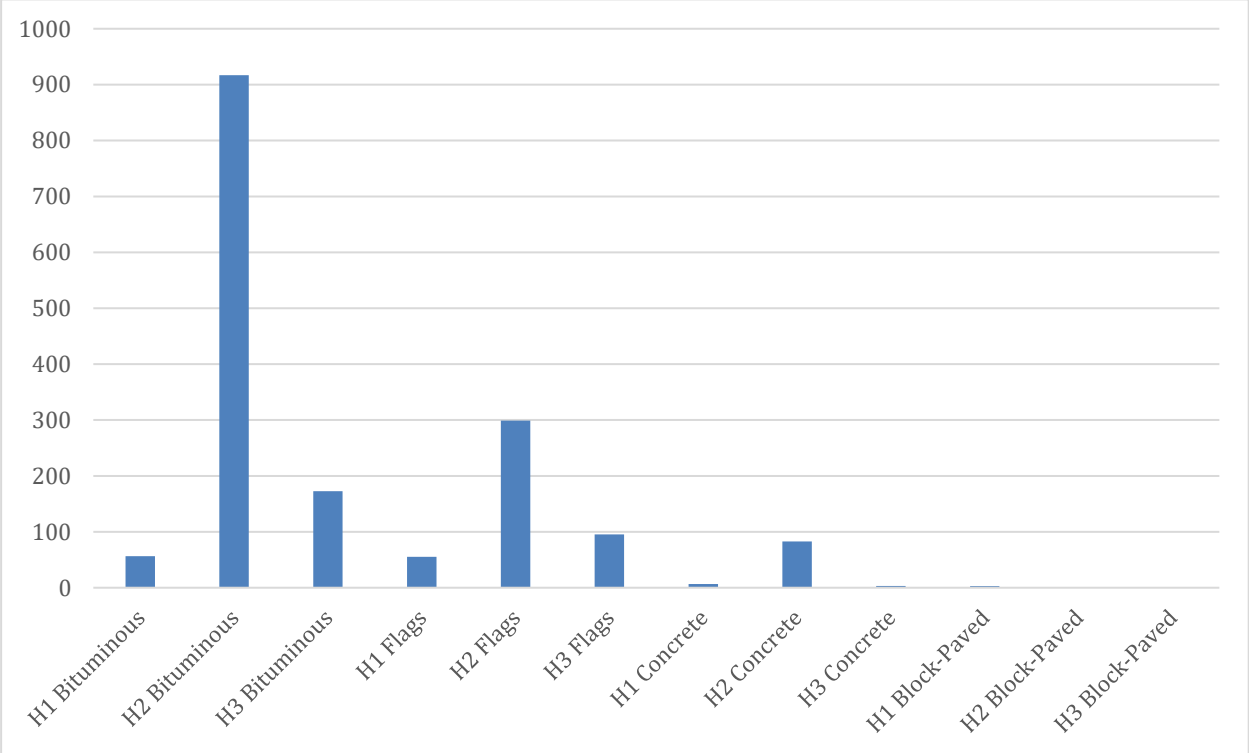


Figure 4 - Footway lengths by hiearchy and surface type

Footway conditions are assessed through annual condition surveys and highways inspections. Footway defects are used within the maintenance prioritisation to assist in highlighting areas on the network with high levels of reactive repairs, similar to carriageways. A detailed lifecycle plan has been developed to supplement this strategy

and contains specific details around the future expected rates of deterioration and the projected impact of different investment strategies will have on the performance of the asset.

A key consideration in footway management is public safety, due to the increasing potential for trip hazards as footway condition deteriorates. If incidents do occur, councils may be liable for damages (and in any case, will incur financial and resource costs in processing claims). For these reasons, it is in Sunderland City Council's interest to minimise trip hazards.

Within the lifecycle planning analysis, claims were mapped using their recorded coordinates to the corresponding footway sections. These footway sections are given a priority weighting in the lifecycle modelling when determining whether to programme a treatment on them. This ensures that locations with most potential to result in trip hazards and resulting claims against the council are prioritised, as shown below in Sunderland's asset management software, Horizons:

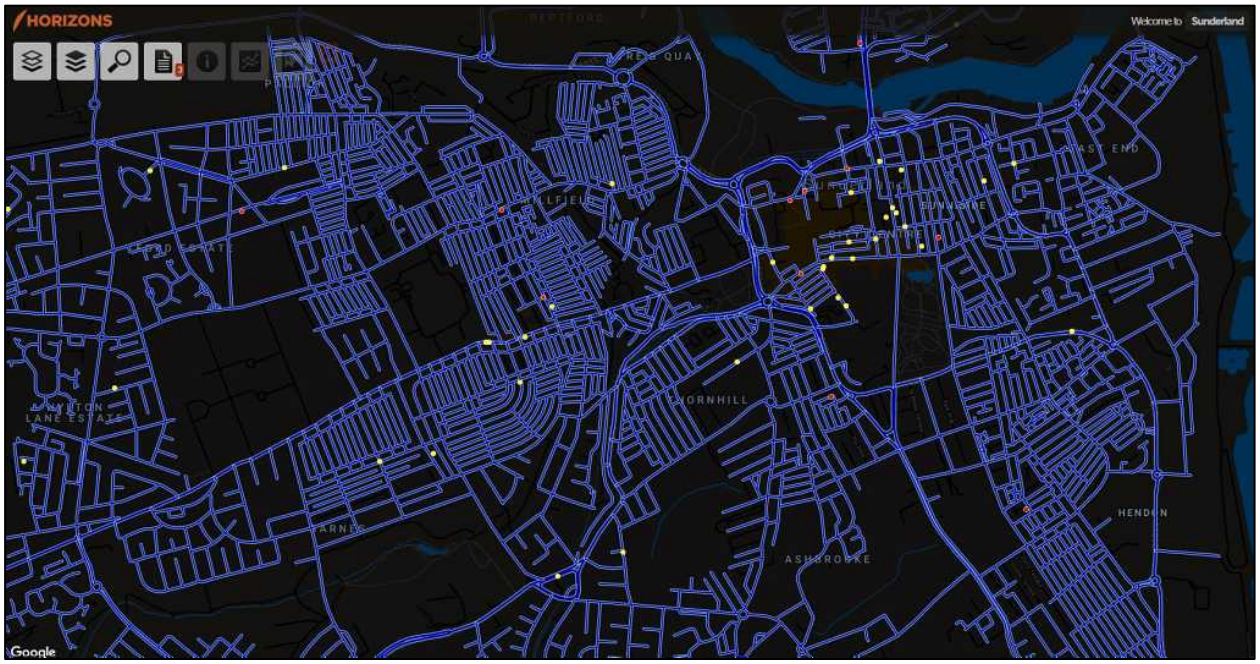


Figure 5 - Footway Claims plotted in Horizons Asset Mangement Software

Following unprecedented levels of walking and cycling across the UK during the Covid-19 pandemic, the Department for Transport is keen to encourage more people to choose alternatives to public transport, making healthier habits easier and helping make sure the road, bus and rail networks are ready to respond to future increases in demand.

Bridges and Other Highway Structures

Sunderland City Council actively manages its structural assets in accordance with principles set out in the UK Roads Liaison Group publication 'The Management of Highway Structures, A Code of Practice'. Structures have been managed using the CIPFA asset valuation toolkit to determine the lifecycle for each structure's element. As with the footways the adoption of this approach follows the industry standard as used within the Whole of Government Account (WGA) submissions, although this is a no longer a requirement to submit this formerly to government. The toolkit provides a method for authorities to calculate the gross replacement and accumulated replacement costs for structures. Inventory for structures is shown below:

Structure Type	Quantity
Road Bridge > 1.5m Span	178
Footbridge	106
Retaining Walls ≥ 1.5m	87
Engineered slopes	1
Culvert < 1.5m Span	33
Sign Gantry	1

Table 3 - Inventory by Structure Type as of January 2021.

The condition of the structures is derived using the inspection information available for each structures element and deteriorated using a standard model used nationally to calculate asset valuations. The model is fully dependant on having up-to-date inspection records to calculate the Bridge Condition Index (BCI) that is recognised as a means of calculating condition of structures.

Structures are currently hosted and managed within the Bridgestation software programme, although there are some large structures not yet loaded into the system and therefore the current asset valuation is expected to increase significantly. A structures lifecycle plan will be developed once all inventory and inspection information is fully loaded into Bridgestation.

Street Lighting and Highway Signs

Sunderland City Council's street lighting and highway signs are managed through a 25-year Private Finance Initiative (PFI) contract 2003-2028, working in partnership with Balfour Beatty Living Places' (BBLB), operating as Aurora. As part of the PFI contract a Strategic Plan has been developed to deliver the requirements of the Project Agreement through the application of:

- Zero Harm principles
- Balfour Beatty Core values and
- Sunderland City Council's core strategy and values

As part of the PFI contract, Performance Standards (PS) are defined to ensure the council's requirements for the Service provided are listed below:

- PS1 – Lighting and Highway Sign Design and Installation (core investment period only)
- PS2 – Lighting Performance and Planned Maintenance
- PS3 – Operational Responsiveness and Reactive Maintenance
- PS4 – Contract Management and Customer Interface
- PS5 – Best Value Assistance and Reporting
- PS6 – Working Practices

Asset condition monitoring is carried out using the visual inspection and recording technique detailed within GN22 (Asset Management Toolkit Minor Structures) each time the asset is visited during the routine maintenance operations detailed in PS2, and each time the asset is visited for any non-routine fault repair.

Any asset not meeting the necessary condition is assessed by management and if required, a replacement effected immediately. In addition, any column removed whether due to condition, road traffic accident or improvement works will have the root section visually inspected, giving an indication of condition of similar columns in the same location. The asset inventory information is held on Mayrise, the Asset Management Database which also forms part of the Aurora's Management Information System.

Assets are maintained within the database as and when accruals/de-accruals take place. Aurora (BBLP) are monitored and financial adjustments applied based upon the accuracy of the database to ensure this is kept fully up-to-date.

Street Furniture

A well designed and managed highway environment generates benefits for residents, businesses, and visitors to Sunderland. Road markings, signs and street furniture have a significant presence within this environment and appropriate design and maintenance of these assets is required to offer a safe and attractive public realm to road users.

Sunderland City Council is responsible for a number of different street furniture assets, although information available varies depending on its asset management importance. Existing inventory data for street furniture assets is several years old and condition is often not known. As part of the Strategy, street furniture assets will be further developed including forward planning analysis and the development of lifecycle plans, based on asset management importance and associated risk.

Vehicle Restraint Systems (VRS) have inventory and condition data and have received capital investment for the last 5 years for ongoing maintenance and upgrades. This will be an asset that is prioritised due to its increased asset management importance compared to other street furniture assets. This will be based on a risk-based approach at key locations with prioritised assessment criteria applied, in accordance with the Code of Practice.

New street refurbishments and improvement schemes present an asset management issue for street furniture assets, as these are often not added into the asset register and associated systems to manage the future maintenance. The ongoing plan for street furniture is to capture sufficient data in line with the code of practice and take opportunities to simplify signs and other street furniture. Removal of redundant items will also be considered when planning highway infrastructure maintenance activities.

Drainage

Sunderland City Council's drainage asset is critical to ensuring the controlled removal of water from the carriageway to allow customers to use it safely. The impact that failure of the drainage asset can have on other highway infrastructure is significant, particularly to the carriageway. Current highway drainage inventory is shown below:

Drainage Type	Unit	Quantity
Gullies	no.	44,637
Culvert Grilles	no.	60
Drainage Channels	km	11
Dedicated Pipe System	km	30

Table 4 - Inventory by Drainage Type. Currently no footway gullies identified based on data available as of January 2021.

The Local Flood Risk Management Strategy (LFRMS) has been developed to manage flood risk from localised sources across Sunderland and a duty to develop, maintain, apply, and monitor a Strategy for local flood risk management that encompasses all sources of flooding. The council has developed objectives for managing local flood risk. The Local Strategy objectives are consistent with the strategic objectives and guiding principles set out in the Environment Agency's (EA) National Strategy. The objectives also align with our corporate priorities and vision for the city as a whole. The LFRMS has assessed the risk from local flooding but the future investment plan includes sources of flood risk and coastal erosion so that the council has a strategic overview of all forms of flooding across Sunderland.

A Highway Drainage Strategy is currently under review, in accordance with the Code of Practice and highway drainage best practice.

Traffic Signals

Traffic signal-controlled junctions form an important highway asset, contributing to the safe and efficient use of the road network and promoting economic growth within Sunderland. The efficient operation and maintenance signal installations allow those using the road network to move around the network with the minimum of delay and disruption. Efficient maintenance regimes also ensure that the traffic signal installations are maintained in a safe structural and electrical condition.

Traffic Signals are managed through the Regional Traffic Signals group agreement and a new service level agreement is currently under review to formalise specific services and costs. The existing agreement is relatively ad-hoc and services are supplied on a need's basis, including Inspections and reactive fault repairs. Currently a single 4-hour response time applies to all faults, regardless of the hierarchy or associated risk. Sunderland City Council is assessing the impact of adopting a risk-based response time to fault repairs. This would apply different response times based on the network hierarchy and associated risk-level, in accordance with the Code of Practice.

Periodic inspections are undertaken annually on all assets to assess the overall condition and a full electrical Inspection every 5 years. The council's asset management system for Traffic Signals (IMTRAC) hosts all Inventory, Inspection, and condition information. IMTRAC is linked to the inspections via mobile devices, which is updated automatically as inventory Items are updated when jobs and fault repairs are completed. IMTRAC also sends out fault repairs to engineers, tracks the response times and updates the completion status. The key performance indicator (KPI) for traffic signals is based on the percentage of faults repaired within the 4-hour response time, which is auto calculated within the system, on a monthly basis. IMTRAC also calculates the power draw automatically, which was previously based on an estimated usage. The image below shows the plotting of traffic signal faults:

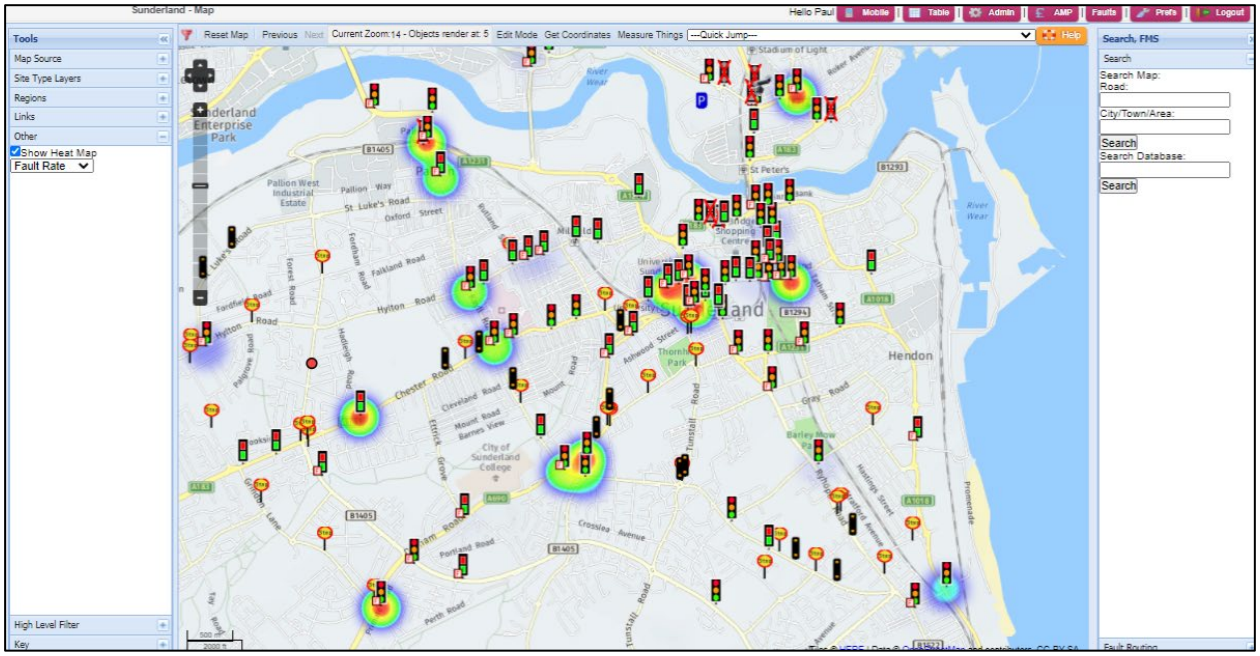


Figure 6 - Traffic Signals fault heat map in IMTRAC

In addition to the annual inspections, a more comprehensive Inventory and condition survey was undertaken to ensure the inventory records are fully complete and up to date. This provides a baseline for ongoing annual inspections and enables lifecycle planning analysis, to compare the impact of different investment scenarios on the asset. Different funding scenarios will be explored to assess the current budget allocation, compared to the required levels to maintain the minimum and optimum service levels.

Cycleway and Public Rights of Way

Sunderland City Council manages approximately 175km of Public Rights of Way (PROW), of which 80% is maintained, with the remainder being on farm tracks and agricultural land. The PROW network includes an estimated 2,500 ancillary pieces of infrastructure and 126km of cycle routes (94% maintained), the remainder being farm tracks or access-centred charity land. The cycle route network includes 4 National Cycle Network (NCN) routes, 1 National Trail, and 2 regional trails. Definitive map consolidation is expected to add around 100km of routes, principally in public parks maintained by the council. See below inventory breakdown by type:

Public Rights of Way (175km)	**No. of paths**	**Length**
PROW Public footpath	214	117km
PROW Public bridleway	50	48km
PROW Public restricted byway	11	6km
PROW agricultural cross field	11	3km
PROW agricultural headland	36	16km
Cycle Routes (126km)	-	-
Cycle route off road	-	115km
Cycle route on road	-	11km
*NCN-1 - National Route 1	-	18km
NCN-7 - C2C	-	13km
NCN-11 - Bowes Railway Path	-	1.5km
NCN-70 - Walney to Wearside	-	17km
OTHER ROUTES, hybrid status	-	-
National Trail – England Coast Path	-	14km
Local Trail – Stephenson Trail	-	17km
Regional Trail – Northern Saints Trail	-	12km
Regional Trail – Tyne & Wear Heritage Way	-	15km

Table 5 - lengths of Cycle and Public Rights of Way as of January 2021.

The council maintains the Definitive Map and Statement, which is currently being consolidated to punctuate a new composite record of previous iterations and subsequent changes. This will resolve status and/or alignment of numerous outstanding issues.

Principal policy documents include the Rights of Way Improvement Plan, part of the Tyne and Wear LTP (now the Regional Transport Plan), the draft Local Cycling and Walking Infrastructure Plan and the council's Green Infrastructure and Core Strategy. The service delivers network development, carries out enforcement, and provides advice and steer to both internal and external development initiatives, including securing development network gain.

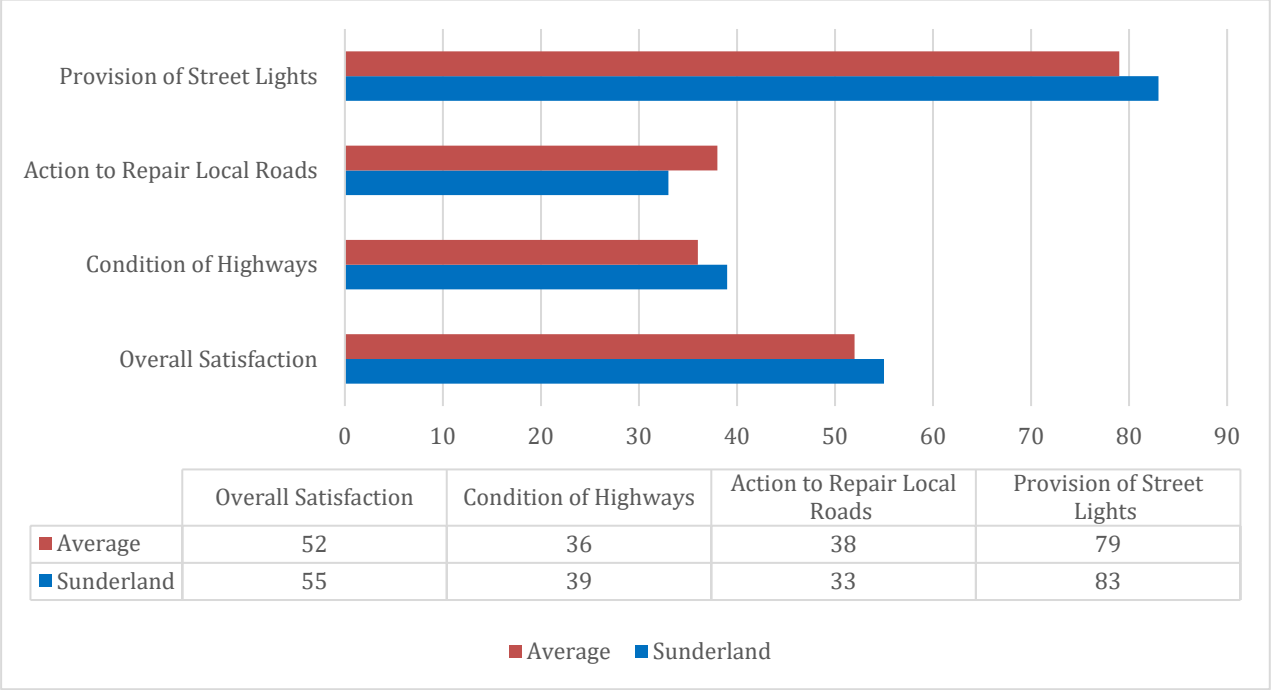
Paths are inspected twice each year and with checks on public reports to inform maintenance works to be carried out. Works are then triaged to prioritise delivery. Some routes are inspected more frequently based on historical maintenance issues, such as riverbank collapse, coast cliff retreat and legacy ground void failure. Planned maintenance includes upgrowth cuts per year for 100km of the route, and trailblazing overhanging vegetation of 10-15km annually. In addition, repairs and refurbishments are carried out across the network on a triaged basis.

Public Rights of Way and cycleways are expected to become an increasing focus as part of future government funding initiatives. This will place a greater emphasis on the ongoing management of the asset, which will be managed in accordance with the Code of Practice and other best practice guidance available.

Customer Satisfaction

The National Highways and Transport Survey (NHTS) asks residents what they think about local transport and highways services. It is an annual postal survey sent to a sample of between 7,000 and 9,000 residents on behalf of local authorities who commission it. The survey has been conducted by Ipsos MORI since 2008 and permits comparison of results amongst participating local authorities and over time. Sunderland City Council will continue to participate in the survey and report results as part of its monitoring and benchmarking processes.

Details of the Key Benchmark Indicators derived from the survey are provided in the annual report. The graph below shows the overall satisfaction of the public and some of the Key Benchmark Indicators relevant to highways.



	Overall Satisfaction	Condition of Highways	Action to Repair Local Roads	Provision of Street Lights
Average	52	36	38	79
Sunderland	55	39	33	83

Figure 7 - NHT customer satisfaction results 2020

The council is 3% above the national average for 'overall satisfaction' and the 'Overall Condition of Highways' at 39%. The council is also 4% above the national average 'Provision of Street Lights'. However, the council is 5% below the national average for 'Action to Repair Local Roads' as an area for improvement.

We will provide annual progress on the results of the survey to demonstrate progress and identify areas where improvement actions are needed.

Data Management and Information Systems

Sunderland City Council understands that in order to drive continuous improvement and inform effective asset management-based decision making, having the right data management systems in place is vital. The council believes that the collection, management and use of data needs to be based on a process, which identifies:

- Ownership
- Data requirements
- Responsibilities
- Costs to store, manage and maintain data.

Asset data comprises information on inventories of the council's physical highway infrastructure assets their location and how they perform. Effective asset management planning and decision-making relies on this data being available, appropriate, reliable, and accurate.

This data has been collected through condition surveys and comprehensive inspections regimes for highway assets and is stored within Sunderland Highway Information Management systems. These systems support decision making through managing information and data to support asset management as well as to record and monitor its implementation.

A data management strategy has been developed that supports the asset management strategy.

Climate Change

The Climate Change Act 2008 places obligations on Sunderland council and others to reduce greenhouse gas emissions and prepare to adapt to longer term climate change. In March 2019, the council acknowledged the scale of this challenge by declaring a Climate Emergency at Full Council.

Best practice in asset management activities will contribute to the mitigation of the gases that contribute to climate change. An asset management approach that maximises early planned maintenance interventions to avoid costly reactive works will reduce disruption and congestion on the road network cutting journey times, reducing fuel use and the carbon footprint of travel.

As stated in the Code of Practice, network sustainability is important to help reduce the impact of climate change. This will require an increased environmental contribution to be made by highway maintenance. The following are issues that will be considered as part of future highway maintenance practices:

- Carbon costs and energy reduction – this can be achieved by monitoring the carbon usage of difference maintenance options and actively prioritise treatments that have lower carbon costs.
- Noise reduction– consideration of lower noise alternative when resurfacing.
- Materials utilisation – use local materials to minimise transport costs and support local economy, products made from recycled materials.
- Waste management and recycling – aim to retain and re-use materials on site where deemed appropriate and to maximise the value of re-used material.
- Air quality and pollution control – phasing and scheduling of works to avoid sensitive periods, difficult weather conditions, guidance from Environmental Health/Environment Agency.
- Nature conservation and biodiversity. Consider the use of highway verges for wildflower planting, wildlife crossings/corridors in accordance with advice from Natural England.
- Promote active travel – aim to improve and maintain the footways and cycleways to encourage increase active travel utilisation across the network.
- Upgrading to LEDS.

- The use of Electric Vehicles for inspectors.

The council will aim to reduce carbon emissions with the use of new materials and maintenance approaches and monitor their impact.

Sunderland's Low Carbon Commitment

Sunderland is committed to playing its part in tackling the global climate change emergency. Young people across the city identified the environment and climate change as their number one priority in the Young People's State of the City Debate held in November 2019, and Sunderland City Council declared a Climate Emergency earlier that year in March 2019.

Partners across the city signed up to a Sunderland Low Carbon Framework [2.76MB] in December 2020 that will drive down emissions and seek to make the city carbon neutral by 2040. A range of people and organisations have all helped shape the Framework, which sets out ways in which we can all do our bit to reduce our carbon footprint, and play a part in the fight to limit the global temperature rise to below 1.5°C. The Sunderland Low Carbon Framework [2.76MB] will be supplemented by individual Action Plans developed and delivered by partners across the city. The city council's Sunderland Low Carbon Action Plan includes the council's ambition to be carbon neutral by 2030.

Moving Towards Carbon Neutral:

Miles Macadam are one of the surfacing contractors for Sunderland City Council and they became Carbon Neutral in 2020, using an accredited surfacing carbon calculator. This is used to calculate the Carbon Footprint of the physical surfacing materials purchased and "owned" by the Authority on a Miles Macadam contract or programme of works, including delivery and subcontractors transport carbon emissions. In addition, Northumbrian Roads Ltd who are the main surfacing contractor for the council, have reduced their carbon footprint at the Port of Sunderland Surfacing Plant by 20% by using imported stone shipped from Norway.

Tackling climate change is too great a task for any one body or organisation. The council's city-wide approach - involving partners, businesses, residents, visitors, voluntary

community and social enterprise sector and importantly our young people - will be really important.

Innovation and Efficiency Savings

The Well-Managed Highway Infrastructure Code of Practice suggests that local authorities should be considering the adoption of new and emerging technologies as part of their highway service. Consideration should be given to new ideas, methods of working and innovation to drive great efficiency. Sunderland City Council and Partners/Contractors have introduced several innovation projects to support the inclusion of emerging technologies and the associated efficiency savings that can be achieved. Some examples are detailed below:

NUAR (National Underground Apparatus Register) project:

The NUAR innovation project has been developed through a consortium comprising the Geospatial Commission (GC)/ Ordnance Survey/ Utilities/ Local Authorities /Leading Consultants /Highways England et al. The North East group and southern GLA have been jointly working on a digital platform which hosts underground apparatus data from multiple asset owners. Access to the mapping is through a website which can be viewed on standard phone and tablet devices. The main purpose of the application is to assist front line operatives in the prevention of service strikes which incur a significant financial and human cost annually.

Road Marking Supplier:

Energy Efficiency Savings

Installation of 192 solar panels at Sunderland City Council's Road Marking Supplier Coupe Line's Shildon Offices and Depot has reduced the electricity usage by 54%. Road marking thermoplastic and high friction surfacing production plants are powered solely by electricity.

Use of Local Suppliers:

- Ti-oxide for white lining luminance is refined in Hartlepool.
- Road marking thermoplastic filler components are bulk delivered from Teesside.
- Glass beads are supplied from Potters Europe, West Auckland, 4 miles away from the depot.
- EVA melt bags become part of the thermoplastic product instead of plastic waste to landfill, which is safer and reduces waste when loading.

Sunderland City Council is committed to driving innovation through the highway service innovation a key aspect of their service delivery.

Risk Management

Sunderland City Council's Risk Management Strategy defines the approach to managing risk across the council and has been adopted in developing the HIAMP (Formerly the HAMP). The essence of the strategy is to define and record significant risks in Risk Registers which detail what mitigating actions are needed to minimise the risk exposure those hazards present to a level which is deemed acceptable to the council.

A Highway Asset Risk Register is maintained and will be reviewed be key asset owners on an annual basis.

Best Practice, Performance Monitoring and Review

Sunderland City Council is committed to the development of good practice and continuous improvement, having already played a leading role in the development of the regional agenda on highway asset management. Examples of activities that demonstrate our commitment include:

- North East Highways Alliance (NEHA)
- Tyne and Wear Highway Asset Group
- Bridges North East Authorities
- The Association of Directors of Environment, Economy, Planning and Transport (ADEPT)
- Local Roads Innovation Group (LCRIG)
- North East Traffic Managers Group
- Membership of the CIPFA HAMP Network; and
- Attendance at a variety of local and regional events.

Performance Monitoring

With this strategy an implementation plan has been created to be able to continually review progress against this plan and undertake formal annual reviews. Asset management objectives have been developed and are the following:

- To provide a safe, efficient, accessible and health-enabling highway network
- To reduce the environmental impact of the highway asset
- To deliver cost effect asset management
- To encourage the adoption of innovation in the highway service.

Sunderland City Council will monitor performance against these objectives to enable the identification of progress and where changes may need to be made to ensure the council continues to manage the asset in the most efficient manner, and to support continuous improvement.

Strategy Review

The table below provides an overview of each asset group as red, amber, and green status. The status highlights assets where additional information is required in accordance with the Code of Practice and the Incentive Fund requirements:

Asset Group	Status	Comments
Carriageway	Green	Considerable amount of information is collected annually, with a fully documented lifecycle plan implemented in an asset management system/s.
Footways and Cycleways	Green	Considerable amount of information is collected annually, with a fully documented lifecycle plan implemented and hosted within the asset management system. Potentially lacking in some of the cycle track information.
Structures	Amber	There are some significant gaps in the inventory of large structures that need to be added to the asset management system. A lifecycle plan has not been documented.
Highway Drainage	Amber	A Highway Drainage Strategy has been recently developed. There are expected gaps in the highway drainage inventory and condition data. Implementation of the Strategy is required.
Street Lighting	Green	Street Lighting is managed through the PFI and the processes are fully documented and managed within the asset management system.
Traffic Signals	Green	Traffic Signals are now fully integrated into the asset management system and managed through automated workflow updates. New regional agreement to managed fault repairs and annual Inspections expected to enhance the current process and adopt a risk-based approach in accordance with the code of practice.
Street Furniture	Amber	Inventory and condition for street furniture assets is several years out of date and no condition available for the majority of assets, other than VRS. A lifecycle plan and forward planning analysis is required for the high-risk assets and basic level of documentation required for other assets.

The asset status will be updated annually as part of the ongoing management of all assets and continual improvement. This strategy and our Asset Management Policy will be reviewed annually, updated and re-published as appropriate. This process will be managed and implemented by Sunderland City Council officers.

Improvement Actions

Action	Incentive Fund Question	Progress	Code of Practice Recommendation	Target Date	Review Date
Review and update Asset Management Policy and Strategy	Q1, Q6	Draft under review	2&3	April 2021	April 2022
Updated Lifecycle Plan for Carriageways and Footways	Q5	In progress	3, 4, 7,8, 9,10, 11, 12, 13, 14, 17, 26, 27, 28, 29, 30, 31	May 2021	May 2022
Highway Drainage Strategy	Q11	Draft	17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 31	June 2021	June 2022
Annual Performance Report (Performance Management Framework)	Q3	Not started	2, 3, 8, 9, 10, 17, 18, 19, 26, 27	November 2021	November 2022
Data Management Strategy Review	Q4	Draft under review	2, 3, 8, 9, 10, 11, 12, 17, 26, 27, 30	November 2021	November 2022

High Level Overview for Major Asset Groups	Q5	Not started	9, 10, 11, 12, 17.	November 2021	November 2022
High Level Risk Management Document	Q8	Draft	7, 14.	November 2021	November 2022
Review Highway Communications Strategy	Q2	Draft under review	2, 3, 4, 8, 18, 24.	June 2021	June 2022
Review of Resilient Network Plan	Q9	Consulting on revision	4, 5, 6, 7, 8, 9, 12, 14, 18, 19, 20, 21, 22, 23, 25, 30, 31.	July 2021	July 2022
Review of Skid Resistance Strategy		Not Started	7, 8, 9, 10, 12, 14, 16, 17, 20, 26, 27, 31.	November 2021	November 2022
Life Cycle Plan for Street Furniture	Q5	Not Started	3, 4, 7,8, 9,10, 11, 12, 13, 14, 17, 26, 27, 28, 29, 30, 31	November 2021	November 2022
Update Structures Inventory in Bridgestation	Q5	Not Started	3, 4, 7,8, 9,10, 11, 12, 13, 14, 17, 26, 27, 28, 29, 30, 31	December 2021	December 2022